ROMER Absolute Arm
Portable Measuring Arms
ROMER ABSOLUTE ARM.
THE ALL-PURPOSE METROLOGY TOOL.
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.

A hot tip for cool calculation

A ROMER portable measuring arm is a good investment. The time required to train users is minimal. Even inexperienced personnel will produce reliable measuring results in a short time due to the user-friendliness of the ROMER Absolute Arm. Inspection and control throughput is increased dramatically, and because the ROMER Absolute Arm helps to ensure quality, there is a fast return on investment. The ROMER Absolute Arm increases productivity and minimises off-spec production – in the long run and with absolute efficiency.

ROMER – absolutely portable CMMs.
**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.

**SmartLock**
If the ROMER Absolute Arm is not in use, lock it comfortably and safely. SmartLock also allows to fix the arm in any intermediate position.

**Certification**
All ROMER Absolute Arms including scanning systems pass through B89.4.22 certification. Additional certification according to VDI/VDE 2617-9 is available.

**Feature packs**
The ROMER Absolute Arm is ready for more. Feature Packs extend the arm’s functions the easy way. They enable battery operation, laser scanning and WiFi communication.
Automated probe recognition
Switch between different probe types or between tactile probes and scanners any time. No re-calibration, no probe selection, no tools: The unique probe connection allows a quick and easy probe exchange.

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

Laser scanning
The ROMER Absolute Arm is available with a completely integrated high-performance laser scanner or the external laser scanner CMS108 for the most challenging scanning jobs. It is also open for third party laser scanners.
**THE ROMER ABSOLUTE ARM EXPERIENCE**

**WHAT USERS THINK**

“When you are standing in the middle of the fixture, the absolute encoders on the ROMER arm are superb, because you don’t have to reference them.”

*Peter Haase, Bombardier Bautzen, Germany*

“We’ve been using portable measuring arms from ROMER for many years now. The ROMER Absolute Arm is a class of its own. Thanks to absolute encoders, the operation is much easier than before, we can measure faster and achieve accurate, reliable results at any time.”

*Marc Rohr, Liebherr Hydraulikbagger Kirchdorf, Germany*

“The reliability of the measurements with the ROMER Absolute Arm creates transparency in our relationship with our customers, who also benefit from the excellent quality of the photovoltaic backsheet foils.”

*Mario Egger, AT&S Leoben, Austria*

“With the ROMER Absolute Arm, we are now capable of CNC machining simple to complex 3D surface parts and cut our design time down by up to 80%. It is an extremely productive tool with almost limitless opportunities.”

*Donovan Barnes, Habitat Industries Cape Town, South Africa*

“Each inspection is different. We have never yet measured the same part twice! Working with the ROMER Absolute measuring arm is just great.”

*Jacky Pierre, TenCate Primarette, France*

**INCREASING PRODUCTIVITY ACROSS ALL INDUSTRIES**

**Typical Industries:**
- Automotive
- Aerospace
- General Industries
- Power Generation / Wind Energy
- Universities / Schools
- Medical Equipment
- Piping & Tubing
- Agriculture & Heavy Equipment
- Shipbuilding
- Railway
- Archaeological

**Typical Measuring Applications:**
- Sheet Metal Parts
- Dies & Molds / Tooling
- Machined Parts
- Jigs & Fixtures
- Crash Test
- Tubes & Tube Assembly
- CAD-to-Part comparison
- Alignment
- Reverse Engineering
User-friendly design and a wide range of accessories such as Feature Packs, stands and tripods or probes make the ROMER Absolute Arm a comfortable tool.
ACCURACY MADE EASY

Carbon fibre structure. Absolute operational safety with SpinGrip and a wrist with an incorporated mouse function. Illumination of the part and an integrated digital camera. The ROMER Absolute Arm is an all-around balanced measuring instrument. It is the featherweight among the CMMs. Its operation is a matter of routine after a short time, even with one hand and in locations where traditional CMMs could never perform. SpinGrip and SpinKnob handles, infinite rotation of the principal axes and SmartLock complete the ROMER Absolute Arm’s consequent user-friendliness. The sophisticated “Zero G” counter balance design lets the arm float in the user’s hand.

