

# ABSOLUTE ARM AND ACCESSORIES

VERSION 2.1





This catalogue contains the complete range of products and accessories available for Absolute Arm systems. Whatever the industry or application, the Absolute Arm has a solution.

All systems and accessories offer the same high-end, straight-forward design and quality users expect from Hexagon products.

Please direct any questions about Hexagon products or accessories to an authorised local sales representative to receive competent guidance and assistance in making an appropriate purchasing decision.

#### **Important Note**

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#### **Symbols**

- ☑ : standard delivery
- ✓ : compatible with the item or accessory
- : incompatible with the item or accessory
- : mandatory accessory
- opt : optional accessory
- : not in standard delivery



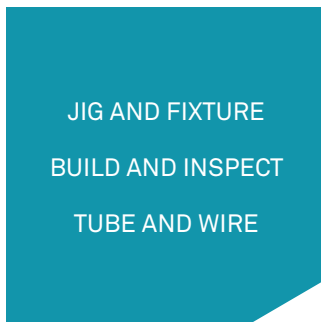
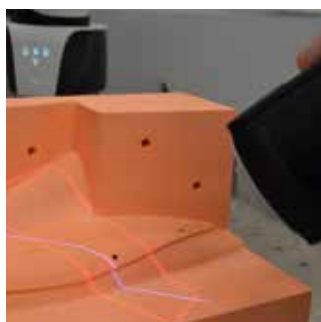


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## Symbols

- ☑ : standard delivery
- ✓ : compatible with the item or accessory
- : incompatible with the item or accessory
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- : not in standard delivery





COMPOSITE INSPECTION  
IN-PROCESS CHECKS  
DIGITISING



CAD-TO-PART  
REVERSE ENGINEERING  
VIRTUAL ASSEMBLY



GEAR MEASUREMENT  
ON-MACHINE  
VERIFICATION  
MAINTENANCE AND  
REPAIR





# ABSOLUTE ARM SYSTEMS

Overview 10

Absolute Arm 7-Axis 83, 85 and 87 Series 13

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Absolute Arm Tube Probe System 21

### Speed

By combining a wide laser scan line – 150 millimetres at mid-range – with an always on scanning speed of 300 Hertz, the Absolute Arm offers unmatched speed in 3D laser scanning.



### Accuracy

The Absolute Arm range offers probing accuracy as fine as only 6 microns and scanning system accuracy to within 43 microns.

### Portability

Even the largest Absolute Arm weighs less than 11 kilograms, making set up and repositioning a quick and easy process.



### Resilience

The robust and shock-resistant carry case keeps the arm properly protected and in perfect condition wherever and however it's transported.

### Productivity

SHINE technology raises the scanning performance of the RS6 Laser Scanner to a new level of productivity while still guaranteeing excellent scan data quality on parts made of any material.



### Repeatability

A patented kinematic probe joint minimises downtime by allowing all probes to be swapped on the fly with no need for recalibration.

### Monitoring

The SMART – Self-Monitoring Analysis and Reporting Technology – system provides full diagnostic monitoring for comprehensive measurement reliability.



### Compatibility

An established and reliable software interface that is compatible with and supported by all major portable metrology software packages.

### Verification

Every Absolute Arm is supplied with a CMM-certified measurement artefact, allowing users to verify the performance of their arm at any time.



### Certification

Probing accuracy certified to ISO 10360-12 as standard, along with full scanning system accuracy specification to ISO 10360-8 Annex D.



**Encoders**

The Absolute Encoders within every articulated joint are exclusive to Hexagon and make the Absolute Arm the only portable measuring arm that has completely eliminated warm-up times and encoder referencing before use.

**Movement**

The unique Zero-G Counterbalance system and low-friction rotating grips reduce user fatigue and maximise accuracy by minimising inertia.

**Measurement**

Multi-functional control buttons and a convenient wrist display screen put measurement control directly in the user's hand, while a range of probes and the RS5 and RS6 Laser Scanner deliver flexible measurement.

**Feedback**

Easy user interaction in even the harshest industrial environments through visual, acoustic and haptic feedback functions, now augmented with Bluetooth technology.

**Materials**

High-tech carbon-fibre tube construction ensures strength and thermal stability under any environmental conditions.

**Security**

The HomeDock and SmartLock features allow the arm to be stowed and locked in place between measurements, for greater security during transport, set-up and station moves.

**Customise**

Easily interchangeable Control Packs deliver WiFi connectivity and battery power, for completely portable wireless measurement – no more messy cables on the shop floor.



Accuracy Specifications

All probing specifications are achieved with an Absolute Arm mounted on a standard base plate or magnetic base (as available in this catalogue) under stable environmental conditions. This level of equipment accuracy is not guaranteed with other stands and volume extension products.

Nomenclature

RA8525-7

- 7 7-Axis
- 6 6-Axis
- T Arm for Tube inspection

- 12 1.2 m
- 20 2.0 m
- 25 2.5 m
- 30 3.0 m
- 35 3.5 m
- 40 4.0 m
- 45 4.5 m

- 87 series - Ultimate solution for portable high-accuracy measurement
- 85 series - Perfect balance between value and accurate measurement
- 83 series - Entry-level measurement accuracy

Absolute Arm 7-Axis Wrist Packages

|                               |  |  |  |  |  |  |  |  |  |  |
|-------------------------------|--|--|--|--|--|---|--|--|--|--|
| H00007281 - Probing           | CP0  | <input checked="" type="checkbox"/>  |  | <input checked="" type="checkbox"/>  | <input checked="" type="checkbox"/>  |   |  |  |  |  |
| H00009220 - RS6 Scanning      | CP1  | <input checked="" type="checkbox"/>  |  | <input checked="" type="checkbox"/>  | <input checked="" type="checkbox"/>  | <input checked="" type="checkbox"/>   |  |  | <input checked="" type="checkbox"/>  | <input checked="" type="checkbox"/>  |
| H00007293 - RS5 Scanning      | CP1  | <input checked="" type="checkbox"/>  |  | <input checked="" type="checkbox"/>  | <input checked="" type="checkbox"/>  |   | <input checked="" type="checkbox"/>  |  | <input checked="" type="checkbox"/>  | <input checked="" type="checkbox"/>  |
| H00007294 - External Scanning | CP1  |  | <input checked="" type="checkbox"/>  | <input checked="" type="checkbox"/>  |  |   |  | <input checked="" type="checkbox"/>  |  |  |

Control Packs

|                              | Power AC                            | Battery                             |                                     | USB                                 | WLAN                                |                                     | Ethernet                            |                                     | Scanners                            |                                     |                                     |
|------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
|                              |                                     | Arm                                 | Scanner                             |                                     | Arm                                 | Scanner                             | Arm                                 | Scanner                             | RS6                                 | RS5                                 | HP-L-8.9                            |
| CP0 - Probing Pack           | <input checked="" type="checkbox"/> |                                     |                                     | <input checked="" type="checkbox"/> |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
| CP1 - Scanning Pack          | <input checked="" type="checkbox"/> |                                     |                                     | <input checked="" type="checkbox"/> |                                     |                                     |                                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| CP2 - Wireless Probing Pack  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                                     |                                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| CP3 - Wireless Scanning Pack | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

\* Only RS5 combined with CP3 has wireless scanning functionality.



# ABSOLUTE ARM 7-AXIS 83 SERIES

7-axis portable measuring arm for all-purpose tactile measurement and laser scanning functionality, including:

- Zero-G Counterbalance
- SmartLock + HomeDock
- Base plate
- TKJ 3-mm / 6-mm / 15-mm ball probes
- RDS calibration and interface software
- Wrist display
- Travel case
- Certified calibration spheres (one for tactile measurement and one for laser scanning; latter included only with scanner configuration)
- ISO 10360-12 certification (for articulated arms for tactile measurement)
- 24-month warranty\*

|                   |  |
|-------------------|--|
| H00008000-03-8320 | <b>Absolute Arm 8320-7</b><br>2.0 m measurement volume |
| H00008000-03-8325 | <b>Absolute Arm 8325-7</b><br>2.5 m measurement volume |
| H00008000-03-8330 | <b>Absolute Arm 8330-7</b><br>3.0 m measurement volume |
| H00008000-03-8335 | <b>Absolute Arm 8335-7</b><br>3.5 m measurement volume |
| H00008000-03-8340 | <b>Absolute Arm 8340-7</b><br>4.0 m measurement volume |
| H00008000-03-8345 | <b>Absolute Arm 8345-7</b><br>4.5 m measurement volume |

|                       |  |             |
|-----------------------|--|-------------|
| Encoder               | Absolute Encoders  | ☑           |
| Movement and security | Zero-G Counterbalance   SmartLock   HomeDock   | ☑           |
| Display               | OLED wrist display   LED pictograms  | ☑           |
| Haptic feedback       | Wrist vibration  | ☑           |
| Cables                | USB cable – 3 m<br>Power supply  | ☑           |
| Mounting base         | Standard base plate with mounting ring   | ☑           |
| Probes                | TKJ L 50 – ø 15-mm stainless steel<br>TKJ L 50 – ø 6-mm ruby<br>TKJ L 50 – ø 3-mm ruby | ☑<br>☑<br>☑ |
| Packaging             | Hard case<br>Accessories case  | ☑<br>☑      |
| Dust cover            | Hexagon, Arm dust cover  | ☑           |
| Software              | USB Standard Package:<br>RDS driver and interface<br>User manuals                      | ☑<br>☑      |



|               |   |                  |
|---------------|---|------------------|
| Control Pack  | Probing Pack (CP0)<br>Scanning Pack (CP1)<br>Wireless Probing Pack (CP2)<br>Wireless Scanning Pack (CP3)  | ○<br>○<br>○<br>○ |
| Artefacts**   | Verification bar<br>Certified sphere for probing  | opt<br>☑         |
| 7-Axis kit    | 7-Axis Probing Kit, installed<br>RS5 Kit, installed<br>RS6 Kit, installed<br>7-Axis SE, installed   | ○<br>○<br>○<br>○ |
| Warranty      | 2 years*  | ☑                |
| Certification | ISO 10360-12 (certification for articulated arms for tactile measurement)<br>ISO 10360-8 Annex D (certificate of combination for arm and laser scanner) | ☑                |

\* The warranty of two (2) years is valid only if an arm service check is performed during the first year.  
\*\* All artefacts are delivered with a certification.



# ABSOLUTE ARM 7-AXIS 85 SERIES

7-axis portable measuring arm for all-purpose tactile measurement and laser scanning functionality, including:

- Zero-G Counterbalance
- SmartLock + HomeDock
- Base plate
- TKJ 3-mm / 6-mm / 15-mm ball probes
- RDS calibration and interface software
- Wrist display
- Travel case
- Certified calibration spheres (one for tactile measurement and one for laser scanning; latter included only with scanner configuration)
- ISO 10360-12 certification (for articulated arms for tactile measurement)
- 24-month warranty\*

|                   |  |
|-------------------|--|
| H00008000-03-8520 | <b>Absolute Arm 8520-7</b><br>2.0 m measurement volume |
| H00008000-03-8525 | <b>Absolute Arm 8525-7</b><br>2.5 m measurement volume |
| H00008000-03-8530 | <b>Absolute Arm 8530-7</b><br>3.0 m measurement volume |
| H00008000-03-8535 | <b>Absolute Arm 8535-7</b><br>3.5 m measurement volume |
| H00008000-03-8540 | <b>Absolute Arm 8540-7</b><br>4.0 m measurement volume |
| H00008000-03-8545 | <b>Absolute Arm 8545-7</b><br>4.5 m measurement volume |



|                                 |  |   |
|---------------------------------|--|---|
| <b>Encoder</b>                  | Absolute Encoders  | <input checked="" type="checkbox"/>   |
| <b>Measurement and security</b> | Zero-G Counterbalance   SmartLock   HomeDock   | <input checked="" type="checkbox"/>   |
| <b>Display</b>                  | OLED wrist display   LED pictograms  | <input checked="" type="checkbox"/>   |
| <b>Haptic feedback</b>          | Wrist vibration  | <input checked="" type="checkbox"/>   |
| <b>Handling grips</b>           | SpinGrip***   SpinKnob   | <input checked="" type="checkbox"/>   |
| <b>Cables</b>                   | USB cable – 3 m<br>Power supply  | <input checked="" type="checkbox"/>   |
| <b>Mounting base</b>            | Standard base plate with mounting ring   | <input checked="" type="checkbox"/>   |
| <b>Probes</b>                   | TKJ L 50 – ø 15-mm stainless steel<br>TKJ L 50 – ø 6-mm ruby<br>TKJ L 50 – ø 3-mm ruby | <input checked="" type="checkbox"/><br><input checked="" type="checkbox"/><br><input checked="" type="checkbox"/> |
| <b>Packaging</b>                | Hard case<br>Accessories case  | <input checked="" type="checkbox"/><br><input checked="" type="checkbox"/>  |
| <b>Dust cover</b>               | Hexagon, Arm dust cover  | <input checked="" type="checkbox"/>   |

|                      |   |  |
|----------------------|---|--|
| <b>Software</b>      | USB Standard Package:<br>RDS driver and interface<br>User manuals   | <input checked="" type="checkbox"/><br><input checked="" type="checkbox"/>                                   |
| <b>Control Pack</b>  | Probing Pack (CP0)<br>Scanning Pack (CP1)<br>Wireless Probing Pack (CP2)<br>Wireless Scanning Pack (CP3)  | <input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/> |
| <b>Artefact**</b>    | Verification bar<br>Certified sphere for probing  | <input checked="" type="checkbox"/><br><input checked="" type="checkbox"/>                                   |
| <b>7-Axis kit</b>    | 7-Axis Probing Kit, installed<br>RS5 Kit, installed<br>RS6 Kit, installed<br>7-Axis SE, installed   | <input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/> |
| <b>Warranty</b>      | 2 years*  | <input checked="" type="checkbox"/>  |
| <b>Certification</b> | ISO 10360-12 (certification for articulated arms for tactile measurement)<br>ISO 10360-8 Annex D (certificate of combination for arm and laser scanner) | <input checked="" type="checkbox"/>  |

\* The warranty of two (2) years is valid only if an arm service check is performed during the first year.

\*\* All artefacts are delivered with a certification.

\*\*\* not available for 8520 models.



# ABSOLUTE ARM 7-AXIS 87 SERIES

7-axis portable measuring arm for all-purpose tactile measurement and laser scanning functionality, including:

- Zero-G Counterbalance
  - SmartLock + HomeDock
  - Base plate
  - TKJ 3-mm / 6-mm / 15-mm ball probes
  - RDS calibration and interface software
  - Wrist display
  - Travel case
- Certified calibration spheres (one for tactile measurement and one for laser scanning; latter included only with scanner configuration)
  - ISO 10360-12 certification (for articulated arms for tactile measurement)
  - 24-month warranty\*

- H00008000-03-8725

**Absolute Arm 8725-7**  
2.5 m measurement volume
- H00008000-03-8730

**Absolute Arm 8730-7**  
3.0 m measurement volume
- H00008000-03-8735

**Absolute Arm 8735-7**  
3.5 m measurement volume
- H00008000-03-8740

**Absolute Arm 8740-7**  
4.0 m measurement volume
- H00008000-03-8745

**Absolute Arm 8745-7**  
4.5 m measurement volume



|                       |  |             |
|-----------------------|--|-------------|
| Encoder               | Absolute Encoders  | ☑           |
| Movement and security | Zero-G Counterbalance   SmartLock   HomeDock   | ☑           |
| Display               | OLED wrist display   LED pictograms  | ☑           |
| Haptic feedback       | Wrist vibration  | ☑           |
| Handling grips        | SpinGrip   SpinKnob  | ☑           |
| Cables                | USB cable – 3 m<br>Power supply  | ☑           |
| Mounting base         | Standard base plate with mounting ring   | ☑           |
| Probes                | TKJ L 50 – ø 15-mm stainless steel<br>TKJ L 50 – ø 6-mm ruby<br>TKJ L 50 – ø 3-mm ruby | ☑<br>☑<br>☑ |
| Packaging             | Hard case<br>Accessories case  | ☑<br>☑      |
| Dust cover            | Hexagon, Arm dust cover  | ☑           |

|               |   |                  |
|---------------|---|------------------|
| Software      | USB Standard Package:<br>RDS driver and interface<br>User manuals   | ☑<br>☑           |
| Control Pack  | Probing Pack (CP0)<br>Scanning Pack (CP1)<br>Wireless Probing Pack (CP2)<br>Wireless Scanning Pack (CP3)  | ☑                |
| Artefacts**   | Verification bar<br>Certified sphere for probing  | ☑<br>☑           |
| 7-Axis kit    | 7-Axis Probing Kit, installed<br>RS5 Kit, installed<br>RS6 Kit, installed<br>7-Axis SE, installed   | ○<br>○<br>○<br>○ |
| Warranty      | 2 years*  | ☑                |
| Certification | ISO 10360-12 (certification for articulated arms for tactile measurement)<br>ISO 10360-8 Annex D (certificate of combination for arm and laser scanner) | ☑                |

\* The warranty of two (2) years is valid only if an arm service check is performed during the first year.  
\*\* All artefacts are delivered with a certification.

