

COORDINATE MEASURING MACHINE

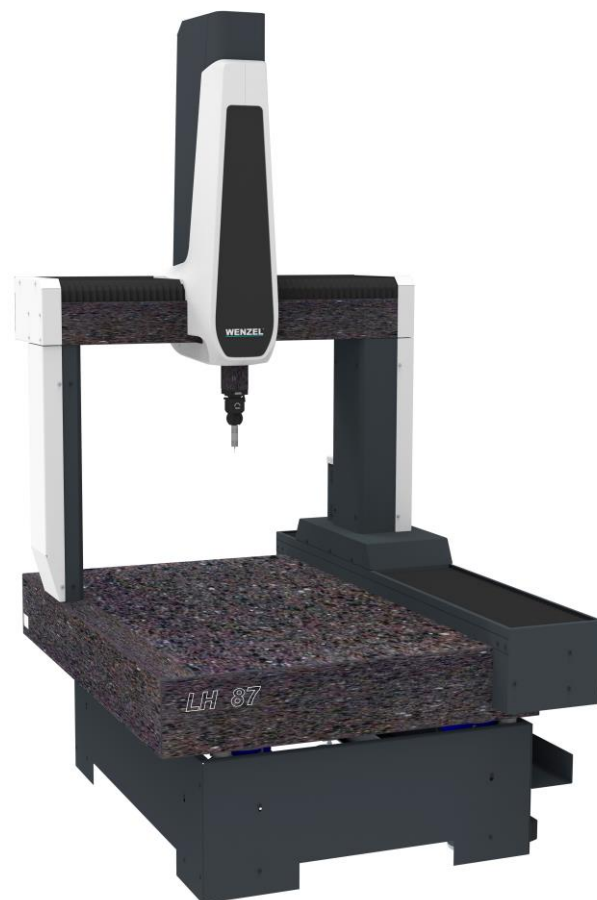
**LH 64 / LH 65 / LH 67**

**LH 84 / LH 85 / LH 87**

**LH 104 / LH 105 / LH 107**

Technical Data

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### Short description

- CNC coordinate measuring machine for touch-trigger, scanning and optical probe systems.
- Compact CMM in portal design.
- Dynamic and high precision series with air bearings in all axes.
- All guideways made of high precision machined and hand lapped granite.
- Operator workstation with integrated controller and computer.
- Good loading options.
- Multiple sizes for optimal selection of the measurement volume.

### Application fields

- Designed for production, quality control and analysis. Also well suited for reverse engineering and model construction.
- Geometric components and free-form surfaces.
- Series and individual measurements.

### Equipment

- High precision air bearing guides with pre-stressed, encompassing air bearings in all axes.
- Optimal long-term stability due to directly in the base plate integrated guide profile of the Y-axis.
- Protective bellow covers for the X and Y axis.
- Elastomer vibration damping system.
- Optional active pneumatic vibration damping system available (also retrofittable).
- High dynamic servo drives with following error monitoring and combined friction/form locking power transmission.
- 3-axis continuous path control with intelligent "lookahead function" for application-optimized travel paths.
- Compact control panel with a central located progressive joystick and programmable function keys. Selectable joystick axis assignment. Control panel optionally also available as "wireless".\*
- Two-stage speed selection and variable speed adjustment (override 0 to 100%) enable a sensitive movement in joystick and CNC mode.
- Standard version with manual temperature compensation.
- Premium- and Premium-Select version with automatic temperature compensation including temperature sensors on device axes and work piece.
- Automation ready.

### Probe systems

- **PH10M PLUS / PH10T PLUS:** 2 axis motorized rotary swivel head that can be indexed in 7.5°-steps up to 720 reproducible positions. The PH10M PLUS / PH10T PLUS is equipped with an auto joint adapter, which enables to mount different probes and optical sensors via a quick-release fastener.
  - **TP20** (optional): Touch trigger probe with interchangeable stylus modules.
  - **TP200** (optional): High-precision, electronically triggering probe with interchangeable stylus modules.
  - **SP25M** (optional): High precision, flexible scanning probe with interchangeable stylus modules and stylus holders that can be used for scanning tasks or single point probing.
- **PH20** (optional): Stepless 5-axis touch trigger system with "head touch" method to decrease measurement time for conventional measuring tasks.
- **REVO** (optional): High-end measuring system with stepless, active measuring axes for real 5-axis and active head scanning, conventional scanning and single point probing, also with large extensions and roughness measurement, for highest measuring throughput and complex contours.
- **SP80** (optional): Scanning probe with interchangeable stylus holders for highest precision with large probe system lengths that can be used for scanning tasks or single point probing.
- **Optical sensors** (optional): An extensive portfolio of optional optical sensors enables a non-contact measurement of components.
- **Probe changing system** (optional): An optional probe changing system enables a quickly and automatically exchange of stylus inserts.