AS INDIVIDUAL AS YOUR APPLICATION

Feature Packs

ROMER Feature Packs unfold the full potential of a portable measuring arm. These functional extensions are perfectly coordinated with the ROMER Absolute Arm and are part of an integrated system. They connect directly to the arm.

The ROMER Mobility Pack includes a battery and WiFi communication – maximum flexibility for the ROMER Absolute Arm.

The ROMER Scanning Pack is the interface for laser scanners.

The ROMER Wireless Scanning Pack for the integrated laser scanner makes high-speed 3D scanning completely wireless.

Accessories

Different probes, tripods and stands for different applications: All ROMER Absolute Arms are ready for a multitude of environments. Hundreds of accessories are available à la carte.
The ROMER Absolute Arm with six rotational axes is designed for highly accurate tactile measurements on countless work pieces. The six axis ROMER Absolute Arm allows reliable part inspection on features of sheet metal parts, plastic components or carbon fibre structures. In case your measurement jobs require laser scanning later, an upgrade is possible at any time.

Freedom of movement: with a fully integrated and certified laser scanner system, this is an all-purpose metrology system for a multitude of applications. 3D digitizing, 3D modelling, point cloud inspection, reverse engineering, rapid prototyping or copy milling are the most frequent laser scanner applications. The laser scanner is tuned for a vast variety of materials without compromise in accuracy. ROMER’s integrated laser scanner does not need warm-up time or additional cables and controllers. Changing from scanning to probing and vice versa is possible at any time.
The ROMER Absolute Arm with external scanner is a modular high-end laser scanning platform designed for the CMS108 from Hexagon Metrology. With CMS108, the ROMER Absolute Arm offers first-class performance even on complex surfaces and on work pieces made up of the most challenging material types. Teaching of the material is not required: the automatic laser power control of the CMS108 automatically adapts to the surface conditions. CMS108 is the first ever laser scanner with a zoom function which provides three different line widths. Third party scanners can also be connected.

The ROMER Tube Inspection Solution represents a unified system covering all 3 main tasks of tube measurement: Tube inspection and definition, geometry measurement and bender interfacing with on-line bending program correction. The ROMER system is the only portable tube inspection solution on the market. It can be taken to the work piece to measure pipes, lines, hoses and tubes in situ, thereby saving time and effort. Reverse engineering tube geometry for replacement parts is fast and straightforward, even on the assembly without removing the tube.
All specifications according to B89.4.22 and VDI/VDE 2617-9.

ROMER Absolute Arm. Laser scanners.

### 6-Axis Probing Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Measuring range</th>
<th>Point repeatability</th>
<th>Volumetric accuracy</th>
<th>Arm weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>7315</td>
<td>1.5 m / 4.9 ft.</td>
<td>± 0.025 mm / ± 0.0010 in.</td>
<td>± 0.037 mm / ± 0.0015 in.</td>
<td>71 kg / 15.6 lbs</td>
</tr>
<tr>
<td>7320</td>
<td>2.0 m / 6.6 ft.</td>
<td>± 0.030 mm / ± 0.0012 in.</td>
<td>± 0.042 mm / ± 0.0017 in.</td>
<td>74 kg / 16.3 lbs</td>
</tr>
<tr>
<td>7325</td>
<td>2.5 m / 8.2 ft.</td>
<td>± 0.038 mm / ± 0.0015 in.</td>
<td>± 0.051 mm / ± 0.0020 in.</td>
<td>77 kg / 17.0 lbs</td>
</tr>
<tr>
<td>7330</td>
<td>3.0 m / 9.8 ft.</td>
<td>± 0.059 mm / ± 0.0023 in.</td>
<td>± 0.076 mm / ± 0.0035 in.</td>
<td>80 kg / 17.6 lbs</td>
</tr>
<tr>
<td>7335</td>
<td>3.5 m / 11.5 ft.</td>
<td>± 0.079 mm / ± 0.0031 in.</td>
<td>± 0.100 mm / ± 0.0039 in.</td>
<td>83 kg / 18.3 lbs</td>
</tr>
<tr>
<td>7340</td>
<td>4.0 m / 13.1 ft.</td>
<td>± 0.099 mm / ± 0.0039 in.</td>
<td>± 0.125 mm / ± 0.0049 in.</td>
<td>86 kg / 19.0 lbs</td>
</tr>
<tr>
<td>7345</td>
<td>4.5 m / 14.8 ft.</td>
<td>± 0.120 mm / ± 0.0047 in.</td>
<td>± 0.150 mm / ± 0.0058 in.</td>
<td>89 kg / 19.6 lbs</td>
</tr>
</tbody>
</table>