# ABSOLUTE ARM 6-AXIS 83 SERIES

6-axis portable measuring arm, designed for all-purpose tactile measurement or optional entry-level laser scanning, including:

- Zero-G Counterbalance
- SmartLock + HomeDock
- Base plate
- TKJ 3-mm / 6-mm / 15-mm ball probes
- RDS calibration and interface software
- Travel case
- Certified calibration sphere for probing
- ISO 10360-12 certification (for articulated arms for tactile measurement)
- 24-month warranty\*

|                   |  |
|-------------------|--|
| H00008000-01-8320 | <b>Absolute Arm 8320-6</b><br>2.0 m measurement volume |
| H00008000-01-8325 | <b>Absolute Arm 8325-6</b><br>2.5 m measurement volume |
| H00008000-01-8330 | <b>Absolute Arm 8330-6</b><br>3.0 m measurement volume |
| H00008000-01-8335 | <b>Absolute Arm 8335-6</b><br>3.5 m measurement volume |
| H00008000-01-8340 | <b>Absolute Arm 8340-6</b><br>4.0 m measurement volume |
| H00008000-01-8345 | <b>Absolute Arm 8345-6</b><br>4.5 m measurement volume |



|                       |  |   |
|-----------------------|--|---|
| Encoder               | Absolute Encoders  | <input checked="" type="checkbox"/>   |
| Movement and security | Zero-G Counterbalance   SmartLock   HomeDock   | <input checked="" type="checkbox"/>   |
| Display               | LED pictograms   | <input checked="" type="checkbox"/>   |
| Haptic feedback       | Wrist vibration  | <input checked="" type="checkbox"/>   |
| Cables                | USB cable – 3 m<br>Power supply  | <input checked="" type="checkbox"/><br><input checked="" type="checkbox"/>  |
| Mounting base         | Standard base plate with mounting ring   | <input checked="" type="checkbox"/>   |
| Probes                | TKJ L 50 – ø 15-mm stainless steel<br>TKJ L 50 – ø 6-mm ruby<br>TKJ L 50 – ø 3-mm ruby | <input checked="" type="checkbox"/><br><input checked="" type="checkbox"/><br><input checked="" type="checkbox"/> |
| Packaging             | Hard case<br>Accessories case  | <input checked="" type="checkbox"/><br><input checked="" type="checkbox"/>  |

|               |  |  |
|---------------|--|--|
| Dust cover    | Hexagon, Arm dust cover  | <input checked="" type="checkbox"/>  |
| Software      | USB Standard Package:<br>RDS driver and interface<br>User manuals  | <input checked="" type="checkbox"/><br><input checked="" type="checkbox"/>                       |
| Control Pack  | Probing Pack (CP0)<br>Scanning Pack (CP1)<br>Wireless Probing Pack (CP2)<br>Wireless Scanning Pack (CP3) | <input type="radio"/><br><input type="radio"/><br><input type="radio"/><br><input type="radio"/> |
| Artefact**    | Verification bar<br>Certified sphere for probing   | opt<br><input checked="" type="checkbox"/>   |
| Warranty      | 2 years*   | <input checked="" type="checkbox"/>  |
| Certification | ISO 10360-12 (certification for articulated arms for tactile measurement)                                | <input checked="" type="checkbox"/>  |

\* The warranty of two (2) years is valid only if an arm service check is performed during the first year.

\*\* All artefacts are delivered with a certification.



# ABSOLUTE ARM 6-AXIS 85 SERIES

6-axis portable measuring arm, designed for all-purpose tactile measurement or optional entry-level laser scanning, including:

- Zero-G Counterbalance
  - SmartLock + HomeDock
  - Base plate
  - TKJ 3-mm / 6-mm / 15-mm ball probes
  - RDS calibration and interface software
  - Travel case
- Certified calibration sphere for probing
  - ISO 10360-12 certification (for articulated arms for tactile measurement)
  - 24-month warranty\*

|                   |  |
|-------------------|--|
| H00008000-01-8520 | <b>Absolute Arm 8520-6</b><br>2.0 m measurement volume |
| H00008000-01-8525 | <b>Absolute Arm 8525-6</b><br>2.5 m measurement volume |
| H00008000-01-8530 | <b>Absolute Arm 8530-6</b><br>3.0 m measurement volume |
| H00008000-01-8535 | <b>Absolute Arm 8535-6</b><br>3.5 m measurement volume |
| H00008000-01-8540 | <b>Absolute Arm 8540-6</b><br>4.0 m measurement volume |
| H00008000-01-8545 | <b>Absolute Arm 8545-6</b><br>4.5 m measurement volume |



|                       |  |             |
|-----------------------|--|-------------|
| Encoder               | Absolute Encoders  | ☑           |
| Movement and security | Zero-G Counterbalance   SmartLock   HomeDock   | ☑           |
| Display               | LED pictograms   | ☑           |
| Haptic feedback       | Wrist vibration  | ☑           |
| Handling grips        | SpinGrip***   SpinKnob   | ☑           |
| Cables                | USB cable – 3 m<br>Power supply  | ☑<br>☑      |
| Mounting base         | Standard base plate with mounting ring   | ☑           |
| Probes                | TKJ L 50 – ø 15-mm stainless steel<br>TKJ L 50 – ø 6-mm ruby<br>TKJ L 50 – ø 3-mm ruby | ☑<br>☑<br>☑ |
| Packaging             | Hard case<br>Accessories case  | ☑<br>☑      |

|               |  |                  |
|---------------|--|------------------|
| Dust cover    | Hexagon, Arm dust cover  | ☑                |
| Software      | USB Standard Package:<br>RDS driver and interface<br>User manuals  | ☑<br>☑           |
| Control Pack  | Probing Pack (CP0)<br>Scanning Pack (CP1)<br>Wireless Probing Pack (CP2)<br>Wireless Scanning Pack (CP3) | ○<br>○<br>○<br>○ |
| Artefact**    | Verification bar<br>Certified sphere for probing   | ☑<br>☑           |
| Warranty      | 2 years*   | ☑                |
| Certification | ISO 10360-12 (certification for articulated arms for tactile measurement)                                | ☑                |

\* The warranty of two (2) years is valid only if an arm service check is performed during the first year.  
\*\* All artefacts are delivered with a certification.  
\*\*\* not available for 8520 models.

# ABSOLUTE ARM 6-AXIS 87 SERIES

6-axis portable measuring arm, designed for all-purpose tactile measurement or optional entry-level laser scanning, including:

- Zero-G Counterbalance
- SmartLock + HomeDock
- Base plate
- TKJ 3-mm / 6-mm / 15-mm ball probes
- RDS calibration and interface software
- Travel case
- Certified calibration sphere for probing
- ISO 10360-12 certification (for articulated arms for tactile measurement)
- 24-month warranty\*

|                   |  |
|-------------------|--|
| H00008000-01-8725 | <b>Absolute Arm 8725-6</b><br>2.5 m measurement volume |
| H00008000-01-8730 | <b>Absolute Arm 8730-6</b><br>3.0 m measurement volume |
| H00008000-01-8735 | <b>Absolute Arm 8735-6</b><br>3.5 m measurement volume |
| H00008000-01-8740 | <b>Absolute Arm 8740-6</b><br>4.0 m measurement volume |
| H00008000-01-8745 | <b>Absolute Arm 8745-6</b><br>4.5 m measurement volume |



|                       |  |             |
|-----------------------|--|-------------|
| Encoder               | Absolute Encoders  | ☑           |
| Movement and security | Zero-G Counterbalance   SmartLock   HomeDock   | ☑           |
| Display               | LED pictograms   | ☑           |
| Haptic feedback       | Wrist vibration  | ☑           |
| Handling grips        | SpinGrip   SpinKnob  | ☑           |
| Cables                | USB cable – 3 m<br>Power supply  | ☑<br>☑      |
| Mounting base         | Standard base plate with mounting ring   | ☑           |
| Probes                | TKJ L 50 – ø 15-mm stainless steel<br>TKJ L 50 – ø 6-mm ruby<br>TKJ L 50 – ø 3-mm ruby | ☑<br>☑<br>☑ |
| Packaging             | Hard case<br>Accessories case  | ☑<br>☑      |

|               |  |                  |
|---------------|--|------------------|
| Dust cover    | Hexagon, Arm dust cover  | ☑                |
| Software      | USB Standard Package :<br>RDS driver and interface<br>User manuals                                       | ☑<br>☑           |
| Control Pack  | Probing Pack (CP0)<br>Scanning Pack (CP1)<br>Wireless Probing Pack (CP2)<br>Wireless Scanning Pack (CP3) | ☑<br>☑<br>☑<br>☑ |
| Artefact**    | Verification bar<br>Certified sphere for probing   | ☑<br>☑           |
| Warranty      | 2 years*   | ☑                |
| Certification | ISO 10360-12 (certification for articulated arms for tactile measurement)                                | ☑                |

\* The warranty of two (2) years is valid only if an arm service check is performed during the first year.

\*\* All artefacts are delivered with a certification.





# ABSOLUTE ARM COMPACT

Versatile 6-axis small-diameter high-accuracy portable measuring arm, including:

- Counterweight
- TKJ 3-mm / 6-mm / 15-mm ball probes
- RDS calibration and interface software
- Travel case
- 3 magnetic anchors
- Certified calibration sphere for probing
- ISO 10360-12 certification (for articulated arms for tactile measurement)
- ISO 10360-02\*\* certification (for full-size CMM tactile measurement alignment)
- 24-month warranty\*

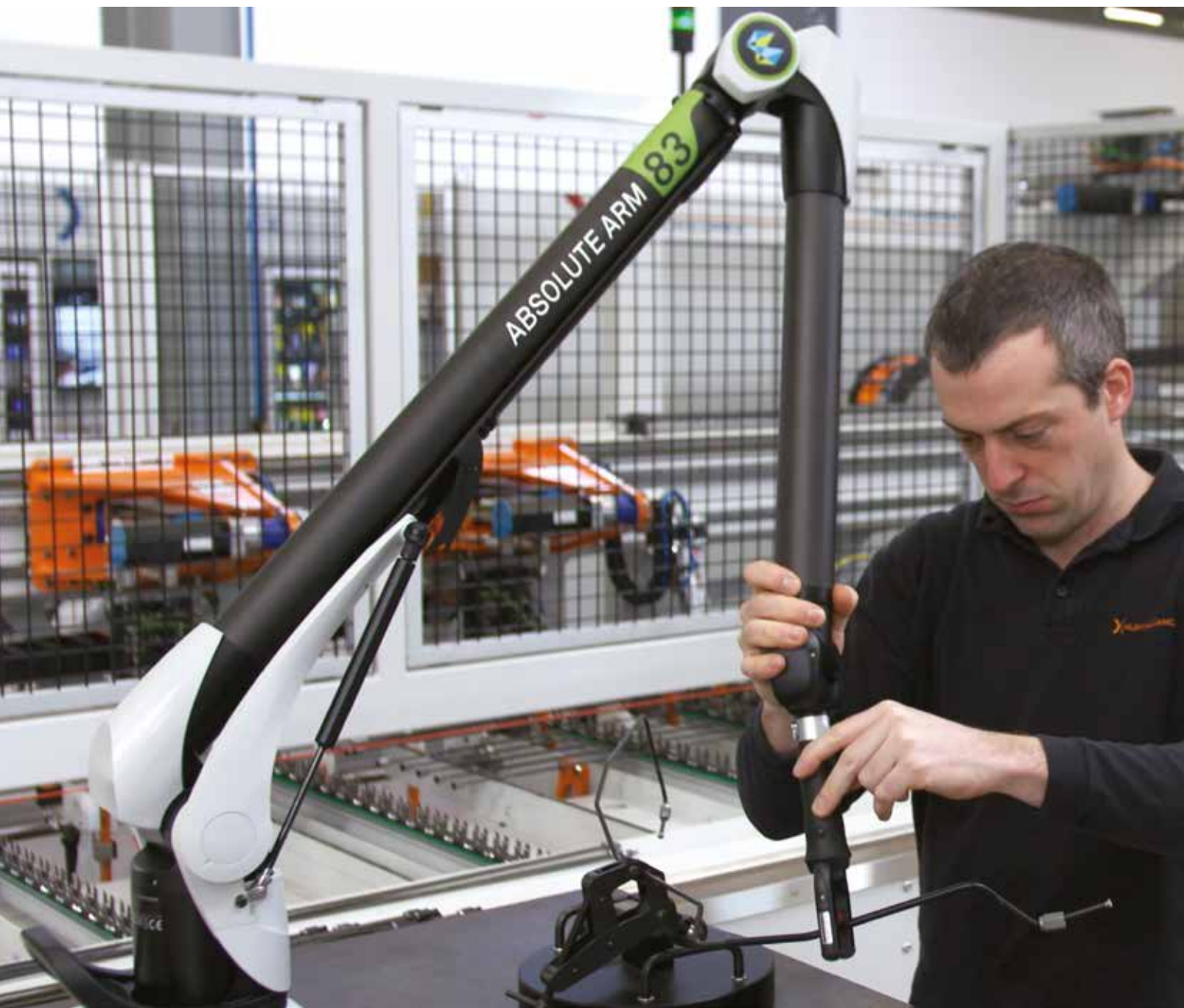
- H00008000-01-8312    **Absolute Arm 8312-6**  
1.2 m measurement volume
- H00008000-01-8512    **Absolute Arm 8512-6**  
1.2 m measurement volume



|                 |                                    |   |
|-----------------|------------------------------------|---|
| Encoder         | Absolute Encoders                  | ☑ |
| Haptic feedback | Wrist vibration                    | ☑ |
| Display         | LED pictograms                     | ☑ |
| Handling grips  | SpinKnob (only 85 series)          | ☑ |
| Cables          | USB cable – 3 m                    | ☑ |
|                 | Power supply                       | ☑ |
| Mounting base   | Standard base plate                | ☑ |
|                 | Magnetic anchors                   | ☑ |
| Probes          | TKJ L 50 – ø 15-mm stainless steel | ☑ |
|                 | TKJ L 50 – ø 6-mm ruby             | ☑ |
|                 | TKJ L 50 – ø 3-mm ruby             | ☑ |
| Packaging       | Hard case                          | ☑ |
|                 | Accessories case                   | ☑ |
| Dust cover      | Hexagon, Arm dust cover            | ☑ |

|               |  |     |
|---------------|--|-----|
| Software      | USB Standard Package:<br>RDS driver and interface<br>User manuals            | ☑   |
|               |  | ☑   |
| Control Pack  | Probing Pack (CP0)   | ○   |
|               | Scanning Pack (CP1)  | ○   |
|               | Wireless Probing Pack (CP2)  | ○   |
|               | Wireless Scanning Pack (CP3)   | ○   |
| Artefact***   | Verification bar (83 series)   | opt |
|               | Verification bar (85 series)   | ☑   |
|               | Certified sphere for probing   | ☑   |
| Warranty      | 2 years*   | ☑   |
| Certification | ISO 10360-12 (certification for articulated arms for tactile measurement)    | ☑   |
|               | ISO 10360-02 (certification for full-size CMM tactile measurement alignment) | opt |

\* The warranty of two (2) years is valid only if an arm service check is performed during the first year.  
\*\* Optional certification.  
\*\*\* All artefacts are delivered with a certification.



# ABSOLUTE ARM TUBE PROBE SYSTEM

6-axis portable measuring arm designed for tube measurement, with a special counterbalance, including:

- Zero-G Counterbalance
  - SmartLock + HomeDock
  - Base plate
  - TKJ 3-mm / 6-mm / 15-mm ball probes
  - RDS calibration and interface software
  - Travel case
- Certified calibration sphere for probing
  - ISO 10360-12 certification (for articulated arms for tactile measurement)
  - 24-month warranty\*

- H00008000-02-8325

**Absolute Arm 8325 T**  
2.5 m measurement volume
- H00008000-02-8330

**Absolute Arm 8330 T**  
3.0 m measurement volume



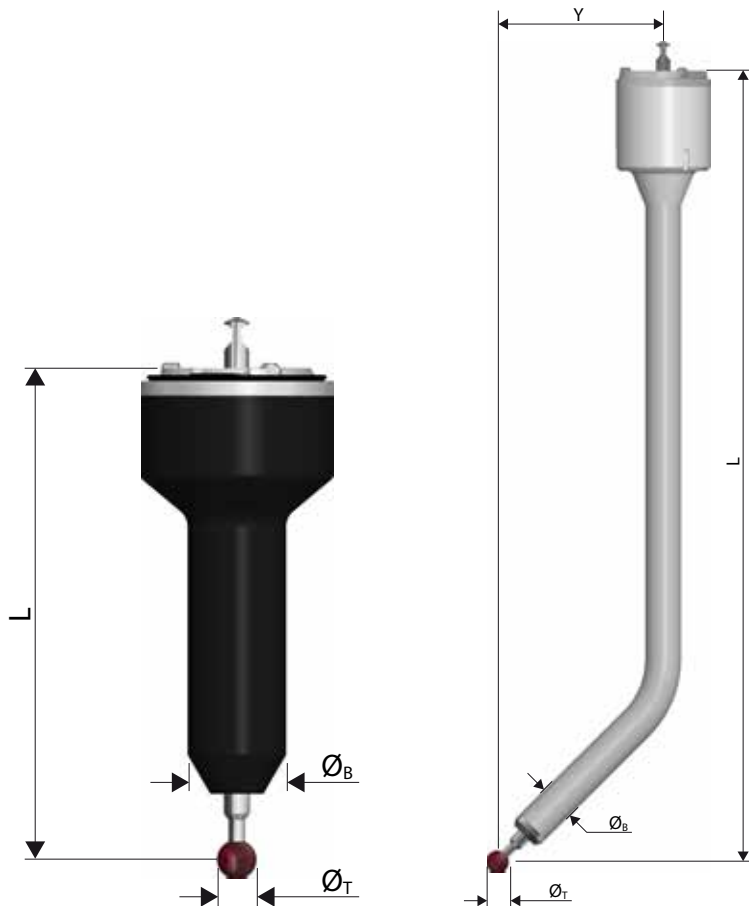
|                       |  |             |
|-----------------------|--|-------------|
| Encoder               | Absolute Encoders  | ☑           |
| Movement and security | Zero-G Counterbalance   SmartLock   HomeDock   | ☑           |
| Haptic feedback       | Wrist vibration  | ☑           |
| Cables                | USB cable – 3 m<br>Power supply  | ☑<br>☑      |
| Mounting base         | Standard base plate with mounting ring   | ☑           |
| Probes                | TKJ L 50 – ø 15-mm stainless steel<br>TKJ L 50 – ø 6-mm ruby<br>TKJ L 50 – ø 3-mm ruby | ☑<br>☑<br>☑ |
| Packaging             | Hard case<br>Accessories case  | ☑<br>☑      |
| Dust cover            | Hexagon, Arm dust cover  | ☑           |

|               |  |                  |
|---------------|--|------------------|
| Software      | USB Standard Package:<br>RDS driver and interface<br>User manuals  | ☑<br>☑           |
| Control Pack  | Probing Pack (CP0)<br>Scanning Pack (CP1)<br>Wireless Probing Pack (CP2)<br>Wireless Scanning Pack (CP3) | ○<br>○<br>○<br>○ |
| Artefact**    | Verification bar<br>Certified sphere for probing   | opt<br>☑         |
| Warranty      | 2 years*   | ☑                |
| Certification | ISO 10360-12 (certification for articulated arms for tactile measurement)                                | ☑                |

\* The warranty of two (2) years is valid only if an arm service check is performed during the first year.  
\*\* All artefacts are delivered with a certification.