\* depending on equipment

Technical Data LH 64

| Device type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      | LH 64          |             |                |             |                                                                                                                                                                                                                                                                                                                                                       |             |             |             |             |             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------------|-------------|----------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|
| Accuracies*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      | Premium-Select |             | Premium        |             |                                                                                                                                                                                                                                                                                                                                                       | Standard    |             |             |             |             |
| Probe system                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      | SP25M          | SP80 REVO   | SP25M          | SP80 REVO   | TP200                                                                                                                                                                                                                                                                                                                                                 | SP25M       | SP80 REVO   | TP200       | PH20        | TP20        |
| Measurement reference temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |      | 19 °C to 21 °C |             | 18 °C to 22 °C |             |                                                                                                                                                                                                                                                                                                                                                       |             |             |             |             |             |
| Maximum permissible length measurement error <sup>(2)</sup><br>$E_{L,MPE} (E_{0,MPE} / E_{150,MPE})$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | [µm] | 0.7 + L/450    | 1.0 + L/450 | 1.0 + L/400    | 1.2 + L/400 | 1.3 + L/400                                                                                                                                                                                                                                                                                                                                           | 1.2 + L/350 | 1.4 + L/350 | 1.5 + L/350 | 1.6 + L/350 | 1.7 + L/350 |
| Maximum permissible repeatability range of the length measurement error <sup>(2)</sup><br>$R_{0,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | [µm] | 0.6            | 0.8         | 0.8            | 1.0         | 1.1                                                                                                                                                                                                                                                                                                                                                   | 1.0         | 1.1         | 1.2         | 1.3         | 1.4         |
| Maximum permissible single-stylus form error <sup>(1)</sup><br>$P_{Form.Sph.1 \times 25:SS:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | [µm] | 0.7            | 1.0         | 1.0            | 1.2         | 1.3                                                                                                                                                                                                                                                                                                                                                   | 1.2         | 1.4         | 1.5         | 1.6         | 1.7         |
| Maximum permissible scanning mode form error on a sphere <sup>(3)</sup><br>$P_{Form.Sph.Scan:PP:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | [µm] | 1.1            | 1.3         | 1.3            | 1.5         | -                                                                                                                                                                                                                                                                                                                                                     | 1.5         | 1.7         | -           | -           | -           |
| Maximum permissible scanning mode time <sup>(3)</sup><br>$T_{Sph.Scan:PP:Tact,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | [s]  | 72             | 72          | 72             | 72          | -                                                                                                                                                                                                                                                                                                                                                     | 72          | 72          | -           | -           | -           |
| Ext. measurement ref. temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |      | -              |             | 16 °C to 26 °C |             |                                                                                                                                                                                                                                                                                                                                                       |             |             |             |             |             |
| Maximum permissible length measurement error <sup>(2)</sup><br>$E_{L,MPE} (E_{0,MPE} / E_{150,MPE})$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | [µm] | -              | -           | 1.6 + L/200    | 1.8 + L/200 | 1.9 + L/200                                                                                                                                                                                                                                                                                                                                           | 1.8 + L/200 | 2.0 + L/200 | 2.1 + L/200 | 2.1 + L/200 | 2.3 + L/200 |
| Maximum permissible repeatability range of the length measurement error <sup>(2)</sup><br>$R_{0,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | [µm] | -              | -           | 1.3            | 1.5         | 1.5                                                                                                                                                                                                                                                                                                                                                   | 1.5         | 1.6         | 1.7         | 1.8         | 1.9         |
| Maximum permissible single-stylus form error <sup>(1)</sup><br>$P_{Form.Sph.1 \times 25:SS:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | [µm] | -              | -           | 1.6            | 1.8         | 1.9                                                                                                                                                                                                                                                                                                                                                   | 1.8         | 2.0         | 2.1         | 2.2         | 2.3         |
| Maximum permissible scanning mode form error on a sphere <sup>(3)</sup><br>$P_{Form.Sph.Scan:PP:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | [µm] | -              | -           | 1.9            | 2.1         | -                                                                                                                                                                                                                                                                                                                                                     | 2.1         | 2.3         | -           | -           | -           |
| Maximum permissible scanning mode time <sup>(3)</sup><br>$T_{Sph.Scan:PP:Tact,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | [s]  | -              | -           | 72             | 72          | -                                                                                                                                                                                                                                                                                                                                                     | 72          | 72          | -           | -           | -           |
| <b>(1) DIN EN ISO 10360-5:2020-11</b><br><b>Maximum permissible single-stylus form error <math>P_{Form.Sph.1 \times 25:SS:Tact,MPE}</math></b><br><ul style="list-style-type: none"> <li>• TP20 with Standard Force Module and stylus Ø 4 x 10 mm</li> <li>• TP200 with Standard Force Module and stylus Ø 4 x 30 mm</li> <li>• SP25M with Module SM25-1 and stylus Ø 4 x 30 mm</li> <li>• SP80 with stylus Ø 5 x 50 mm</li> <li>• REVO with RSP3-3 and stylus Ø 4 x 30 mm</li> <li>• PH20 with Standard Force Module and stylus Ø 4 x 10 mm</li> </ul>                                    |      |                |             |                |             | <b>(3) DIN EN ISO 10360-5:2020-11</b><br><b>Maximum permissible scanning mode form error on a sphere <math>P_{Form.Sph.Scan:PP:Tact,MPE}</math></b><br><ul style="list-style-type: none"> <li>• SP25M with Module SM25-1 and stylus Ø 4 x 30 mm</li> <li>• SP80 with stylus Ø 5 x 50 mm</li> <li>• REVO with RSP3-3 and stylus Ø 4 x 30 mm</li> </ul> |             |             |             |             |             |
| <b>(2) DIN EN ISO 10360-2:2010-06</b><br><b>Maximum permissible length measurement error <math>E_{L,MPE} (E_{0,MPE} / E_{150,MPE})</math></b><br><ul style="list-style-type: none"> <li>• TP20 with Standard Force Module and stylus Ø 4 x 30 mm</li> <li>• TP200 with Standard Force Module and stylus Ø 4 x 30 mm</li> <li>• SP25M with Module SM25-1 and stylus Ø 4 x 30 mm</li> <li>• SP80 with stylus Ø 5 x 50 mm</li> <li>• REVO with RSP3-3 and stylus Ø 4 x 30 mm</li> <li>• PH20 with Standard Force Module and stylus Ø 4 x 30 mm</li> <li>• Measuring length L in mm</li> </ul> |      |                |             |                |             | * accuracy values are achieved by incorporating of the temperature compensation                                                                                                                                                                                                                                                                       |             |             |             |             |             |