### 7-Axis Probing and Scanning Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Measuring range</th>
<th>Point repeatability</th>
<th>Volumetric accuracy</th>
<th>Arm weights B</th>
<th>Arm weights SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>7320SI/SE</td>
<td>2.0 m / 6.6 ft.</td>
<td>± 0.044 mm / ± 0.0017 in.</td>
<td>± 0.061 mm / ± 0.0024 in.</td>
<td>7.3 kg / 16.5 lbs</td>
<td>7.2 kg / 16.2 lbs</td>
</tr>
<tr>
<td>7325SI/SE</td>
<td>2.5 m / 8.2 ft.</td>
<td>± 0.049 mm / ± 0.0019 in.</td>
<td>± 0.069 mm / ± 0.0027 in.</td>
<td>7.5 kg / 16.6 lbs</td>
<td>7.4 kg / 16.3 lbs</td>
</tr>
<tr>
<td>7330SI/SE</td>
<td>3.0 m / 9.8 ft.</td>
<td>± 0.079 mm / ± 0.0031 in.</td>
<td>± 0.100 mm / ± 0.0039 in.</td>
<td>7.8 kg / 17.2 lbs</td>
<td>7.7 kg / 16.9 lbs</td>
</tr>
<tr>
<td>7335SI/SE</td>
<td>3.5 m / 11.5 ft.</td>
<td>± 0.099 mm / ± 0.0039 in.</td>
<td>± 0.125 mm / ± 0.0049 in.</td>
<td>8.1 kg / 17.9 lbs</td>
<td>8.0 kg / 17.6 lbs</td>
</tr>
<tr>
<td>7340SI/SE</td>
<td>4.0 m / 13.1 ft.</td>
<td>± 0.115 mm / ± 0.0045 in.</td>
<td>± 0.151 mm / ± 0.0069 in.</td>
<td>8.5 kg / 18.7 lbs</td>
<td>8.4 kg / 18.4 lbs</td>
</tr>
<tr>
<td>7345SI/SE</td>
<td>4.5 m / 14.8 ft.</td>
<td>± 0.141 mm / ± 0.0067 in.</td>
<td>± 0.179 mm / ± 0.0086 in.</td>
<td>8.9 kg / 19.6 lbs</td>
<td>8.8 kg / 19.4 lbs</td>
</tr>
</tbody>
</table>

### ROMER Absolute Arm. Laser scanners.

<table>
<thead>
<tr>
<th>Integrated scanner RB2</th>
<th>External scanner Hexagon CMS108</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. point acquisition rate</td>
<td>50'000 Points/s</td>
</tr>
<tr>
<td>Points per Line</td>
<td>1000</td>
</tr>
<tr>
<td>Line rate</td>
<td>50 Hz</td>
</tr>
<tr>
<td>Line width (mid range)</td>
<td>65 mm</td>
</tr>
<tr>
<td>Stand off (mid range)</td>
<td>150 mm ± 50 mm</td>
</tr>
<tr>
<td>Minimum point spacing (mid range)</td>
<td>0.046 mm</td>
</tr>
<tr>
<td>Laser power control</td>
<td>Semi-automatic ~ per line</td>
</tr>
<tr>
<td>Accuracy (2 sigma)</td>
<td>30 µm</td>
</tr>
<tr>
<td>Weight</td>
<td>340 g</td>
</tr>
<tr>
<td>Controller</td>
<td>No</td>
</tr>
<tr>
<td>Laser safety</td>
<td>Class 2M</td>
</tr>
<tr>
<td>Working temperature</td>
<td>5°C ~ 40°C (41°F ~ 104°F)</td>
</tr>
</tbody>
</table>
THE CHOICE IS YOURS.
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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