# PROBES AND SCANNERS



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# TKJ ALUMINIUM-BODY CONTACT PROBE

Standard aluminium probes for the Absolute Arm are available from 50 to 100 mm in length - An M3 connector allows the use of any M3 sphere tip.

|                    |   |
|--------------------|---|
| 8x12               | ✓ |
| 83-6 / 85-6 / 87-6 | ✓ |
| 83-7 / 85-7 / 87-7 | ✓ |

|               |                  | L      | Body      | Ø <sub>B</sub> | Tip      | Tip Material    | Ø <sub>T</sub> (mm) |   |
|---------------|------------------|--------|-----------|----------------|----------|-----------------|---------------------|---|
| H00007186*    | Probe-Alu-L50-15 | 50 mm  | Aluminium | 15 mm          | Fix ball | Stainless steel | 15 mm               |  |
| H00007189-50* | Probe-Alu-L50-3  | 50 mm  | Aluminium | 15 mm          | M3       | Synth. Ruby     | 3 mm                |  |
| H00007187-50* | Probe-Alu-L50-6  | 50 mm  | Aluminium | 15 mm          | M3       | Synth. Ruby     | 6 mm                |  |
| H00007189-75  | Probe-Alu-L75-3  | 75 mm  | Aluminium | 15 mm          | M3       | Synth. Ruby     | 3 mm                |  |
| H00007187-75  | Probe-Alu-L75-6  | 75 mm  | Aluminium | 15 mm          | M3       | Synth. Ruby     | 6 mm                |  |
| H00007189-100 | Probe-Alu-L100-3 | 100 mm | Aluminium | 15 mm          | M3       | Synth. Ruby     | 3 mm                |  |
| H00007187-100 | Probe-Alu-L100-6 | 100 mm | Aluminium | 15 mm          | M3       | Synth. Ruby     | 6 mm                |  |

\* Already included as standard probes within all Absolute Arm package



# TKJ ALUMINIUM-BODY CONTACT PROBES

Standard aluminium probes for the Absolute Arm are available from 50 to 100 mm in length -An M3 connector allows the use of any M3 sphere tip.

|                    |   |
|--------------------|---|
| 8x12               | ✓ |
| 83-6 / 85-6 / 87-6 | ✓ |
| 83-7 / 85-7 / 87-7 | ✓ |

|              |                             | <i>L</i> | <i>Body</i> | $\varnothing_B$ | <i>Tip.</i> | <i>Tip Material</i> | $\varnothing_T$ (mm) |
|--------------|-----------------------------|----------|-------------|-----------------|-------------|---------------------|----------------------|
| 54388-03     | <b>Probe-Alu-L50-Point</b>  | 50 mm    | Aluminium   | 15 mm           | M3          | Carbid tungsten     | Point                |
| 54388-11     | <b>Probe-Alu-L50-½"</b>     | 50 mm    | Aluminium   | 15 mm           | Fix ball    | Ceramic             | 12.7 mm              |
| NCA7-5-52480 | <b>Probe-Alu-L50-15</b>     | 50 mm    | Aluminium   | 15 mm           | Fix ball    | Stainless steel     | 15 mm                |
| H00000906-01 | <b>Probe-Alu-L50-9.5</b>    | 50 mm    | Aluminium   | 15 mm           | Fix ball    | Stainless steel     | 9.5 mm               |
| 54388-06     | <b>Probe-Alu-L75-Point</b>  | 75 mm    | Aluminium   | 15 mm           | M3          | Carbid tungsten     | Point                |
| 54388-09     | <b>Probe-Alu-L100-Point</b> | 100 mm   | Aluminium   | 15 mm           | M3          | Carbid tungsten     | Point                |



# TKJ CARBON-BODY CONTACT PROBES














Carbon-body probes for the Absolute Arm offer the largest range of probe sizes and types, from 50 mm to 350 mm in length, and with standard M3 ball tips or fixed balls from 2 mm to 25 mm diameter, for any kind of hard contact probing task.

|                    |   |
|--------------------|---|
| 8x12               | ✓ |
| 83-6 / 85-6 / 87-6 | ✓ |
| 83-7 / 85-7 / 87-7 | ✓ |















|              |                             | <i>L</i> | <i>Body</i>  | $\varnothing_B$ | <i>Tip.</i> | <i>Tip Material</i> | $\varnothing_T$ |   |
|--------------|-----------------------------|----------|--------------|-----------------|-------------|---------------------|-----------------|---|
| H00000383-01 | <b>Probe-Carbon-L50-9.5</b> | 50 mm    | Carbon fibre | 16 mm           | Fix ball    | Stainless steel     | 9.5 mm          |    |
| H00000383-02 | <b>Probe-Carbon-L50-10</b>  | 50 mm    | Carbon fibre | 16 mm           | Fix ball    | Stainless steel     | 10 mm           |    |
| H00000383-03 | <b>Probe-Carbon-L50-15</b>  | 50 mm    | Carbon fibre | 16 mm           | Fix ball    | Stainless steel     | 15 mm           |    |
| H00000383-04 | <b>Probe-Carbon-L75-10</b>  | 75 mm    | Carbon fibre | 16 mm           | Fix ball    | Stainless steel     | 10 mm           |    |
| H00000383-05 | <b>Probe-Carbon-L75-15</b>  | 75 mm    | Carbon fibre | 16 mm           | Fix ball    | Stainless steel     | 15 mm           |    |
| H00000383-06 | <b>Probe-Carbon-L82-9.5</b> | 82 mm    | Carbon fibre | 16 mm           | Fix ball    | Stainless steel     | 9.5 mm          |    |
| H00000383-07 | <b>Probe-Carbon-L85-½"</b>  | 85 mm    | Carbon fibre | 16 mm           | Fix ball    | Stainless steel     | 12.7 mm         |    |
| H00000383-09 | <b>Probe-Carbon-L85-25</b>  | 85 mm    | Carbon fibre | 16 mm           | Fix ball    | Stainless steel     | 25 mm           |   |
| H00000576-01 | <b>Probe-Carbon-L85-2</b>   | 85 mm    | Carbon fibre | 16 mm           | M3          | Synth. Ruby         | 2 mm            |  |
| 54397-01     | <b>Probe-Carbon-L85-3</b>   | 85 mm    | Carbon fibre | 16 mm           | M3          | Synth. Ruby         | 3 mm            |  |
| H00000576-02 | <b>Probe-Carbon-L85-4</b>   | 85 mm    | Carbon fibre | 16 mm           | M3          | Synth. Ruby         | 4 mm            |  |
| 54397-02     | <b>Probe-Carbon-L85-6</b>   | 85 mm    | Carbon fibre | 16 mm           | M3          | Synth. Ruby         | 6 mm            |  |
| 54397-03     | <b>Probe-Carbon-L85-Pt</b>  | 85 mm    | Carbon fibre | 16 mm           | M3          | Tungsten Carbide    | Point           |  |



# TKJ CARBON-BODY CONTACT PROBES

|              |                             | <i>L</i> | <i>Body</i>  | $\varnothing_B$ | <i>Tip.</i> | <i>Tip Material</i> | $\varnothing_T$ |   |
|--------------|-----------------------------|----------|--------------|-----------------|-------------|---------------------|-----------------|---|
| H00000576-04 | <b>Probe-Carbon-L100-10</b> | 100 mm   | Carbon fibre | 16 mm           | M3          | Synth. Ruby         | 10 mm           |    |
| H00000576-03 | <b>Probe-Carbon-L100-2</b>  | 100 mm   | Carbon fibre | 16 mm           | M3          | Synth. Ruby         | 2 mm            |    |
| 54397-04     | <b>Probe-Carbon-L100-3</b>  | 100 mm   | Carbon fibre | 16 mm           | M3          | Synth. Ruby         | 3 mm            |    |
| 54397-05     | <b>Probe-Carbon-L100-6</b>  | 100 mm   | Carbon fibre | 16 mm           | M3          | Synth. Ruby         | 6 mm            |    |
| 54397-06     | <b>Probe-Carbon-L100-Pt</b> | 100 mm   | Carbon fibre | 16 mm           | M3          | Tungsten Carbide    | Point           |    |
| H00000383-10 | <b>Probe-Carbon-L130-10</b> | 130 mm   | Carbon fibre | 16 mm           | Fix Ball    | Stainless steel     | 10 mm           |    |
| H00000383-11 | <b>Probe-Carbon-L130-15</b> | 130 mm   | Carbon fibre | 16 mm           | Fix Ball    | Stainless steel     | 15 mm           |    |
| 54397-07     | <b>Probe-Carbon-L130-3</b>  | 130 mm   | Carbon fibre | 16 mm           | M3          | Synth. Ruby         | 3 mm            |    |
| H00000576-05 | <b>Probe-Carbon-L130-4</b>  | 130 mm   | Carbon fibre | 16 mm           | M3          | Synth. Ruby         | 4 mm            |  |
| 54397-08     | <b>Probe-Carbon-L130-6</b>  | 130 mm   | Carbon fibre | 16 mm           | M3          | Synth. Ruby         | 6 mm            |  |
| 54397-09     | <b>Probe-Carbon-L130-Pt</b> | 130 mm   | Carbon fibre | 16 mm           | M3          | Tungsten Carbide    | Point           |  |
| H00000383-12 | <b>Probe-Carbon-L150-10</b> | 150 mm   | Carbon fibre | 16 mm           | Fix Ball    | Stainless steel     | 10 mm           |  |
| H00000383-13 | <b>Probe-Carbon-L150-15</b> | 150 mm   | Carbon fibre | 16 mm           | Fix Ball    | Stainless steel     | 15 mm           |  |

# TKJ CARBON-BODY CONTACT PROBES

|              |                             | <i>L</i> | <i>Body</i>  | $\varnothing_B$ | <i>Tip.</i> | <i>Tip Material</i> | $\varnothing_T$ |   |
|--------------|-----------------------------|----------|--------------|-----------------|-------------|---------------------|-----------------|---|
| H00000576-06 | <b>Probe-Carbon-L150-2</b>  | 150 mm   | Carbon fibre | 16 mm           | M3          | Synth. Ruby         | 2 mm            |    |
| 54397-10     | <b>Probe-Carbon-L150-3</b>  | 150 mm   | Carbon fibre | 16 mm           | M3          | Synth. Ruby         | 3 mm            |    |
| 54397-11     | <b>Probe-Carbon-L150-6</b>  | 150 mm   | Carbon fibre | 16 mm           | M3          | Synth. Ruby         | 6 mm            |    |
| 54397-12     | <b>Probe-Carbon-L150-Pt</b> | 150 mm   | Carbon fibre | 16 mm           | M3          | Tungsten Carbide    | Point           |    |
| H00000383-14 | <b>Probe-Carbon-L165-15</b> | 165 mm   | Carbon fibre | 16 mm           | Fix Ball    | Stainless Steel     | 15 mm           |    |
| H00000383-15 | <b>Probe-Carbon-L180-10</b> | 180 mm   | Carbon fibre | 16 mm           | Fix Ball    | Stainless Steel     | 10 mm           |    |
| H00000383-16 | <b>Probe-Carbon-L180-15</b> | 180 mm   | Carbon fibre | 16 mm           | Fix Ball    | Stainless Steel     | 15 mm           |    |
| H00000383-17 | <b>Probe-Carbon-L180-20</b> | 180 mm   | Carbon fibre | 16 mm           | Fix Ball    | Stainless Steel     | 20 mm           |    |
| 54397-13     | <b>Probe-Carbon-L180-3</b>  | 180 mm   | Carbon fibre | 16 mm           | M3          | Synth. Ruby         | 3 mm            |    |
| 54397-14     | <b>Probe-Carbon-L130-6</b>  | 180 mm   | Carbon fibre | 16 mm           | M3          | Synth. Ruby         | 6 mm            |  |
| 54397-15     | <b>Probe-Carbon-L180-Pt</b> | 180 mm   | Carbon fibre | 16 mm           | M3          | Tungsten Carbide    | Point           |  |
| 54397-16     | <b>Probe-Carbon-L200-3</b>  | 200 mm   | Carbon fibre | 16 mm           | M3          | Synth. Ruby         | 3 mm            |  |
| 54397-17     | <b>Probe-Carbon-L200-6</b>  | 200 mm   | Carbon fibre | 16 mm           | M3          | Synth. Ruby         | 6 mm            |  |
| 54397-18     | <b>Probe-Carbon-L200-Pt</b> | 200 mm   | Carbon fibre | 16 mm           | M3          | Tungsten Carbide    | Point           |  |





# TKJ CARBON-BODY CONTACT PROBES

|              |                             | <i>L</i> | <i>Body</i>  | $\varnothing_B$ | <i>Tip.</i> | <i>Tip Material</i> | $\varnothing_T$ |
|--------------|-----------------------------|----------|--------------|-----------------|-------------|---------------------|-----------------|
| H00000383-18 | <b>Probe-Carbon-L293-15</b> | 293 mm   | Carbon fibre | 16 mm           | Fix ball    | Stainless steel     | 15 mm           |
| H00000576-10 | <b>Probe-Carbon-L300-3</b>  | 300 mm   | Carbon fibre | 16 mm           | M3          | Synth. Ruby         | 3 mm            |
| H00000576-08 | <b>Probe-Carbon-L350-6</b>  | 350 mm   | Carbon fibre | 16 mm           | M3          | Synth. Ruby         | 6 mm            |



# TKJ ANGLED CONTACT PROBES

For hard-to-reach areas of parts, the Absolute Arm can be equipped with special angled probes designed to allow for measuring around obstacles. Angles of 45°, 60° and 90° are available.

|          |                                 | L      | Y     | Body      | Tip. | Tip Material (T) | Ø <sub>T</sub> |
|----------|---------------------------------|--------|-------|-----------|------|------------------|----------------|
| 54280-01 | <b>Angle Probe 45DEG -Point</b> | 149 mm | 38 mm | Aluminium | M3   | Tungsten Carbide | Point          |
| 54280-02 | <b>Angle Probe 45DEG -3</b>     | 149 mm | 38 mm | Aluminium | M3   | Synth. Ruby      | 3 mm           |
| 54280-03 | <b>Angle Probe 45DEG -4</b>     | 149 mm | 38 mm | Aluminium | M3   | Synth. Ruby      | 4 mm           |
| 54280-04 | <b>Angle Probe 45DEG -6</b>     | 149 mm | 38 mm | Aluminium | M3   | Synth. Ruby      | 6 mm           |
| 54280-05 | <b>Angle Probe 60DEG -Point</b> | 149 mm | 57 mm | Aluminium | M3   | Tungsten Carbide | Point          |
| 54280-06 | <b>Angle Probe 60DEG -3</b>     | 149 mm | 57 mm | Aluminium | M3   | Synth. Ruby      | 3 mm           |
| 54280-07 | <b>Angle Probe 60DEG -4</b>     | 149 mm | 57 mm | Aluminium | M3   | Synth. Ruby      | 4 mm           |
| 54280-08 | <b>Angle Probe 60DEG -6</b>     | 149 mm | 57 mm | Aluminium | M3   | Synth. Ruby      | 6 mm           |
| 54280-09 | <b>Angle Probe 90DEG -Point</b> | 173 mm | 43 mm | Aluminium | M3   | Tungsten Carbide | Point          |
| 54280-10 | <b>Angle Probe 90DEG -3</b>     | 173 mm | 43 mm | Aluminium | M3   | Synth. Ruby      | 3 mm           |
| 54280-11 | <b>Angle Probe 90DEG -4</b>     | 173 mm | 43 mm | Aluminium | M3   | Synth. Ruby      | 4 mm           |
| 54280-12 | <b>Angle Probe 90DEG -6</b>     | 173 mm | 43 mm | Aluminium | M3   | Synth. Ruby      | 6 mm           |



# TKJ CONTACT PROBES – KITS

To enhance the possibilities of probing, customisable probe kits are available that each offer a different range of probe sizes.

|                    |   |
|--------------------|---|
| 8x12               | ✓ |
| 83-6 / 85-6 / 87-6 | ✓ |
| 83-7 / 85-7 / 87-7 | ✓ |

54388-50B

**Probe Body (Aluminium / L = 50 mm)**

Individual solid aluminum probe shaft, length 50 mm.  
For use with all Absolute Arm models with a TESA kinematic joint connector.



54388-100B

**Probe Body (Aluminium / L = 100 mm)**

Individual solid aluminum probe shaft, length 100 mm.  
For use with all Absolute Arm models with a TESA kinematic joint connector.



54135

**Probe Kit – Short Body (Aluminium)**

Short-body probe set consisting of 5 aluminium probe shafts,  
5 styli with ruby-ball tips, 2 adaptors and tools.  
For use with all Absolute Arm models with a TESA kinematic joint connector.

|                       |        |  |
|-----------------------|--------|--|
| Bodies<br>(Aluminium) | Length | 50 mm / 60 mm / 70 mm / 85 mm / 100 mm |
| Tips<br>(Synth. Ruby) | ∅      | 2 mm / 3 mm / 4 mm / 5 mm / 6 mm       |
|                       | Length | 10 mm                                  |
| Connectors            |        | 2 x TKJ                                |
| Tools                 |        | Body probe wrench + probe pin wrench   |



54136

**Probe Kit – Long Body (Carbon Fibre)**

Long-body probe set consisting of 4 carbon-fibre probe shafts,  
5 styli with ruby-ball tips, 2 adaptors and tools.  
For use with all Absolute Arm models with a TESA kinematic joint connector.

|                          |        |                                   |
|--------------------------|--------|-----------------------------------|
| Bodies<br>(Carbon fiber) | Length | 130 mm / 150 mm / 180 mm / 200 mm |
| Tips<br>(Synth. Ruby)    | ∅      | 2 mm / 3 mm / 4 mm / 5 mm / 6 mm  |
|                          | Length | 10 mm                             |
| Connectors               |        | 2 x TKJ                           |
| Tools                    |        | Body probe wrench + tip wrench    |



# TKJ – SPECIAL CONTACT PROBES

Probes to receive laser tracker balls and a special probe adapter for customised purpose.

|                    |   |
|--------------------|---|
| 8x12               | ✓ |
| 83-6 / 85-6 / 87-6 | ✓ |
| 83-7 / 85-7 / 87-7 | ✓ |

H00000742-01

**TKJ Probe – for Tracker ball 12.7 mm**

Ball not included\*

| ∅       | Tip           | L     | (B) Body Mat. |
|---------|---------------|-------|---------------|
| 12.7 mm | Magnetic seat | 75 mm | Aluminium     |



H00000742-02

**TKJ Probe – for Tracker ball 22.225 mm (0.875")**

Ball not included

| ∅         | Tip           | L     | (B) Body Mat. |
|-----------|---------------|-------|---------------|
| 22.225 mm | Magnetic seat | 75 mm | Aluminium     |



H00000742-03

**TKJ Probe – for Tracker ball 38.1 mm (1.5")**

Ball not included

| ∅       | Tip           | L     | (B) Body Mat. |
|---------|---------------|-------|---------------|
| 38.1 mm | Magnetic seat | 75 mm | Aluminium     |



54431

**Universal Probe adapter – TKJ male to M8**

Body probe to adapt any M8 standard or customised probe adapter.