Table 1: Technical Data LH 64

| Device type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   | LH 64     |      |      |      | Unit |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------|------|------|------|------|
| Measuring range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | X                 | 650       |      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Y <sup>(1)</sup>  | 750       | 1000 | 1500 | 2000 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Z                 | 400       |      |      |      | mm   |
| Overall dimensions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | L                 | 1719      | 1969 | 2469 | 2969 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W                 | 1361      |      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H <sup>(2)</sup>  | 2436      |      |      |      | mm   |
| Working area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | L1                | 1530      | 1780 | 2280 | 2780 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L2                | 236       | 236  | 236  | 236  | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L3                | 270       | 315  | 402  | 493  | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L4                | 990       | 1150 | 1475 | 1795 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L5                | 1413      | 1573 | 1898 | 2218 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W1                | 879       |      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W2                | 248       |      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W3                | 700       |      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W4                | 287       |      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H2 <sup>(2)</sup> | 750       |      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H3                | 648       |      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H4 <sup>(3)</sup> | 63        |      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H5                | 671       |      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H6                | 1116      | 1166 | 1216 | 1266 | mm   |
| Grid dimension threaded insert (M10) base plate <sup>(4)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   | 200 x 200 |      |      |      | mm   |
| Minimum distance to the ceiling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H1                | ≥ 50      |      |      |      | mm   |
| Minimum distance to the wall                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   | ≥ 500     |      |      |      | mm   |
| Device weight                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   | 1520      | 1990 | 2830 | 3835 | kg   |
| Maximum permissible workpiece weight <sup>(5)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   | 340       | 720  | 1420 | 1690 | kg   |
| <sup>(1)</sup> further measuring ranges available on request<br><sup>(2)</sup> with active vibration damping system: height + max. 10 mm (optional)<br><sup>(3)</sup> with probe system PH10M PLUS / dimension varies depending on the used probe system<br><sup>(4)</sup> from measuring range Y > 2000 mm the grid dimension is 200 x 400 mm; further grid dimensions available on request<br><sup>(5)</sup> with centric loading and under the requirement that the workpiece support points fulfil the following condition: distance of the workpiece support points ≥ 75% Y measuring range |                   |           |      |      |      |      |