\*Tip (please refer to Laser Tracker product catalogue)



# TKJ TOUCH TRIGGER PROBES

Touch trigger probes are a good solution for sensitive parts. Adjustable or not, probing points are triggered when touching the surface. Usable for any soft surface or easily movable parts.

|                    |   |
|--------------------|---|
| 8x12               | ✓ |
| 83-6 / 85-6 / 87-6 | ✓ |
| 83-7 / 85-7 / 87-7 | ✓ |

34386

**HP-T-EF Touch Trigger Probe Kit**

TKJ Male probe – Trigger contact.

|                       |        |                                 |
|-----------------------|--------|---------------------------------|
| TKJ-M8-TTP            |        | NCA7-5-19344 included           |
| Tips<br>(Synth. Ruby) | ø      | 3 mm / 6 mm                     |
|                       | Length | 20 mm / 10 mm                   |
| Trigger force         |        | Extended force (0.10 N at 50mm) |
| Length                |        | 73 mm                           |



NCA7-3-52596

**HP-T-RP M8 Adjustable Touch Trigger Probe Head**

M8 head for TKJ adapter trigger probe

|                       |        |                            |
|-----------------------|--------|----------------------------|
| TKJ-M8-TTP            |        | NCA7-5-19344 included      |
| Tips<br>(Synth. Ruby) | ø      | 3 mm / 6 mm                |
|                       | Length | 10 mm                      |
| Trigger force         |        | Adjustable 0.11 N - 0.30 N |
| Length                |        | 85 mm                      |



34385

**TP20 Renishaw Touch Trigger Probe Kit**

TKJ Male probe – Trigger contact.

|                       |        |  |
|-----------------------|--------|--|
| TKJ-M8-TTP            |        | NCA7-5-19344 included                    |
| Tips<br>(Synth. Ruby) | ø      | 3 mm / 6 mm                              |
|                       | Length | 20 mm (ø 3 mm) / 10 mm (ø 6 mm)          |
| Trigger Force         |        | Extended force (0.1N at 50 mm) – 2 heads |
| Length                |        | 83 mm                                    |



NCA7-5-19344

**TTP Adapter – M8**

TKJ-M base for all M8 Touch Trigger Probe Heads.

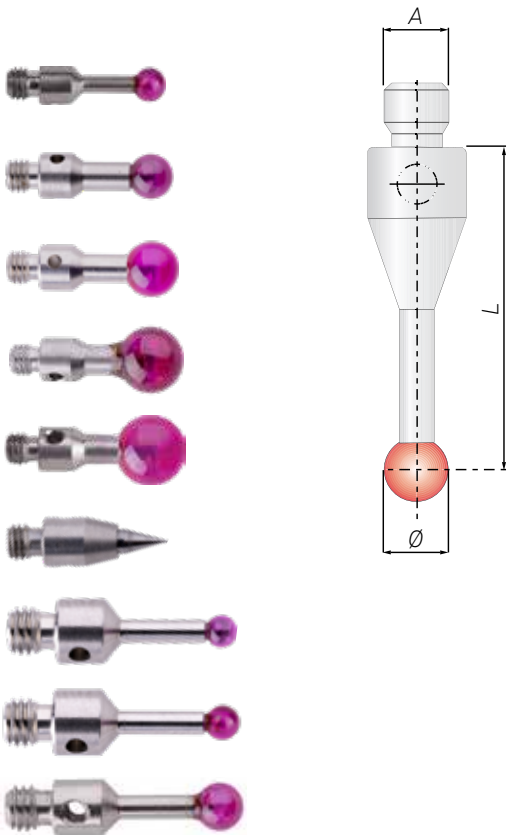


# M3 STYLI

A range of tips is available to allow for adapting the probe to the measurement object. All tips are fixed with a M3 thread and can be used on any hard contact body probe or touch trigger probe.

|                    |   |
|--------------------|---|
| 8x12               | ✓ |
| 83-6 / 85-6 / 87-6 | ✓ |
| 83-7 / 85-7 / 87-7 | ✓ |

|              |                     | ø     | A  | Tip Material     | L     |
|--------------|---------------------|-------|----|------------------|-------|
| 74128        | M3-Stylus-L10-2mm   | 2 mm  | M3 | Synth. Ruby      | 10 mm |
| 03969324     | M3-Stylus-L10-3mm   | 3 mm  | M3 | Synth. Ruby      | 10 mm |
| 74130        | M3-Stylus-L10-4mm   | 4 mm  | M3 | Synth. Ruby      | 10 mm |
| 74131        | M3-Stylus-L10-5mm   | 5 mm  | M3 | Synth. Ruby      | 10 mm |
| 03969326     | M3-Stylus-L10-6mm   | 6 mm  | M3 | Synth. Ruby      | 10 mm |
| 74133        | M3-Stylus-L10-Point | Point | M3 | Tungsten Carbide | 10 mm |
| NCA7-7-18998 | M3-Stylus-L20-2mm   | 2 mm  | M3 | Synth. Ruby      | 20 mm |
| NCA7-7-19997 | M3-Stylus-L20-3mm   | 3 mm  | M3 | Synth. Ruby      | 20 mm |
| NCA7-7-19998 | M3-Stylus-L20-6mm   | 6 mm  | M3 | Synth. Ruby      | 20 mm |





# NON-CONTACT TUBE PROBES

Infrared non-contact probes for tube measurement are available in 6 different sizes, allowing measurement of all kinds of tubes. A laser dot guides the user for precise locations. Compatible with TubeShaper, GTube and Docs software. See below the tube diameters and compatibilities.

|                    |   |
|--------------------|---|
| 8x12               | ✓ |
| 83-6 / 85-6 / 87-6 | ✓ |
| 83-7 / 85-7 / 87-7 | ✓ |

NCA7-2-21952-01      **NCP1 – Non-Contact Tube Probe 12.5 mm**

|          |                              |
|----------|------------------------------|
| ∅        | 4 mm > 13 mm (0.15" > ½")    |
| Calib T* | ¼" – ref NCA7-2-21953-01     |
| Z gage*  | ∅ 8 mm – ref NCA7-2-21954-01 |



NCA7-2-21952-02      **NCP2 – Non-Contact Tube Probe 25 mm**

|          |                              |
|----------|------------------------------|
| ∅        | 6 mm > 20 mm (¼" > ¾")       |
| Calib T* | ¼" – ref NCA7-2-21953-01     |
| Z gage*  | ∅ 8 mm – ref NCA7-2-21954-01 |



NCA7-2-21952-03      **NCP3 – Non-Contact Tube Probe 50 mm**

|          |                               |
|----------|-------------------------------|
| ∅        | 10 mm > 40 mm (0.4" > 1.6")   |
| Calib T* | ½" – ref NCA7-2-21953-02      |
| Z gage*  | ∅ 20 mm – ref NCA7-2-21954-02 |



NCA7-2-21952-04      **NCP4 – Non-Contact Tube Probe 75 mm**

|          |                               |
|----------|-------------------------------|
| ∅        | 12 mm > 65 mm (½" > 2½")      |
| Calib T* | ½" – ref NCA7-2-21953-02      |
| Z gage*  | ∅ 20 mm – ref NCA7-2-21954-02 |



NCA7-2-21952-05      **NCP5 – Non-Contact Tube Probe 100 mm**

|          |                               |
|----------|-------------------------------|
| ∅        | 20 mm > 85 mm (¾" > 3.3")     |
| Calib T* | 1" – ref NCA7-2-21953-03      |
| Z gage*  | ∅ 40 mm – ref NCA7-2-21954-03 |



NCA7-2-21952-06      **NCP6 – Non-Contact Tube Probe 150 mm**

|          |                               |
|----------|-------------------------------|
| ∅        | 30 mm > 130 mm (1.2" > 5.1")  |
| Calib T* | 1" – ref NCA7-2-21953-03      |
| Z gage*  | ∅ 40 mm – ref NCA7-2-21954-03 |



\* Calibration T-bar and verification Z Gage are not included. These optional artefacts are certified.

# RS6 LASER SCANNER



H00009221

|                    |   |
|--------------------|---|
| 8x12               |   |
| 83-6 / 85-6 / 87-6 |   |
| 83-7 / 85-7 / 87-7 | ✓ |

## **RS6 Kit, Accessory, for RA8 7-Axis**

Shipped individually in its shipping box.

Flagship laser scanner for the RA8 Absolute Arm 7-Axis

Includes:

- RS6 Laser Scanner
- RDS maintenance and interface software
- Certified scanning sphere, incl. certificate
- ODU-twin cable - 3 m
- Scanner certificate
- 2-year warranty

### *Warning:*

*The arm must be equipped with at least a CP1. The scanner is not delivered with the "System Scanning Accuracy" ISO 10360-8 Annex-D report.*



# RS5 AND HP-L-8.9 ACCESSORY KIT

H00007975

## RS5 Kit, Accessory, for RA8 7-Axis

Shipped individually in its shipping box.  
General purpose laser scanner for the RA8 Absolute Arm 7-Axis

Includes:

- RS5 Laser Scanner
- RDS maintenance and interface software
- Certified scanning sphere, incl. certificate
- ODU-twin cable - 3m
- Scanner certificate
- 2-year warranty

Warning:

The arm must be equipped with at least a CP1. The scanner is not delivered with the "System Scanning Accuracy" ISO 10360-8 Annex-D report.

|                    |   |
|--------------------|---|
| 8x12               |   |
| 83-6 / 85-6 / 87-6 |   |
| 83-7 / 85-7 / 87-7 | ✓ |



H00007977

## HP-L-8.9 Accessory Kit, for RA8 6-Axis

Shipped individually in its shipping box.  
Cost-effective laser scanner for the RA8 Absolute Arm 6-Axis.

Includes:

- HP-L-8.9 Laser Scanner
- Certified sphere for probing and scanning
- ODU-LAN cable - 3 m
- Scanner certification
- RDS maintenance and interface software
- Travel case
- 1-year warranty

Warning:

The arm must be equipped with at least a CP1. The scanner is not delivered with the "System Scanning Accuracy" ISO 10360-8 Annex-D report.





# MOUNTING SOLUTIONS

|                |    |
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# STANDARD BASES

All the standard bases for the Absolute Arm are designed for use with the Absolute Arm Mounting Ring.

NCA7-5-21497

### Base Plate with Mounting Ring

Base mounting set that can be used to fix a base plate to the Absolute Arm so that it can stand freely on any flat and stable surface. Fully compatible with accuracy specifications and with all Absolute Arm models.

Delivery Contents:

- 1x Base plate (size: 170 x 235 x 15 mm)
- 1x Mounting ring (Ø108 mm)
- 6x Screws (SHCS, M8 x 1.25 x 25 SS - DIN 912 / ISO 4762 )

|                    |                  |
|--------------------|------------------|
| 8x12               | ✓ <sup>(*)</sup> |
| 83-6 / 85-6 / 87-6 | ☑                |
| 83-7 / 85-7 / 87-7 | ☑                |



NCA7-5-19866

### Magnetic Base with Mounting Ring

Magnetic mounting adaptor that can be used to magnetically fix any Absolute Arm system to magnetic surfaces. Works best on flat surfaces. Fully compatible with accuracy specifications and with all Absolute Arm models.

Delivery Contents:

- 1x Magnetic base plate (size: 238 x 271 x 112 mm)
- 1x Set of three magnets (100 kg force / unit, size: 50 x 55 x 73 mm)
- 1x Mounting ring (Ø108 mm)
- 3x Screws (SHCS, M8 x 1.25 x 20 SS)
- 6x Screws (SHCS, M8 x 1.25 x 25 SS)

|                    |                  |
|--------------------|------------------|
| 8x12               | ✓ <sup>(*)</sup> |
| 83-6 / 85-6 / 87-6 | ✓                |
| 83-7 / 85-7 / 87-7 | ✓                |



H00008527

### Witte vacuum mount base

To mount the arm on any flat surface without additional tools. For arms up to 2500 mm size

- Mounting ring included
- Weight: 6.3 kg

Delivery Contents:

- storage and transport case
- rechargeable battery and charger
- user manual.

|                    |                  |
|--------------------|------------------|
| 8x12               | ✓ <sup>(*)</sup> |
| 83-6 / 85-6 / 87-6 | ✓                |
| 83-7 / 85-7 / 87-7 | ✓                |



\*: for the Absolute Arm Compact 8x12 a Mounting Ring adapter (NCA7-2-21448) is required.



# BASES

H00004220

## Mounting Ring alone

Ring attachment that allows the Absolute Arm to be mounted to any surface using just 6 screws, with no additional base plate required. Fully compatible with accuracy specifications and with all Absolute Arm models.

Delivery Contents:

1x Mounting ring (Ø108 mm)

6x Screws (SHCS, M8 x 1.25 x 25 SS - DIN 912 / ISO 4762)

|                    |      |
|--------------------|------|
| 8x12               | ✓(*) |
| 83-6 / 85-6 / 87-6 | ✓    |
| 83-7 / 85-7 / 87-7 | ✓    |



NCA7-2-21448

## Mounting Ring Adapter

- Allows to use any standard mounting base or tripod with the 8x12 serie.

Delivery Contents:

1x Mounting ring (Ø108 mm)

6x Screws (SHCS, M8 x 1.25 x 25 SS - DIN 912 / ISO 4762)

|                    |       |
|--------------------|-------|
| 8x12               | ✓(**) |
| 83-6 / 85-6 / 87-6 |       |
| 83-7 / 85-7 / 87-7 |       |



H00000896

## Magnetic anchor

Magnetic anchors delivered as a standard for all Absolute Arm Compact models.

3 x Magnetic anchors are needed to fix the Absolute Arm Compact.



H00001346\*\*

## 3x100 kg Force Magnetic Blocks and 3x Magnetic Anchors

Includes

- 3 magnetic blocks (100 kg force/unit)
- 3 magnetic anchors
- 3 screws
- a short hexagon key.



\*: for the Absolute Arm Compact 8x12 a Mounting Ring adapter (NCA7-2-21448) is required.

\*\* : Option available only for 8x12



# TRIPODS

Instrument stands for functionality and portability. This collapsible, tripod-type stand is available in a number of standard configurations. Stands with graphite upper legs have a low weight and give an advantage with respect to thermal stability. The height of the stand is adjusted by releasing quick-action levers and setting each telescoping leg to the desired length.

- H00011491     **Hexagon Stand, Graphite Portable Adjustable**  
(MxS2000SA)  
- Height adjustable 743 - 1403 mm  
- Net weight: 18 kg  
- Feet: 3 Pad feet (32990) included + 3 Point feet

|                    |                  |
|--------------------|------------------|
| 8x12               | ✓ <sup>(*)</sup> |
| 83-6 / 85-6 / 87-6 | ✓                |
| 83-7 / 85-7 / 87-7 | ✓                |

- H00011492     **Hexagon Stand, Graphite Portable Fixed**  
(MxS2000SF)  
- Height adjustable 619 - 972 mm  
- Net weight: 16 kg  
- Feet: 3 Pad feet (32990) included + 3 Point feet

|                    |                  |
|--------------------|------------------|
| 8x12               | ✓ <sup>(*)</sup> |
| 83-6 / 85-6 / 87-6 | ✓                |
| 83-7 / 85-7 / 87-7 | ✓                |

- H00011493     **Hexagon Stand, Tetralock Portable - 400S-D**  
- Aluminium / Stainless steel  
- Height: adjustable 750 - 1190 mm  
- Net weight: 11 kg  
- Transport case: duffel-style canvas bag

|                    |                  |
|--------------------|------------------|
| 8x12               | ✓ <sup>(*)</sup> |
| 83-6 / 85-6 / 87-6 | ✓                |
| 83-7 / 85-7 / 87-7 | ✓                |

- 32990     **Brunson Pad feet for graphite portable stands**  
- For H00011492 (MxS2000SF), H00011491 (MxS2000SA) and H00011493 (400S-D)  
- 3 pieces

- 576905     **Travel case for graphite portable stands**  
Travel case for easy and safe transportation when shipping or packing requirements call for more protection,  
- For H00011491 and H00011492

- 576906     **Tripod Padded Bag**  
Durable carrying bag for easy transport to and from the jobsite.  
- For H00011491 and H00011492



<sup>\*</sup> for the Absolute Arm Compact 8x12 a Mounting Ring adapter (NCA7-2-21448) is required.



# STANDS

Heavy duty metrology stands are perfect for 3D measurement applications which require a great deal of stability along with mobility around the workplace. Their mass and rigidity will be of great benefit when the utmost in stability is required.

## H00011496 **Hexagon Stand, Model 230-F-24 Small**

- Height: fix 610 mm (24")
- Net weight: 77 kg

|                    |                  |
|--------------------|------------------|
| 8x12               | ✓ <sup>(*)</sup> |
| 83-6 / 85-6 / 87-6 | ✓                |
| 83-7 / 85-7 / 87-7 | ✓                |



## H00011497 **Hexagon Stand, Model 230-F-36 Medium**

- Height: fix 910 mm (36")
- Net weight: 86 kg

## H00011498 **Hexagon Stand, Model 230-F-48 Large**

- Height: fix 1220 mm (48")
- Net weight: 104 kg

## H00011494 **Hexagon Stand, Model 231 Small**

- Height: adjustable 710 - 1070 mm
- Net weight: 88 kg

|                    |                  |
|--------------------|------------------|
| 8x12               | ✓ <sup>(*)</sup> |
| 83-6 / 85-6 / 87-6 | ✓                |
| 83-7 / 85-7 / 87-7 | ✓                |



## H00011495 **Hexagon Stand, Model 230 Large**

- Height: adjustable 1090 - 1700 mm
- Net weight: 104 kg

## 32004-1 **Brunson stand extension 234-20**

- Height: 508 mm (20")
- Includes spacer ring
- Available in North America and Asia Pacific

|                    |                  |
|--------------------|------------------|
| 8x12               | ✓ <sup>(*)</sup> |
| 83-6 / 85-6 / 87-6 | ✓                |
| 83-7 / 85-7 / 87-7 | ✓                |



## H00011499 **Hexagon Laptop Support Arm and Tray 230 - 231**

- Black laptop support stand with adjustable laptop support tray, power cable management clips and 2 power supply mounting brackets.
- Material: Aluminium (frame), Plastic (tray)
- Max. keyboard thickness/width: 44 mm / 394 mm
- Net weight: 5 kg / Portable: Yes / Transport Case: No

|                    |                  |
|--------------------|------------------|
| 8x12               | ✓ <sup>(*)</sup> |
| 83-6 / 85-6 / 87-6 | ✓                |
| 83-7 / 85-7 / 87-7 | ✓                |



\* for the Absolute Arm Compact 8x12 a Mounting Ring adapter (NCA7-2-21448) is required

# TABLES

Swift-fix Portable Workstations provide the ideal workplace for your portable measuring arm. Available in a number of sizes and configurations, these workstations put everything needed in one place, ideal for more effective measurement. The laptop arm mounts directly to the top surface and allows a notebook computer to be raised above the workspace. The platform can be adjusted in height to set a comfortable viewing level and can extend outwards by up to 570 mm.

|                    |   |
|--------------------|---|
| 8x12               | ✓ |
| 83-6 / 85-6 / 87-6 | ✓ |
| 83-7 / 85-7 / 87-7 | ✓ |

NCA7-2-21955      **Mobile Workstation with Cabinet – 900**

- For arms up to 3000 mm size
- 900 mm(W) x 600 mm (D) x 930 mm (H)
- M8 holes grid – 50 mm x 50 mm
- Fitted with Swivel lockable wheels
- Laptop shelf included
- Swift fix starter kit included
- Available in Europe



NCA7-2-21956      **Mobile Workstation with Cabinet – 1200**

- For all sizes of arms
- 1200 mm(W) x 900 mm (D) x 930 mm (H)
- M8 holes grid – 50 mm x 50 mm
- Fitted with Swivel lockable wheels
- Laptop shelf included
- Swift fix starter kit included
- Available in Europe



H00011596      **Mobile Workstation with Cabinet for Absolute Arm Compact RA7x12**

- 900 x 600 mm
  - levelled steel plate with M8 hole grid.
  - 4 lockable wheels
  - handle
  - storing cabinet with 2 drawers and secure lock
  - laptop shelf included
  - Swift-Fix Starter kit.
- Usable draw space approx. : 730 mm wide, 480 mm deep, 260 mm high per drawer.
- Available in North America, Asia and Pacific.



H00002365      **Tube Inspection Table**

- Dedicated for tube inspection only.
- Compatible with:
- Mounting ring
  - Stands (NCA7-5-52794 and NCA 7-5-52795)
  - M6 holes grid
  - currently not available in North America



# RAISERS

Stable height extension for any arm. Very suitable for Absolute Arm tube inspection systems.

|                    |                  |
|--------------------|------------------|
| 8x12               | ✓ <sup>(*)</sup> |
| 83-6 / 85-6 / 87-6 | ✓                |
| 83-7 / 85-7 / 87-7 | ✓                |

- NCA7-5-52794

Arm Raiser – 250 mm

  - Multi purpose stand, suitable for Absolute Arm tube stations as well as other high-accuracy arm applications.
  - Compatible with accuracy specifications
  - Compatible with all sizes of arm
  - Mounting ring included
  - Height: 250 mm



- NCA7-5-52795

Arm Raiser – 500 mm

  - Multi purpose stand, suitable for Absolute Arm tube stations as well as other high-accuracy arm applications.
  - Compatible with accuracy specifications
  - Compatible with all sizes of arm
  - Mounting ring included
  - Height: 500 mm





# CERTIFICATIONS AND ARTEFACTS

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Artefacts for Tube Probes 50

Optional Certifications 51

# VERIFICATION BARS

Certified length bars are mainly used to verify the accuracy of portable measuring arms and to perform length checkouts. They can also be used to evaluate arm performance against ISO 10360-12, ASME B89.4.22 or VDI/VDE standards.

32377\*

## **Certified Length Bar (short)**

*This length bar is recommended for 1.2 m Absolute Arm models.*

*Lengths*

*L1: 170 mm (6.7")*

*L2: 310 mm (12.2")*

*Delivery Contents:*

*1x Certified length bar*

*1x DIN ISO-17025 Certificate*

32378\*

## **Certified Length Bar (medium)**

*This length bar is recommended for 2.0-2.5 m Absolute Arm models.*

*Lengths*

*L1: 362 mm (14.25")*

*L2: 712 mm (28")*

*Delivery Contents:*

*1x Certified length bar*

*1x DIN ISO-17025 Certificate*

32379\*

## **Certified Length Bar (long)**

*This length bar is recommended for 3.0 - 4.5 m Absolute Arm models.*

*Lengths*

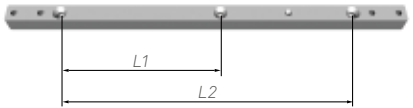
*L1: 514 mm (20.25")*

*L2: 1016 mm (40")*

*Delivery Contents:*

*1x Certified length bar*

*1x DIN ISO-17025 Certificate*



32377



32378



32379

\* included in 85/87 Arm series, according to Arm size. One certified length per Absolute Arm





# CERTIFIED SPHERES

Certified spheres used to calibrate all contact probes and laser scanners or to verify their accuracy.

- NCA7-5-20653-01
- Calibration Sphere for Contact Probes**
  - Already provided with 6 axis and SE arms.
  - Sphere:  $\varnothing$  25.4 mm (1") / hardness 58 Rc
  - High chrome, high carbon stainless steel
  - Provided with its certificate
  - Base plate included

|                    |                                     |
|--------------------|-------------------------------------|
| 8x12               | <input checked="" type="checkbox"/> |
| 83-6 / 85-6 / 87-6 | <input checked="" type="checkbox"/> |
| 83-7 / 85-7 / 87-7 | <input checked="" type="checkbox"/> |



- H00000347
- Scanning and Probing Certified Sphere**
  - Recommended for scanning system
  - Base plate included
  - Sphere:  $\varnothing$  25.4 mm (1")
  - Provided with its certificate
  - Included already in the RS5 Kit, RS6 Kit.

|                    |                                     |
|--------------------|-------------------------------------|
| 8x12               |                                     |
| 83-6 / 85-6 / 87-6 |                                     |
| 83-7 / 85-7 / 87-7 | <input checked="" type="checkbox"/> |



# ARTEFACTS FOR TUBE PROBES

Calibrate tube probes and evaluate probe accuracy against certified tools: T-bar for alignment and Z Gage for accuracy check.

|                    |   |
|--------------------|---|
| 8x12               | ✓ |
| 83-6 / 85-6 / 87-6 | ✓ |
| 83-7 / 85-7 / 87-7 | ✓ |

- NCA7-2-21953-01 **Calibration Artefact for Tube Probe – ¼ inch**  
*Quarter inch diameter T bar for NC tube probe alignment.*  
- Recommended for NCP1 and NCP2  
- Provided with its certificate

- NCA7-2-21953-02 **Calibration Artefact for Tube Probe – ½ inch**  
*Half inch diameter T bar for NC tube probe alignment.*  
- Recommended for NCP3 and NCP4  
- Provided with its certificate

- NCA7-2-21953-03 **Calibration Artefact for Tube Probe – 1 inch**  
*One inch diameter T bar for NC tube probe alignment.*  
- Recommended for NCP5 and NCP6  
- Provided with its certificate

- NCA7-2-21954-01 **Z Gage for Tube Certification – ø 8 mm**  
*Gauge for NC tube probe verification.*  
- Recommended for NCP1 and NCP2  
- Provided with its certificate

- NCA7-2-21954-02 **Z Gage for Tube Certification – ø 20 mm**  
*Gauge for NC tube probe verification.*  
- Recommended for NCP3 and NCP4  
- Provided with its certificate

- NCA7-2-21954-03 **Z Gage for tube certification – ø 40 mm**  
*Gauge for NC tube probe verification.*  
- Recommended for NCP5 and NCP6  
- Provided with its certificate



# OPTIONAL CERTIFICATIONS

H0000536

**Certification – ISO 10360-12**

*Certification according to standard definition  
Certificate made for articulated arm for tactile  
measurement.*

|                    |                                     |
|--------------------|-------------------------------------|
| 8x12               | <input checked="" type="checkbox"/> |
| 83-6 / 85-6 / 87-6 | <input checked="" type="checkbox"/> |
| 83-7 / 85-7 / 87-7 | <input checked="" type="checkbox"/> |

H00000621

**Certification – B89.4.22**

*For RA7 only  
Certification only (without recalibration)*

H00000658

**Certification – ISO 10360-2**

*Optional probing certification for 8x12 Absolute  
Arm Compact models only.*

|                    |     |
|--------------------|-----|
| 8x12               | opt |
| 83-6 / 85-6 / 87-6 | -   |
| 83-7 / 85-7 / 87-7 | -   |

NCA7-4-52504

**Certification – VDI/VDE**

*For RA7 only  
Probing certification according to standard  
definition*



CAUTION: DO NOT ATTEMPT TO DISASSEMBLE  
THIS DEVICE. IF YOU DO, YOU MAY BE  
INJURED. FOR MORE INFORMATION, VISIT  
WWW.MEDICAL-DEVICES.COM



# ACCESSORIES FOR TUBE INSPECTION

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Tools 55

Software and Bender links 56

# NON-CONTACT TUBE PROBES

Non contact probes to measure tubes without contact. Measurement with 2 infrared beams. A laser line (class 2M) guides the user on the location of the point.

|                    |   |
|--------------------|---|
| 8x12               | ✓ |
| 83-6 / 85-6 / 87-6 | ✓ |
| 83-7 / 85-7 / 87-7 | ✓ |

## NCA7-2-21952-01 NCP1 – Non-Contact Tube Probe 12.5 mm

|          |                              |
|----------|------------------------------|
| ∅        | 4 mm > 13 mm (0.15" > ½")    |
| Calib T* | ¼" – NCA7-2-21953-01         |
| Z gage*  | ∅ 8 mm – ref NCA7-2-21954-01 |



## NCA7-2-21952-02 NCP2 – Non-Contact Tube Probe 25 mm

|          |                              |
|----------|------------------------------|
| ∅        | 6 mm > 20 mm (¼" > ¾")       |
| Calib T* | ¼" – ref NCA7-2-21953-01     |
| Z gage*  | ∅ 8 mm – ref NCA7-2-21954-01 |



## NCA7-2-21952-03 NCP3 – Non-Contact Tube Probe 50 mm

|          |                               |
|----------|-------------------------------|
| ∅        | 10 mm > 40 mm (0.4" > 1.6")   |
| Calib T* | ½" – ref NCA7-2-21953-02      |
| Z gage*  | ∅ 20 mm – ref NCA7-2-21954-02 |



## NCA7-2-21952-04 NCP4 – Non-Contact Tube Probe 75 mm

|          |                               |
|----------|-------------------------------|
| ∅        | 12 mm > 65 mm (½" > 2"½)      |
| Calib T* | ½" – ref NCA7-2-21953-02      |
| Z gage*  | ∅ 20 mm – ref NCA7-2-21954-02 |



## NCA7-2-21952-05 NCP5 – Non-Contact Tube Probe 100 mm

|          |                               |
|----------|-------------------------------|
| ∅        | 20 mm > 85 mm (¾" > 3.3")     |
| Calib T* | 1" – ref NCA7-2-21953-03      |
| Z gage*  | ∅ 40 mm – ref NCA7-2-21954-03 |



## NCA7-2-21952-06 NCP6 – Non-Contact Tube Probe 150 mm

|          |                               |
|----------|-------------------------------|
| ∅        | 30 mm > 130 mm (1.2" > 5.1")  |
| Calib T* | 1" – ref NCA7-2-21953-03      |
| Z gage*  | ∅ 40 mm – ref NCA7-2-21954-03 |



\*: Calibration T-bar and verification Z Gage not included.



# TOOLS

EBD-12865

**Tube Holder ø 0-20 mm**

- Available for Europe, Middle East, Africa and South America
- Weight: 17 kg



EBD-12866

**Tube Holder ø 20-70 mm**

- Available for Europe, Middle East, Africa and South America
- Weight: 17 kg

20539-4

**Tube Holder ø 0-50 mm (2")**

- Available for North America, China and Asia Pacific
- Weight: 10 kg





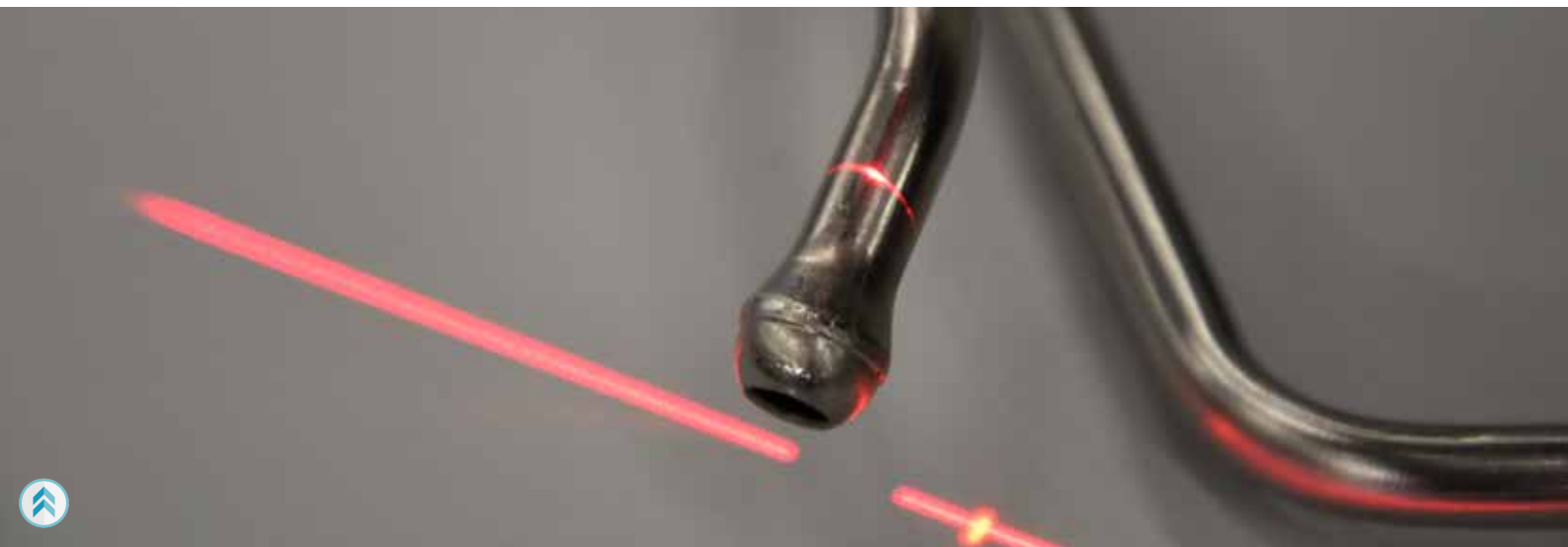
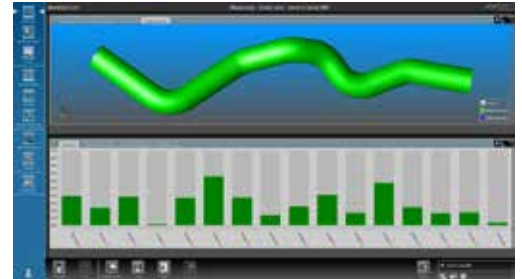
# SOFTWARE AND BENDER LINKS

## BendingStudio Software

The BendingStudio software platform links all data and processes around the production of bended parts – from design and process planning to manufacturing and quality control. BendingStudio is the only tool to meet and combine these requirements with an emphasis on metrological processes.

With clear actual-nominal value comparison allowing for fast evaluation, the implementation of multiple inspection plans with individual measurement criteria for each part, and the presentation of results remaining the same no matter the origin of the data, BendingStudio is the complete package for complex analysis and management of tube and wire production.

With the capacity to work with measurement input from both TubeInspect and Absolute Arm systems, BendingStudio is a key part of any tube and wire manufacturing toolkit.



# SOFTWARE AND BENDER LINKS

## TubeShaper Software

Tube inspection and bending program correction. Geometric features and alignments, compatible with non-contact tube probes and contact probes. Customisable reports

1 Bender link included :

|              |                             |
|--------------|-----------------------------|
| H00001974-01 | - SV/Networkff bender link  |
| H00001974-03 | - EL Velog bender link      |
| H00001974-04 | - Addison MarkIII           |
| H00001974-05 | - Chiyoda bender link       |
| H00001974-06 | - Comco bender link         |
| H00001974-07 | - Silfax S-Tube bender link |
| H00001974-08 | - Numalliance bender link   |
| H00001974-09 | - Herber bender link        |
| H00001974-10 | - Winton bender link        |
| H00001974-11 | - Miic bender link          |
| H00001974-12 | - Mewag bender link         |



Monitor not included.