Table 2: Dimensions and weights LH 64

Technical Data LH 65

| Device type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |      | LH 65          |             |                |             |             |             |             |             |             |             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------------|-------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Accuracies*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |      | Premium-Select |             | Premium        |             |             | Standard    |             |             |             |             |
| Probe system                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      | SP25M          | SP80 REVO   | SP25M          | SP80 REVO   | TP200       | SP25M       | SP80 REVO   | TP200       | PH20        | TP20        |
| Measurement reference temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      | 19 °C to 21 °C |             | 18 °C to 22 °C |             |             |             |             |             |             |             |
| Maximum permissible length measurement error <sup>(2)</sup><br>$E_{L,MPE} (E_{0,MPE} / E_{150,MPE})$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | [µm] | 0.8 + L/450    | 1.0 + L/450 | 1.0 + L/400    | 1.2 + L/400 | 1.3 + L/400 | 1.2 + L/350 | 1.4 + L/350 | 1.5 + L/350 | 1.6 + L/350 | 1.7 + L/350 |
| Maximum permissible repeatability range of the length measurement error <sup>(2)</sup><br>$R_{0,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | [µm] | 0.6            | 0.8         | 0.8            | 1.0         | 1.1         | 1.0         | 1.1         | 1.2         | 1.3         | 1.4         |
| Maximum permissible single-stylus form error <sup>(1)</sup><br>$P_{Form.Sph.1 \times 25:SS:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | [µm] | 0.8            | 1.0         | 1.0            | 1.2         | 1.3         | 1.2         | 1.4         | 1.5         | 1.6         | 1.7         |
| Maximum permissible scanning mode form error on a sphere <sup>(3)</sup><br>$P_{Form.Sph.Scan:PP:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | [µm] | 1.1            | 1.3         | 1.3            | 1.5         | -           | 1.5         | 1.7         | -           | -           | -           |
| Maximum permissible scanning mode time <sup>(3)</sup><br>$T_{Sph.Scan:PP:Tact,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | [s]  | 72             | 72          | 72             | 72          | -           | 72          | 72          | -           | -           | -           |
| Ext. measurement ref. temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      | -              |             | 16 °C to 26 °C |             |             |             |             |             |             |             |
| Maximum permissible length measurement error <sup>(2)</sup><br>$E_{L,MPE} (E_{0,MPE} / E_{150,MPE})$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | [µm] | -              | -           | 1.6 + L/200    | 1.8 + L/200 | 1.9 + L/200 | 1.8 + L/200 | 2.0 + L/200 | 2.1 + L/200 | 2.1 + L/200 | 2.3 + L/200 |
| Maximum permissible repeatability range of the length measurement error <sup>(2)</sup><br>$R_{0,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | [µm] | -              | -           | 1.3            | 1.5         | 1.5         | 1.5         | 1.6         | 1.7         | 1.8         | 1.9         |
| Maximum permissible single-stylus form error <sup>(1)</sup><br>$P_{Form.Sph.1 \times 25:SS:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | [µm] | -              | -           | 1.6            | 1.8         | 1.9         | 1.8         | 2.0         | 2.1         | 2.2         | 2.3         |
| Maximum permissible scanning mode form error on a sphere <sup>(3)</sup><br>$P_{Form.Sph.Scan:PP:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | [µm] | -              | -           | 1.9            | 2.1         | -           | 2.1         | 2.3         | -           | -           | -           |
| Maximum permissible scanning mode time <sup>(3)</sup><br>$T_{Sph.Scan:PP:Tact,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | [s]  | -              | -           | 72             | 72          | -           | 72          | 72          | -           | -           | -           |
| <div> <div> <b>(1) DIN EN ISO 10360-5:2020-11</b><br/> <b>Maximum permissible single-stylus form error <math>P_{Form.Sph.1 \times 25:SS:Tact,MPE}</math></b><br/> <ul style="list-style-type: none"> <li>• TP20 with Standard Force Module and stylus Ø 4 x 10 mm</li> <li>• TP200 with Standard Force Module and stylus Ø 4 x 30 mm</li> <li>• SP25M with Module SM25-1 and stylus Ø 4 x 30 mm</li> <li>• SP80 with stylus Ø 5 x 50 mm</li> <li>• REVO with RSP3-3 and stylus Ø 4 x 30 mm</li> <li>• PH20 with Standard Force Module and stylus Ø 4 x 10 mm</li> </ul> </div> <div> <b>(2) DIN EN ISO 10360-2:2010-06</b><br/> <b>Maximum permissible length measurement error <math>E_{L,MPE} (E_{0,MPE} / E_{150,MPE})</math></b><br/> <ul style="list-style-type: none"> <li>• TP20 with Standard Force Module and stylus Ø 4 x 30 mm</li> <li>• TP200 with Standard Force Module and stylus Ø 4 x 30 mm</li> <li>• SP25M with Module SM25-1 and stylus Ø 4 x 30 mm</li> <li>• SP80 with stylus Ø 5 x 50 mm</li> <li>• REVO with RSP3-3 and stylus Ø 4 x 30 mm</li> <li>• PH20 with Standard Force Module and stylus Ø 4 x 30 mm</li> <li>• Measuring length L in mm</li> </ul> </div> <div> <b>(3) DIN EN ISO 10360-5:2020-11</b><br/> <b>Maximum permissible scanning mode form error on a sphere <math>P_{Form.Sph.Scan:PP:Tact,MPE}</math></b><br/> <ul style="list-style-type: none"> <li>• SP25M with Module SM25-1 and stylus Ø 4 x 30 mm</li> <li>• SP80 with stylus Ø 5 x 50 mm</li> <li>• REVO with RSP3-3 and stylus Ø 4 x 30 mm</li> </ul> </div> </div> <div>* accuracy values are achieved by incorporating of the temperature compensation</div> |      |                |             |                |             |             |             |             |             |             |             |