## Additional bender interface

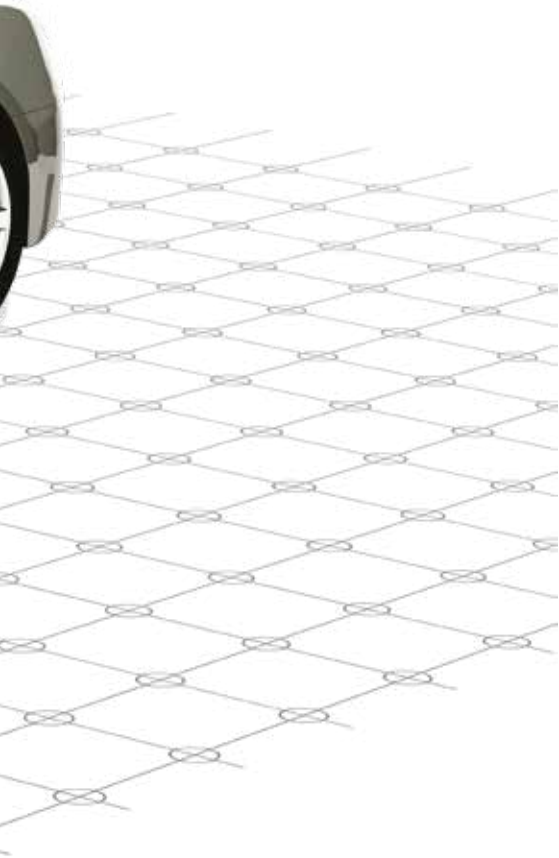
Additional bender link on existing TubeShaper license

|              |                             |
|--------------|-----------------------------|
| H00001975-01 | - SV/Networkff bender link  |
| H00001975-03 | - EL Velog bender link      |
| H00001975-04 | - Addison MarkIII           |
| H00001975-05 | - Chiyoda bender link       |
| H00001975-06 | - Comco bender link         |
| H00001975-07 | - Silfax S-Tube bender link |
| H00001975-08 | - Numalliance bender link   |
| H00001975-09 | - Herber bender link        |
| H00001975-10 | - Winton bender link        |
| H00001975-11 | - Miic bender link          |
| H00001975-12 | - Mewag bender link         |





# VOLUME EXTENSIONS



GridLOK

60

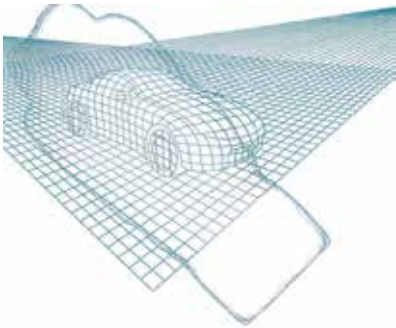
Leap Frog Tools

61

# GRIDLOK

GridLOK uses one or more Absolute Arms in a typical system to become a “Metrology Arena” where all of the portable CMMs can measure to the same part origin. The system can measure large work pieces while maintaining accuracy anywhere within its standard 4 x 6 m measuring area.\*

|                    |   |
|--------------------|---|
| 8x12               |   |
| 83-6 / 85-6 / 87-6 | ✓ |
| 83-7 / 85-7 / 87-7 | ✓ |



51460-XX

**GridLOK 4 x 6 m installation (typical size)**

- Please specify the grid size when you order the kit
- Grid pattern available from 4 x 6 m to 60 x 60 m
- Please consult arm factories for further information and recommendations

11615

**GridLOK stand-alone license**

Dongle-protection to activate the use of GridLOK function.

\*: Specific measuring area can be evaluated on request.



# LEAP FROG TOOLS

Use these magnets when measuring large parts. Set up magnets on a flat surface, lock-in the arm position using the magnets and measure the part. When the arm cannot reach an area of the part, move the arm, lock-in the arm position using magnets again, and resume measuring.

|                    |   |
|--------------------|---|
| 8x12               | ✓ |
| 83-6 / 85-6 / 87-6 | ✓ |
| 83-7 / 85-7 / 87-7 | ✓ |

54479-01

**Leap Frog kit**

*The Leap Frog Kit is typically used when measuring large workpieces.*  
*The set of 4 magnets are used to extend the usable measuring volume of any Absolute Arm system. It is delivered in a box.*

*Kit Contents:*

- 4x Magnets with cones
- 1x Short rod







# OTHER ACCESSORIES

|                             |    |
|-----------------------------|----|
| Cables                      | 64 |
| Control Packs and Batteries | 65 |
| Dust Covers                 | 67 |
| Installation USB            | 67 |
| Vision Solutions            | 69 |



# CABLES

H00003230

**USB Cable with ODU Connector (L = 3 m)**  
3-metre long USB arm-to-computer data transfer cable for use with all Absolute Arm models.

|                    |   |
|--------------------|---|
| 8x12               | ☑ |
| 83-6 / 85-6 / 87-6 | ☑ |
| 83-7 / 85-7 / 87-7 | ☑ |



H00008520

**USB Cable with ODU Connector (L = 5 m)**  
5-metre long USB arm-to-computer data transfer cable for use with all Absolute Arm models.

|                    |   |
|--------------------|---|
| 8x12               | ✓ |
| 83-6 / 85-6 / 87-6 | ✓ |
| 83-7 / 85-7 / 87-7 | ✓ |



H00007972

**RA8 USB/Ethernet Cable with ODU Connector for RSx / HP-L Scanner (L = 3 m)**  
3-metre long twin cable for USB arm-to-computer data transfer and scanner data transfer. Intended for Absolute Arm models configured for laser scanning.

|                    |   |
|--------------------|---|
| 8x12               | ✓ |
| 83-6 / 85-6 / 87-6 | ✓ |
| 83-7 / 85-7 / 87-7 | ✓ |



H00008591

**RA8 USB/Ethernet Cable with ODU Connector for RSx / HP-L Scanner (L = 5 m)**  
5-metre long twin cable for USB arm-to-computer data and power transfer and scanner data transfer. Intended for Absolute Arm models configured for laser scanning.

|                    |   |
|--------------------|---|
| 8x12               | ✓ |
| 83-6 / 85-6 / 87-6 | ✓ |
| 83-7 / 85-7 / 87-7 | ✓ |



# CONTROL PACKS

The Absolute Arm Control Packs unfold the full potential of a portable measuring arm. These interchangeable extensions can be mounted onto the rear of the arm to provide new functionality: scanning, standalone use with battery, WiFi and ethernet connection. Each function can be added through a Control Pack.



|           |  |                    |   |
|-----------|--|--------------------|---|
| H00004801 | <b>Control Pack 0</b><br><i>Probing Pack (CP0) shipped fully configured and mounted to the arm.</i><br><i>The Control Pack 0 provides:</i><br>- USB interface for contact and tube probes.   | 8x12               | ✓ |
|           |  | 83-6 / 85-6 / 87-6 | ✓ |
|           |  | 83-7 / 85-7 / 87-7 | ✓ |
| H00004800 | <b>Control Pack 1</b><br><i>Scanning Pack (CP1) shipped fully configured and mounted to the arm.</i><br><i>The Control Pack 1 provides:</i><br>- USB interface for contact and tube probes<br>- Wired scanner interface (all scanners except HP-L-20.8).   | 8x12               | ✓ |
|           |  | 83-6 / 85-6 / 87-6 | ✓ |
|           |  | 83-7 / 85-7 / 87-7 | ✓ |
| H00004798 | <b>Control Pack 2</b><br><i>Wireless Probing Pack (CP2) shipped fully configured and mounted to the arm.</i><br><i>The Control Pack 2 provides :</i><br>-USB interface for contact and tube probes.<br>-Wired scanner interface (all scanners except HP-L-20.8).<br>-Standalone wireless interface for contact and tube probes.<br>-One rechargeable battery.  | 8x12               | ✓ |
|           |  | 83-6 / 85-6 / 87-6 | ✓ |
|           |  | 83-7 / 85-7 / 87-7 | ✓ |
| H00003686 | <b>Control Pack 3</b><br><i>Wireless Scanning Pack (CP3) shipped fully configured and mounted to the arm.</i><br><i>The Control Pack 3 provides :</i><br>-USB interface for contact and tube probes.<br>-Wired scanner interface (all scanners except HP-L-20.8).<br>-Standalone wireless interface for contact and tube probes.<br>-Standalone wireless scanning functionality for the RS5 laser scanner.<br>-Two rechargeable batteries. | 8x12               | ✓ |
|           |  | 83-6 / 85-6 / 87-6 | ✓ |
|           |  | 83-7 / 85-7 / 87-7 | ✓ |

# BATTERIES

NCA7-6-50108

## **Lithium-Ion Battery**

*Internal Li-ion battery.*

*The battery can be hot-swapped with the battery originally supplied with the Control Pack to allow for constant powered wireless usage with no downtime. For all Absolute Arm Series 8 models equipped with Control Pack 2 and 3.*



CH5000E

## **Charger for Li-ion battery (EU)**

*External quick charger for the battery*

CH5000U

## **Charger for Li-ion battery (UK)**

*External quick charger for the battery*

CH5000A

## **Charger for Li-ion battery (US)**

*External quick charger for the battery*



# DUST COVERS

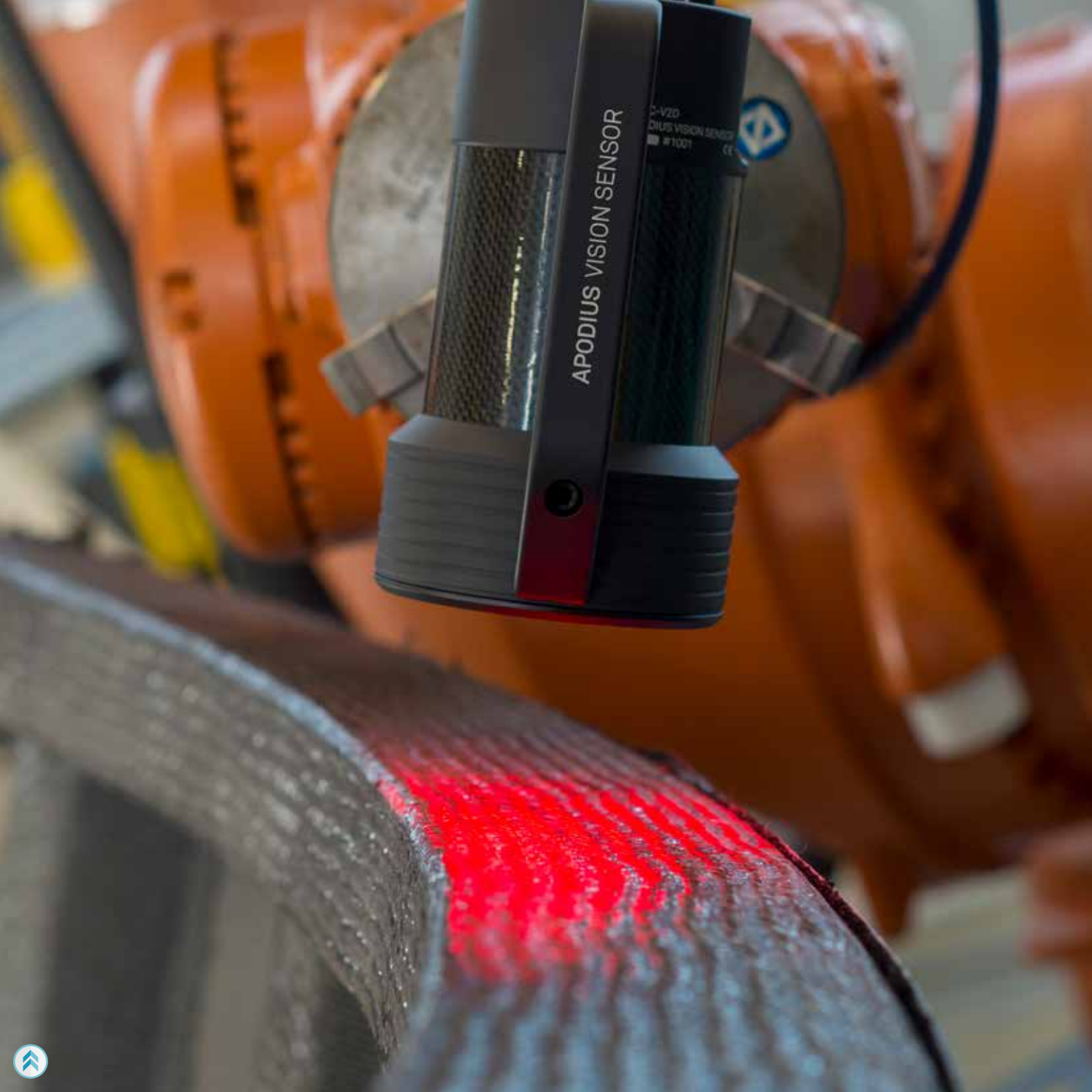
Protections are available against dust for all Absolute Arm models. Available for every size of arm, simply put it on the arm when in the rest position.

|                 |  |                    |                                     |
|-----------------|--|--------------------|-------------------------------------|
| H00000636       | <b>Dust Cover – 750 mm</b><br><i>For Absolute Arm size 1200 (8x12 compact)</i> | 8x12               | <input checked="" type="checkbox"/> |
|                 |  | 83-6 / 85-6 / 87-6 |                                     |
|                 |  | 83-7 / 85-7 / 87-7 |                                     |
| NCA7-3-21681-01 | <b>Dust cover – 1080 mm</b><br><i>For Absolute Arm size 1500 - 2000</i>        | 8x12               |                                     |
|                 |  | 83-6 / 85-6 / 87-6 | <input checked="" type="checkbox"/> |
|                 |  | 83-7 / 85-7 / 87-7 | <input checked="" type="checkbox"/> |
| NCA7-3-21681-02 | <b>Dust Cover – 1280 mm</b><br><i>For Absolute Arm size 2500 - 3000</i>        | 8x12               |                                     |
|                 |  | 83-6 / 85-6 / 87-6 | <input checked="" type="checkbox"/> |
|                 |  | 83-7 / 85-7 / 87-7 | <input checked="" type="checkbox"/> |
| NCA7-3-21681-03 | <b>Dust Cover – 1640 mm</b><br><i>For Absolute Arm size 3500 - 4500</i>        | 8x12               |                                     |
|                 |  | 83-6 / 85-6 / 87-6 | <input checked="" type="checkbox"/> |
|                 |  | 83-7 / 85-7 / 87-7 | <input checked="" type="checkbox"/> |



# INSTALLATION USB PACKAGE

|           |  |                    |                                     |
|-----------|--|--------------------|-------------------------------------|
| H00007157 | <b>USB Package Absolute Arm</b><br><i>Installation USB memory stick, including RDS installation, and all the user manuals.</i> | 8x12               | <input checked="" type="checkbox"/> |
|           |  | 83-6 / 85-6 / 87-6 | <input checked="" type="checkbox"/> |
|           |  | 83-7 / 85-7 / 87-7 | <input checked="" type="checkbox"/> |



APODIUS VISION SENSOR

C-V20  
DIUS VISION SENSOR  
#1001  
CE



# VISION SOLUTIONS

The first ever metrology solutions dedicated to carbon-fibre part applications, APODIUS Vision System technology from Hexagon is set to revolutionise portable composite part inspection and analysis. The systems comprise the custom-built APODIUS Explorer software solution combined with APODIUS Vision Sensor hardware, with the 2D model acting as a standalone system, while the 3D version uses a supporting system to provide global coordinate referencing.

HP-C-V2D-KIT

## HP-C-V2D Apodius Vision System

*Shipped individually in its shipping box.*

*Includes:*

- HP-C-V2D Apodius Vision Sensor
- HP-C-V2D Interface box with USB cable (L = 3 m)
- HP-C-V2D Sensor Cable (L = 5 m)
- HP-C-V2D-PC1 Power cord with adapter (L = 1,5 m)
- HP-C-V2D-PC2 Power cord with strands (L = 3 m)
- HP-C-V2D User Manuals
- HP-C-V2D Storage Box
- HP-C-V2D-DEMO-PARTS (2x Carbon Fibre Sample sheets)
- 12 months warranty



HP-C-V3D-KIT-RA8

## HP-C-V3D Apodius Vision System for RA8

- HP-C-V3D Apodius Vision Sensor
- H00012103 HP-C-V3D Adapter for RA8
- HP-C-V3D Calibration Kit
- HP-C-V3D User Manuals
- HP-C-V3D Storage Box
- HP-C-V3D-DEMO-PART 3D Carbon Fibre Double Dome
- 12 months warranty



HP-C-V3D-KIT

## HP-C-V3D Apodius Vision System for RA7

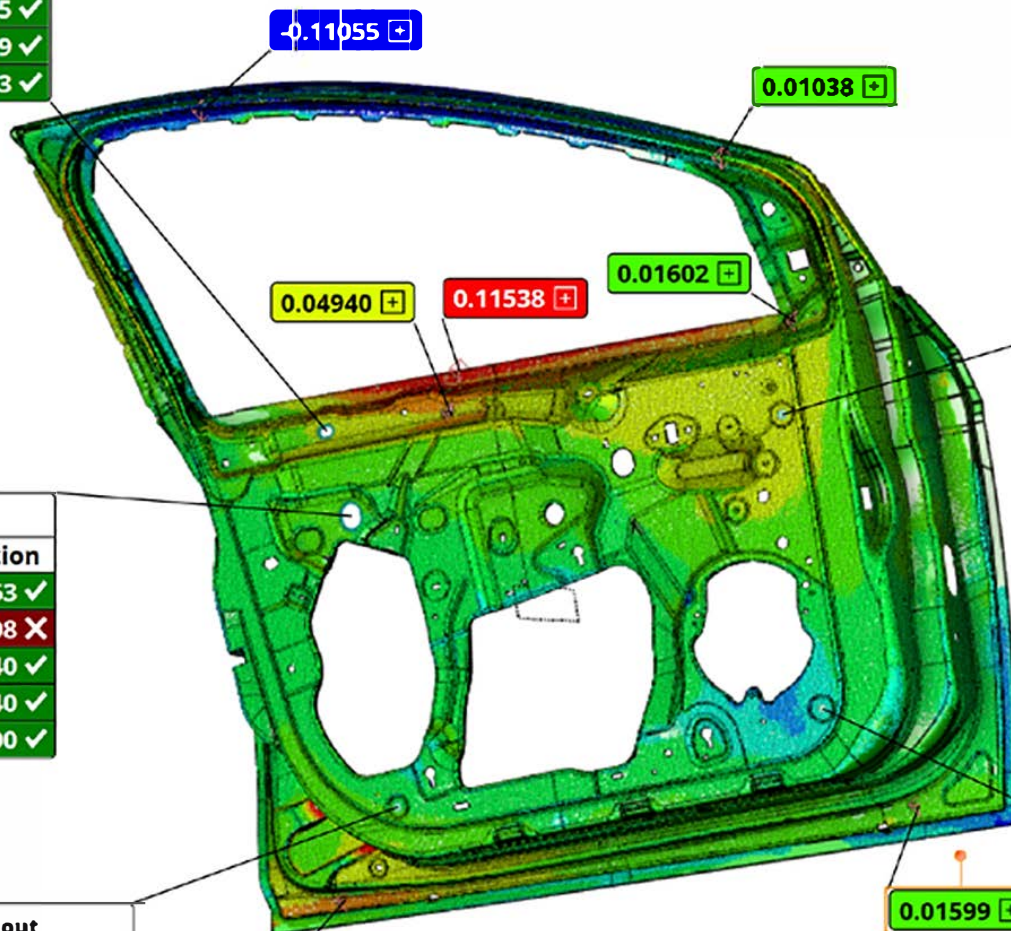
- HP-C-V3D Apodius Vision Sensor
- HP-C-V3D Connecting Cable for RA7 Absolute Arm, Length = 3 m / 9.8'
- HP-C-V3D Connecting Kit for Sensor
- HP-C-V3D Calibration Kit
- HP-C-V3D User Manuals
- HP-C-V3D Storage Box
- HP-C-V3D-Demo-Part 3D Carbon Fibre Double Dome
- 12 months warranty





X: 6,77444 Y: 6,44870 W: 0.85417 H: 0.23958

|               |            |
|---------------|------------|
| Slot2 Callout |            |
|               | Deviation  |
| Center X      | 0.00307 ✓  |
| Center Y      | -0.00875 ✗ |
| Center Z      | 0.00285 ✓  |
| Length        | 0.08429 ✓  |
| Width         | 0.04493 ✓  |



|                 |            |
|-----------------|------------|
| Circle3 Callout |            |
|                 | Deviation  |
| Center X        | 0.00329 ✓  |
| Center Y        | 0.02048 ✗  |
| Center Z        | -0.00007 ✓ |
| Diameter        | 0.01401 ✓  |

|               |            |
|---------------|------------|
| Slot1 Callout |            |
|               | Deviation  |
| Center X      | -0.00863 ✓ |
| Center Y      | -0.01908 ✗ |
| Center Z      | -0.00540 ✓ |
| Length        | 0.09240 ✓  |
| Width         | 0.08600 ✓  |

|                 |           |
|-----------------|-----------|
| Circle1 Callout |           |
|                 | Deviation |
| Center X        | 0.00651 ✓ |
| Center Y        | 0.02002 ✗ |
| Center Z        | 0.00192 ✓ |
| Diameter        | 0.01040 ✓ |

|                 |            |
|-----------------|------------|
| Circle2 Callout |            |
|                 | Deviation  |
| Center X        | -0.00000 ✓ |
| Center Y        | -0.00000 ✓ |
| Center Z        | 0.00000 ✓  |
| Diameter        | 0.01000 ✓  |

# APPLICATION SOFTWARE

|                   |    |
|-------------------|----|
| PC-DMIS           | 72 |
| INSPIRE / SA      | 74 |
| 3DReshaper Meteor | 76 |
| BendingStudio     | 78 |
| TubeShaper        | 80 |
| APODIUS Explorer  | 81 |



# PC-DMIS PORTABLE

## Bringing Metrology to the Shop Floor

Portable measurement devices have changed the way operations are monitored, making it possible to take measurements and analyse the results where parts are made and assembled. PC-DMIS Portable provides the tools needed to more effectively monitor operations and identify minor issues before they turn into costly problems.

ROY-PROBE-I-A

### PC-DMIS CAD++ Probing

*Includes LMS license + RDS Probing interface + XACT GD&T, IGES / DXF / DWG / STEP203 / STEP 214 / VDAFS / XYZIJK / DES and DMISI/O translators*

### PC-DMIS CAD++ Scanning

*CAD++ Probing + Scanning interface, Scanning Auto Features, Full COP support*

ROY-SCAN-SI-I-A

*For RSx / HP-L-8.9*

ROY-SCAN-HPL-I-A

*For HP-L-20.8*

### PC-DMIS CAD++ Scanning / Mesh

*CAD++ Scanning + STL Mesh Creation and Inspection*

ROY-SCANMESH-SI-I-A

*For RSx / HP-L-8.9*

ROY-SCANMESH-HPL-I-A

*For HP-L-20.8*

### Upgrade PC-DMIS

*Extends the PC-DMIS possibilities. requires a valid SMA*

ROY-UP-300

*UPGRADE PC-DMIS CAD ++ Probing to CAD++ Scanning for use with RSx*

ROY-UP-301

*UPGRADE PC-DMIS CAD ++ Probing to CAD++ Scanning for use with HP-L-20.8*

ROY-ADD-MESH

*Upgrade PC-DMIS CAD++ Scanning to Scanning / Mesh*

### Software Maintenance Agreement

Software Maintenance Agreement (SMA) provides access to the updates and unlimited technical support.

ROY-SMA-PROBE-I-A

*Annual SMA for CAD++ Probing*

ROY-SMA-SCAN-I-A

*Annual SMA for CAD++ Scanning*

ROY-MESH-I-A

*Annual SMA for CAD++ Scanning / Mesh*

PC-DMIS



Laptop not included.



## PC-DMIS TOUCH

### Tablet-Based Measurement for Absolute Arm

PC-DMIS Touch is a revolutionary new way to interact with inspection data and coordinate measurement devices. With a full-screen interface, advanced Multi-Touch technology, intuitive inspection routines, and the power of PC-DMIS built in - PC-DMIS Touch is an ideal complement to many measurement applications.

H00002130

#### **PC-DMIS Touch probing software**

ROY-SMA-  
TOUCHBUN-ARM

#### **SMA for PC-DMIS Portable touch**

Software Maintenance Agreement (SMA) provides access to the updates and unlimited technical support.

H00002128

#### **Upgrade from Gpad software**

Upgrade from GPad to PC-DMIS Portable Touch

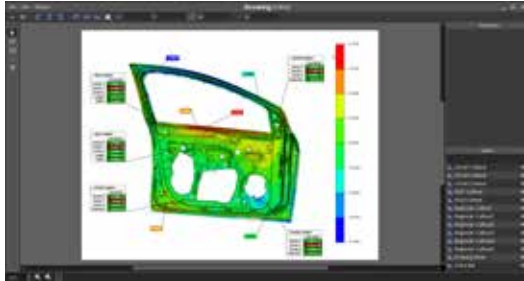
**PC-DMIS** Touch



*Tablet PC not included.*

# INSPIRE

## User-Friendly Measurement Software for Portable Probing and Scanning



Inspire is the next generation inspection software for all portable probing and scanning devices. Inspire is a new software package that makes measurement simple and the complex possible. With one simple interface, Inspire works with laser tracker for probing and scanning applications. Intuitive and easy to use, Inspire software is a comprehensive solution that makes measurement simple, saves time, and ultimately improves productivity

Inspire capabilities:

- Measure
- Align
- Assemble/Build
- Analyse
- Report
- Scan and Probe
- Mesh
- Instrument Network
- Advanced Scripting capabilities
- CAD Import

Single Seat Licence includes all hardware interfaces, supports IGES, STEP, STL, CATIA, Solidworks, NX, ProEngineer, Inventor and Parametric CAD import. Training class available at additional cost and updates for 1 year. Inspire provided with licence code.

576741     **Inspire - Single Seat Licence**

For more details see

<https://www.discoverinspire.com/>



# SPATIAL ANALYZER®

## Powerful and Traceable Measurement and Analysis Software

SpatialAnalyzer® (SA) is a powerful, traceable and easy to use metrology and analysis software package, tailored for the Hexagon Manufacturing Intelligence portable CMM family.

SA offers a vast number of benefits, including:

- Intuitive, state of the art graphical environment
- Interfaces to all Hexagon Manufacturing Intelligence portable CMMs
- All common CAD exchange and native formats
- Advanced analysis and processing and unique alignment techniques
- Easy multiple instrument station bundling
- True GD&T and feature checks
- Numerous reporting options
- Measurement uncertainty calculation
- USMN to achieve the ideal instrument network
- Integrated Modern Scripting Language to automate complete workflows
- Multiple language support
- Free SA Viewer to share SA job files easily

SpatialAnalyzer® makes metrology easy.



Monitor not included.

SA PRO                      **Spatial Analyzer Professional**

SA UL                        **Spatial Analyzer Ultimate**

### Upgrades

576737                      *Upgrade from SA PRO to SA UL*

### Maintenance

SA PRO EXT              *SMA for SA Professional*

SA UL EXT                *SMA for SA Ultimate*

# 3DRESHAPER METEOR

## New Entry-Level Solution for Reverse Engineering and Point-Cloud Inspection

3DReshaper Meteor application for Absolute Arm systems and scanners: a complete 3D point-cloud processing software for users who need to handle rapidly generated point clouds files and obtain high-quality 3D meshes. All licenses include 1 year warranty.



Laptop not included.

### Standalone licenses

RSHM-BASE-STD *3DReshaper Meteor Standard:  
Point cloud + mesh + 3D inspection + animation + feature line (RSHM-I-RDS-STD must be added to use this software with Absolute Arm.)*

RSHM-I-RDS-STD *Interface for on-line connection to Absolute Arm*

### Options

RSHM-TXTR-STD *Option: Texture, orthoimage: standalone*

RSHM-CAD-STD *Option: CAD reconstruction for complex surface: standalone*

### NETWORK licenses: First License

RSHM-BASE-NET1 *3DReshaper Meteor first work license: Point cloud + mesh + 3D inspection + animation + feature line  
(RSHM-I-RDS-NET1 must be added to use this software with Absolute Arm.)*

RSHM-I-RDS-NET1 *Interface for on-line connection to Absolute Arm for first network license.*

### Options

RSHM-TXTR-NET1 *Option: Texture, orthoimage for first network license*

RSHM-CAD-NET1 *Option: CAD reconstruction for complex surface for first network license*

### NETWORK licenses: Subsequent Licenses

RSHM-BASE-NET2 *3DReshaper Meteor next work license: Point cloud + mesh + 3D inspection + animation + feature line  
(RSHM-I-RDS-NET2 must be added to use this software with Absolute Arm.)*

RSHM-I-RDS-NET2 *Interface for on-line connection to Absolute Arm for next network license.*

### Options

RSHM-TXTR-NET2 *Option: Texture, orthoimage for next network license*

RSHM-CAD-NET2 *Option: CAD reconstruction for complex surface for next network license*



# 3DRESHAPER METEOR

**Upgrades**

|                    |   |
|--------------------|---|
| RSHM-BASE-UPG-NET  | <i>Standalone license upgrade to Network<br/>SMA for 3DReshaper Meteor</i>  |
| RSHM-SMA-BASE-STD  | <i>1 year SMA for a standard license of 3DReshaper Meteor.<br/>Provides latest updates and enhancements.</i>      |
| RSHM-SMA-I-RDS-STD | <i>1 year SMA for interface to Absolute Arm.</i>  |
| RSHM-SMA-BASE-NET1 | <i>1 year SMA for a first network license of 3DReshaper Meteor.<br/>Provides latest updates and enhancements.</i> |
| RSHM-SMA-BASE-NET2 | <i>1 year SMA for a next network license of 3DReshaper Meteor.<br/>Provides latest updates and enhancements.</i>  |

# BENDINGSTUDIO

**Bending Studio, the software platform for all data and processes around manufacturing of bended parts.**

Combining the established laser scanning technology of the Absolute Arm range with the leading tube and wire analysis capabilities of ACION Bending Studio, the Bending Studio with Absolute Arm system is the perfect tool for non-contact measurement for tube and wire. It is quickly achievable with no need for special clamping or alignment procedures.

110852

## **BendingStudio EFFICIENT**

*Measurement systems of TubeInspect and Absolute Arm with scanner (RDS), including functions;*

- Data Base
- Optical Gauge
- Bend Data
- Bender Interface Standard
- Reverse Engineering
- Statistic & Report

110853

## **BendingStudio TUBE**

*Measurement systems of TubeInspect and Absolute Arm with scanner (RDS), including functions;*

- Data Base
- Optical Gauge
- Bend Data
- Bender Interface Standard
- Reverse Engineering
- Statistic & Report
- Functional Dimension
- Deflection Dimension
- Formed ends diameter changes adapter

110854

## **BendingStudio WIRE**

*Measurement systems of TubeInspect and Absolute Arm with scanner (RDS), including functions;*

- Data Base
- Optical Gauge
- Bend Data
- Bender Interface Standard
- Reverse Engineering
- Statistic & Report
- Functional Dimension
- Deflection Dimension
- Bender Interface Freeform



# BENDINGSTUDIO

110855

## **BendingStudio PROFESSIONAL**

*Measurement systems of TubeInspect and Absolute Arm with scanner (RDS), including functions;*

- Data Base
- Optical Gauge
- Bend Data
- Bender Interface Standard
- Reverse Engineering
- Statistic & Report
- Functional Dimension
- Deflection Dimension
- Formed ends diameter changes adapter
- Bender Interface Freeform
- Branched Tubes
- Hoses



110856

## **Upgrade EFFICIENT to TUBE**

110857

## **Upgrade EFFICIENT to WIRE**

110858

## **Upgrade TUBE to PROFESSIONAL**

110859

## **Upgrade WIRE to PROFESSIONAL**

110860

## **TubeInspect CONTROLLER**

106484

## **BendingStudio CAD-WIZARD**

106488

## **BendingStudio OFFLINE License**

*Same modules as main license but without interface to measurement system, USB Dongle, applicable also for extension of network license (ART110874) with 1 additional user*

110874

## **BendingStudio OFFLINE Network License**

*Same modules as main license but without interface to measurement system, USB Dongle, network license for 1 user, licenses for further users on request*

106489

## **BendingStudio Network Service**

109654

## **1Y-SMA BendingStudio OFFLINE**

110826

## **3Y-SMA BendingStudio OFFLINE**

110321

## **1Y-SMA BendingStudio & Absolute Arm with Scanner**

110827

## **3Y-SMA BendingStudio & Absolute Arm with Scanner**



# TUBESHAPER

## Specialist Software for Tube Measurement, Gauging and Manufacturing

Created specifically for the Absolute Arm, TubeShaper is the most advanced tube measurement software Hexagon Manufacturing Intelligence has ever produced. Designed to maximise production efficiency and reduce scrap, TubeShaper features direct connections to CNC tube bending machines, automatic measurement plan creation and direct import of CAD models in a user-friendly package.

For each Part Number, add the suffix of the appropriate bender link\* :

- |                               |   |
|-------------------------------|---|
| -01 SV Network bender link    | -08 Nummallaince Touch & Form bender link |
| -03 EL Velog bender link      | -09 Herber bender link                    |
| -04 Addison MK3 bender link   | -10 Winton bender link                    |
| -05 Chiyoda bender link       | -11 Miic bender link                      |
| -06 Comco bender link         | -12 Mewag bender link                     |
| -07 Silfax S-tube bender link |   |

ex : TubeShaper software for SV/NetWork : H00001974-01

H00001974-xx\*

### **TubeShaper software**

*LMS license including 1 bender link*

H00001975-xx\*

### **Additional bender interface**

*Additional bender link on existing LMS license*

ROY-SMA-TUBE

### **SMA for TubeShaper**

*Software Maintenance Agreement (SMA) provides access to the updates and unlimited technical support.*

### **Upgrades from legacy software**

*LMS license including 1 bender link*

H00001988-xx\*

TubeShaper upgrade from GTube

H00001990-xx\*

TubeShaper upgrade from DOCS (with SMA)

H00001991-xx\*

TubeShaper upgrade from DOCS (without SMA)

H00002807-xx\*

TubeShaper upgrade from SupraVision



*Monitor not included.*

\*: Please consult your local Hexagon precision centre for a complete and up to date list of compatible CNC tube bender interfaces.



# APODIUS EXPLORER

APODIUS Explorer is an innovative and intuitive real-time software solution designed specifically for handling the unique challenges of composite scanning. The software combines instant image processing, measurement output handling and automatic report generation to make composite evaluation faster and easier. The entire measurement process is visualised in real time within the programme to ensure accurate measurement, while a variety of data output and export formats facilitate further analysis and documentation.

**HP-C-V2D-DONGLE-STD    HP-C-V2D Apodius Explorer 2D Software**

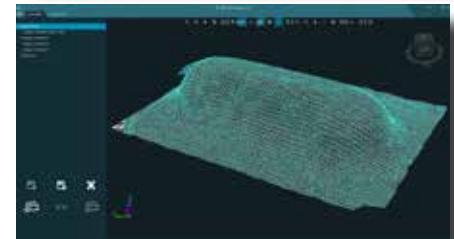
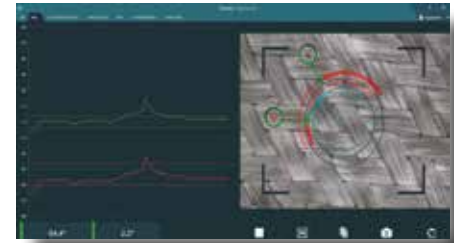
*Includes HP-C-V2D Software Dongle, Single User License  
1st year SMA included.*

**HP-C-V3D-DONGLE-STD    HP-C-V3D Apodius Explorer 3D Software**

*Includes HP-C-V3D Software Dongle , Single User License  
1st year SMA included.*

**HP-C-V2D-SW-1Y-SMA    APODIUS EXPLORER 2D Software Maintenance Extension - 1Year**

**HP-C-V3D-SW-1Y-SMA    APODIUS EXPLORER 3D Software Maintenance Extension - 1Year**





# WARRANTY AND MAINTENANCE

# CONDITIONS

## Standard Manufacturer Warranty Plan

The Portable Measuring Arm factories provide a 2-year manufacturer warranty for Hexagon arms and scanners (excluding HP-L-8.9 and HP-L-20.8), starting at the customer delivery date or 3 months after the factory delivery to the Hexagon representative, with the following terms:

1. Repair of manufacturing defects on the following components: arm, encoders, encoder board, electronic boards, probe, all other arm parts, scanners optics and light source (excluding HP-L-8.9 and HP-L-20.8) and all other arm parts.
2. The warranty of two (2) years is valid only if an arm service check is performed during the first year. This is a paid service, which needs to be purchased by the customer at any time between the arm delivery and the due date, meaning maximum one (1) year after the instrument delivery.
3. Unlimited telephone and e-mail technical support during the warranty period.
4. Under normal usage, the carbon graphite tubes have a lifetime warranty.
5. Customer assumes all shipping costs.

## Renewal of Standard Manufacturer Warranty Plan

The Portable Measuring Arm factories offer 1, 2, or 3-year renewals for the standard factory warranty plan. To be eligible for renewal, the warranty plan renewal can be ordered with the instrument or ordered before the existing warranty plan expires. The standard factory warranty plan renewals for instruments have the following terms:

1. Replacement or repair, at Portable Measuring Arm factory's option, free of charge, of any component or parts of the instrument which upon examination are found defective in workmanship or material.
2. Any required repairs not covered by the warranty plan renewal are extra.
3. The instrument must be returned to the arm factory or an authorised and certified service centre of Hexagon Manufacturing Intelligence if a repair, calibration, or certification needs to be performed.
4. For the renewals of the warranty, the instrument needs to be calibrated in a certified service centre, with the first time 18 months latest after delivery. The next calibrations are then every 12 months according to the warranty plan renewal.



# WARRANTY

|              |   |
|--------------|---|
| H00011149-01 | <p><b>Arm - 1-Year Standard Warranty Extension</b></p> <p><i>Renewal of Standard Manufacturer's Warranty Plan for Absolute Arms series.</i></p> <p><i>1 Year. (Can be added as an option, BEFORE the first 24 months of standard warranty have expired.)</i></p>  |
| H00011149-02 | <p><b>Arm - 2-Year Standard Warranty Extension</b></p> <p><i>Renewal of Standard Manufacturer's Warranty Plan for Absolute Arms series.</i></p> <p><i>2 Years. (Can be added as an option, BEFORE the first 24 months of standard warranty have expired.)</i></p> |
| H00011149-03 | <p><b>Arm - 3-Year Standard Warranty Extension</b></p> <p><i>Renewal of Standard Manufacturer's Warranty Plan for Absolute Arms series.</i></p> <p><i>3 Years. (Can be added as an option, BEFORE the first 24 months of standard warranty have expired.)</i></p> |

# ABSOLUTE ARM MAINTENANCE CONTRACTS

|   | Bronze* | Silver* | Gold* | Platinum* |
|---|---------|---------|-------|-----------|
| <b>Support</b>  |         |         |       |           |
| Priority service: Planned before the non-contract service actions         | ☑       | ☑       | ☑     | ☑         |
| VIP expedite service: When your arm arrives, it is "next up"              | -       | -       | -     | ☑         |
| Phone call / On line support  | ☑       | ☑       | ☑     | ☑         |
| Remote support  | -       | -       | ☑     | ☑         |
| <b>Preventive maintenance</b>   |         |         |       |           |
| Diagnostic report   | ☑       | ☑       | ☑     | ☑         |
| Arm, accessories and case cleaning  | ☑       | ☑       | ☑     | ☑         |
| RDS and firmware updates  | ☑       | ☑       | ☑     | ☑         |
| Before calibration results for Volumetric test                            | -       | ☑       | ☑     | ☑         |
| Before calibration results for SPAT test                                  | -       | ☑       | ☑     | ☑         |
| Arm health indicator analysis (SMART)                                     | -       | ☑       | ☑     | ☑         |
| Mechanical parts inspection   | ☑       | ☑       | ☑     | ☑         |
| Cables, probes and arm TKJ test and inspection                            | ☑       | ☑       | ☑     | ☑         |
| Control Packs and batteries charge level inspection                       | ☑       | ☑       | ☑     | ☑         |
| <b>Repairs, Calibration and certification</b>                             |         |         |       |           |
| Arm calibration   | ☑       | ☑       | ☑     | ☑         |
| Spare parts discount 5%   | -       | ☑       | -     | -         |
| Spare parts discount 10%  | -       | -       | ☑     | -         |
| Non-ISO 17025 certification   | ☑       | ☑       | -     | -         |
| ISO 17025 certification   | -       | -       | ☑     | ☑         |
| ISO 17025 length bar certification  | -       | -       | ☑     | ☑         |
| Non-ISO 17025 length bar certification                                    | -       | ☑       | -     | -         |
| <b>Warranty</b>   |         |         |       |           |
| Contract life warranty time   | -       | -       | -     | ☑         |
| Spare parts included  | -       | -       | -     | ☑         |
| Labour included   | -       | -       | -     | ☑         |
| <b>Others</b>   |         |         |       |           |
| Replacement of Gas shock & styli (6 mm & 3 mm) if needed. 1 unit per year | ☑       | ☑       | ☑     | ☑         |
| Special price for arm rental contract during service action               | ☑       | ☑       | -     | -         |
| Shipping cost one way included (Way back)                                 | -       | ☑       | ☑     | -         |
| Shipping cost both ways included  | -       | -       | -     | ☑         |
| Loaner arm during service action  | -       | -       | ☑     | ☑         |
| Replacement of magnetic support magnet. 1 RBE magnet per year             | -       | -       | ☑     | ☑         |



|                     |   |
|---------------------|---|
| H00010531-01        | <b>6-Axis, Bronze Contract</b><br><i>Can be added as an option, BEFORE the first 12 month of standard warranty have expired.</i>  |
| H00010532-01        | <b>6-Axis, Silver Contract</b><br><i>Can be added as an option, BEFORE the first 12 month of standard warranty have expired.</i>  |
| H00010533-01        | <b>6-Axis, Gold Contract</b><br><i>Can be added as an option, BEFORE the first 12 month of standard warranty have expired.</i>  |
| H00010534-01        | <b>6-Axis, Platinum Contract</b><br><i>Can be added as an option, BEFORE the first 12 month of standard warranty have expired.</i>  |
| H00010531-02        | <b>7-Axis, Bronze Contract</b><br><i>Can be added as an option, BEFORE the first 12 month of standard warranty have expired.</i>  |
| H00010532-02        | <b>7-Axis, Silver Contract</b><br><i>Can be added as an option, BEFORE the first 12 month of standard warranty have expired.</i>  |
| H00010533-02        | <b>7-Axis, Gold Contract</b><br><i>Can be added as an option, BEFORE the first 12 month of standard warranty have expired.</i>  |
| H00010534-02        | <b>7-Axis, Platinum Contract</b><br><i>Can be added as an option, BEFORE the first 12 month of standard warranty have expired.</i>  |
| H00011150-01        | <b>1-Year Factory RS5 Warranty Plan Renewal</b><br><i>Renewal of Standard Manufacturer Warranty Plan for RS5 scanner, 1 Year.<br/>(Can be added as an option, BEFORE the first 12 month of standard warranty have expired.)</i>   |
| H00011150-02        | <b>2-Year Factory RS5 Warranty Plan Renewal</b><br><i>Renewal of Standard Manufacturer Warranty Plan for RS5 scanner, 1 Year.<br/>(Can be added as an option, BEFORE the first 12 month of standard warranty have expired.)</i>   |
| H00011150-03        | <b>3-Year Factory RS5 Warranty Plan Renewal</b><br><i>Renewal of Standard Manufacturer Warranty Plan for RS5 scanner, 1 Year.<br/>(Can be added as an option, BEFORE the first 12 month of standard warranty have expired.)</i>   |
| RS6-HW-1Y-WRTY      | <b>1-Year Factory RS6 Warranty Plan Renewal</b><br><i>Renewal of Standard Manufacturer Warranty Plan for RS6 scanner, 1 Year.<br/>(Can be added as an option, BEFORE the first 12 month of standard warranty have expired.)</i>   |
| RS6-HW-2Y-WRTY      | <b>2-Year Factory RS6 Warranty Plan Renewal</b><br><i>Renewal of Standard Manufacturer Warranty Plan for RS6 scanner, 1 Year.<br/>(Can be added as an option, BEFORE the first 12 month of standard warranty have expired.)</i>   |
| RS6-HW-3Y-WRTY      | <b>3-Year Factory RS6 Warranty Plan Renewal</b><br><i>Renewal of Standard Manufacturer Warranty Plan for RS6 scanner, 1 Year.<br/>(Can be added as an option, BEFORE the first 12 month of standard warranty have expired.)</i>   |
| HP-C-V2D-HW-1Y-WRTY | <b>APODIUS Vision Sensor 2D Warranty Extension - 1 Year</b><br><i>Including calibration and certification of the sensor. Has to be ordered within eight (8) weeks after initial purchase. Can be purchased twice to extend the warranty from the first year (included) up to three (3) years.</i> |
| HP-C-V3D-HW-1Y-WRTY | <b>APODIUS Vision Sensor 3D Warranty Extension - 1 Year</b><br><i>Including calibration and certification of the sensor. Has to be ordered within eight (8) weeks after initial purchase. Can be purchased twice to extend the warranty from the first year (included) up to three (3) years.</i> |

\*: For further information about Bronze, Silver, Gold and Platinum service contracts, please contact a local Hexagon Precision Centre.





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[HexagonMI.com](https://HexagonMI.com)

## AMERICA

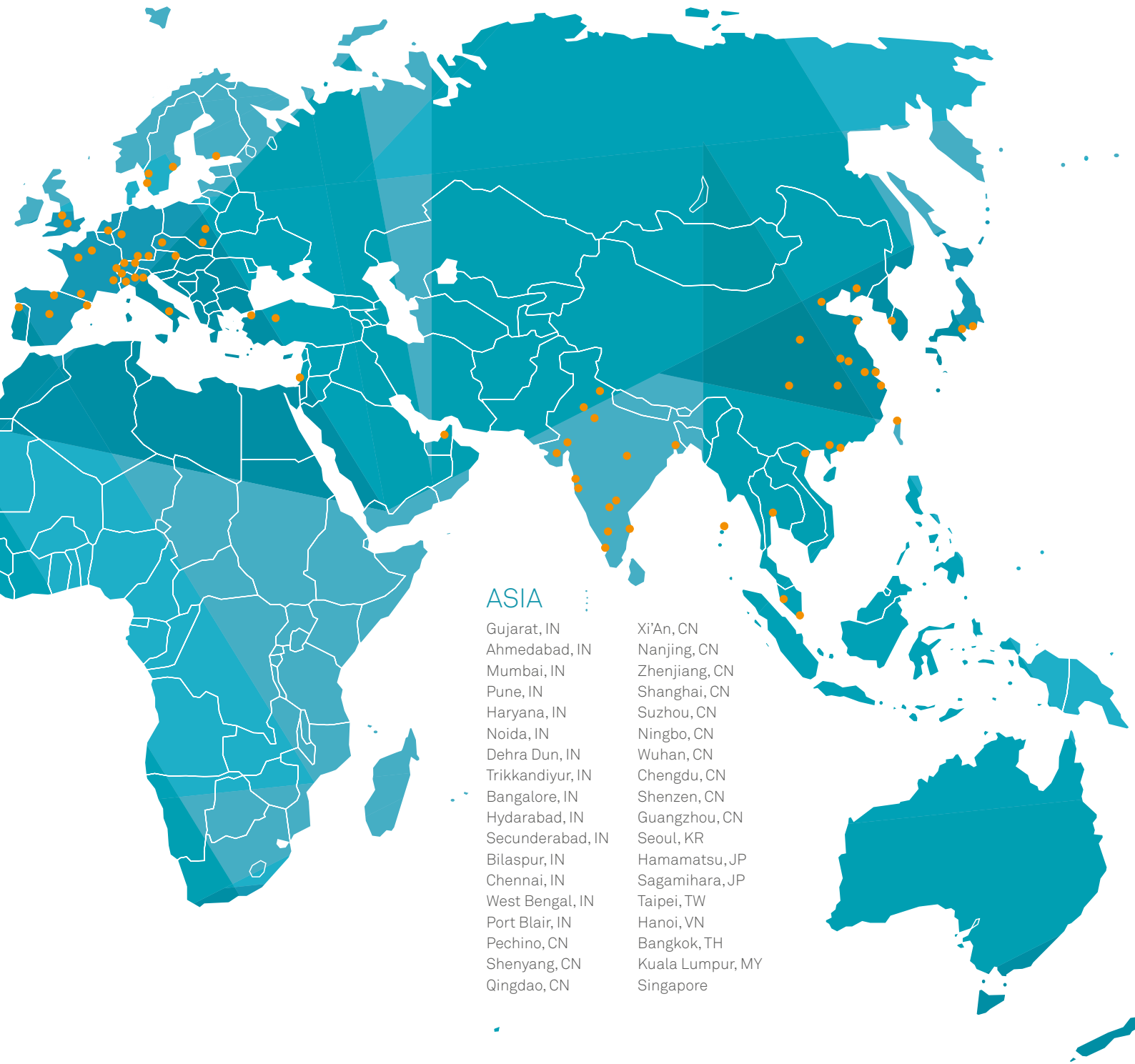
Huntersville, SC, US  
Kent, WA, US  
Oceanside, CA, US  
North Kingston, RI, US  
Wixom, MI, US  
Elgin, IL, US  
Miamisburgh, OH, US  
Nashville, TN, US  
Monterrey, MX  
Belo Horizonte, BR  
Santa Barbara D'Oeste, BR  
San Paulo, BR  
Curitiba, BR  
Pilar Buenos Aires, AR

## EUROPE

Gothenburg, SE  
Trollhättan, SE  
Eskilstuna, SE  
Vantaa, FI  
Telford, UK  
Milton Keynes, UK  
Waalre, NL  
Paris, FR  
Montoire, FR  
Colomiers, FR  
Bron, FR  
Prague, CZ  
Munich, DE  
Waldburg, DE  
Wetzlar, DE  
Unterentfelden, CH  
Renens, CH  
Heerbrugg, CH  
Crissier, CH  
Leça da Palmeira, PT  
Vitoria Gasteiz, ES  
Madrid, ES  
Barcelona, ES  
Grugliasco, IT  
Cormano, IT  
Verona, IT  
Napoli, IT  
Wiener Neudorf, AT  
Krakow, PL  
Warsaw, PL  
Bursa, TR  
Ankara, TR  
Ramat Ha-Sharon, IL  
Dubai, UAE



# HEXAGON MANUFACTURING INTELLIGENCE PRECISION CENTRES





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- Hexagon Manufacturing Intelligence Service Center
- Hexagon Manufacturing Intelligence Arms Factory
- External Service Center

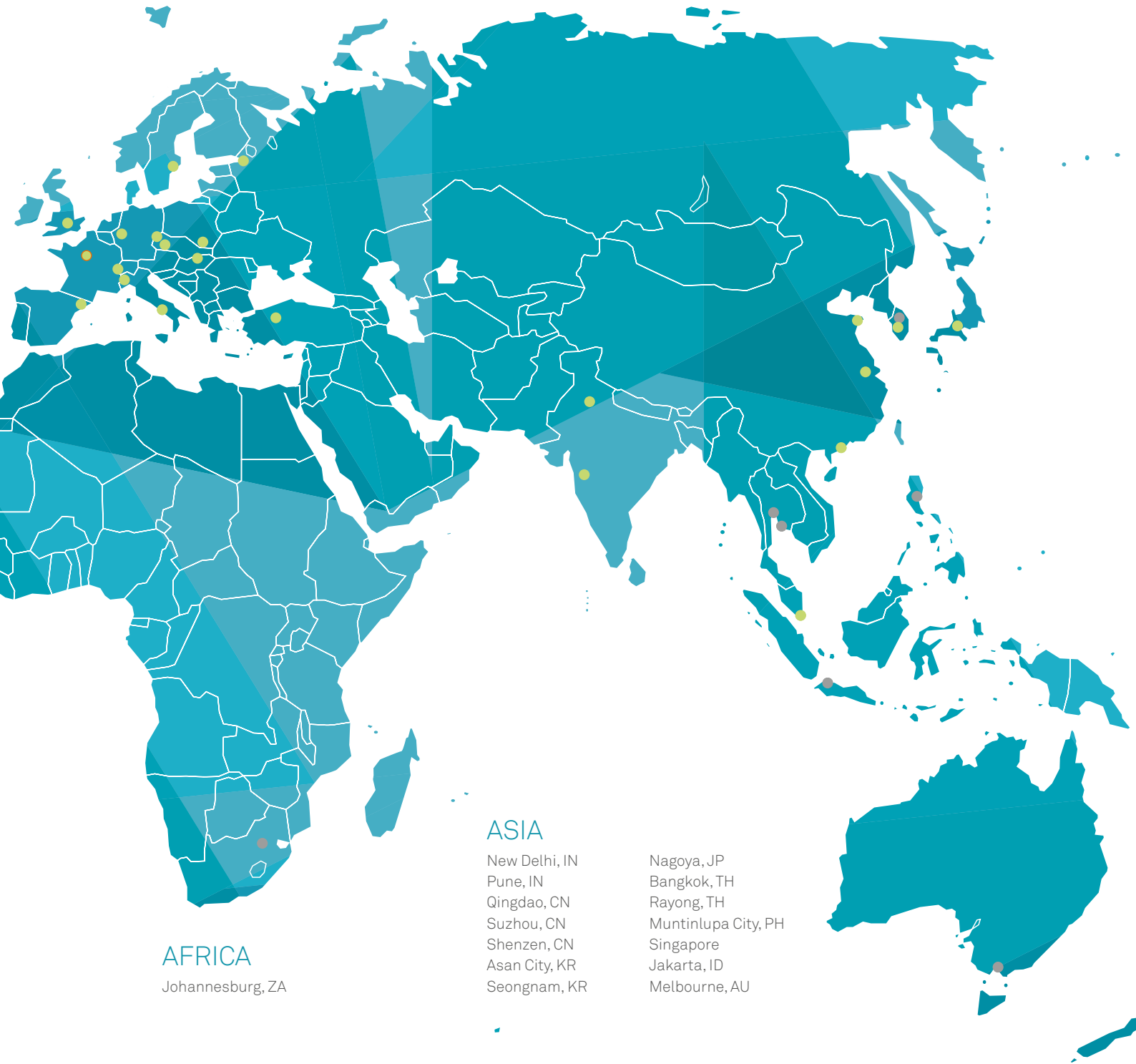
## AMERICA

Seattle, WA, US  
Oceanside, CA, US  
Wixom, MI, US  
Mississauga, CA, US  
Monterrey, MX

## EUROPE

St. Petersburg, RU  
Eskilstuna, SE  
Milton Keynes, UK  
Wetzlar, DE  
Krakow, PL  
Kladno, CZ  
Prague, CZ  
Montoire, FR  
Crissier, CH  
Orbassano, IT  
Naples, IT  
Cerdanyola, ES  
Budapest, HU  
Ankara, TR







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Hexagon Manufacturing Intelligence helps industrial manufacturers develop the disruptive technologies of today and the life-changing products of tomorrow. As a leading metrology and manufacturing solution specialist, our expertise in sensing, thinking and acting – the collection, analysis and active use of measurement data – gives our customers the confidence to increase production speed and accelerate productivity while enhancing product quality.

Through a network of local service centres, production facilities and commercial operations across five continents, we are shaping smart change in manufacturing to build a world where quality drives productivity. For more information, visit [HexagonMI.com](https://www.hexagonmi.com).

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COORDINATE MEASURING MACHINES



3D LASER SCANNING



SENSORS



PORTABLE MEASURING ARMS



SERVICES



LASER TRACKERS & STATIONS



MULTISENSOR & OPTICAL SYSTEMS



WHITE LIGHT SCANNERS



METROLOGY SOFTWARE SOLUTIONS



CAD / CAM



STATISTICAL PROCESS CONTROL



AUTOMATED APPLICATIONS



MICROMETERS, CALIPERS AND GAUGES



DESIGN AND COSTING SOFTWARE