Table 3: Technical Data LH 65

| Device type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   | LH 65     |      |      |      | Unit |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------|------|------|------|------|
| Measuring range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | X                 | 650       |      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Y <sup>(1)</sup>  | 750       | 1000 | 1500 | 2000 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Z                 | 500       |      |      |      | mm   |
| Overall dimensions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | L                 | 1719      | 1969 | 2469 | 2969 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W                 | 1361      |      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H <sup>(2)</sup>  | 2536      |      |      |      | mm   |
| Working area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | L1                | 1530      | 1780 | 2280 | 2780 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L2                | 236       | 236  | 236  | 236  | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L3                | 270       | 315  | 402  | 493  | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L4                | 990       | 1150 | 1475 | 1795 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L5                | 1413      | 1573 | 1898 | 2218 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W1                | 879       |      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W2                | 248       |      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W3                | 700       |      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W4                | 287       |      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H2 <sup>(2)</sup> | 750       |      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H3                | 748       |      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H4 <sup>(3)</sup> | 63        |      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H5                | 671       |      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H6                | 1216      | 1266 | 1316 | 1366 | mm   |
| Grid dimension threaded insert (M10) base plate <sup>(4)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   | 200 x 200 |      |      |      | mm   |
| Minimum distance to the ceiling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H1                | ≥ 50      |      |      |      | mm   |
| Minimum distance to the wall                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   | ≥ 500     |      |      |      | mm   |
| Device weight                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   | 1525      | 1995 | 2835 | 3840 | kg   |
| Maximum permissible workpiece weight <sup>(5)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   | 340       | 720  | 1420 | 1690 | kg   |
| <sup>(1)</sup> further measuring ranges available on request<br><sup>(2)</sup> with active vibration damping system: height + max. 10 mm (optional)<br><sup>(3)</sup> with probe system PH10M PLUS / dimension varies depending on the used probe system<br><sup>(4)</sup> from measuring range Y > 2000 mm the grid dimension is 200 x 400 mm; further grid dimensions available on request<br><sup>(5)</sup> with centric loading and under the requirement that the workpiece support points fulfil the following condition: distance of the workpiece support points ≥ 75% Y measuring range |                   |           |      |      |      |      |

Table 4: Dimensions and weights LH 65

Technical Data LH 67

| Device type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      | LH 67          |             |                |             |             |             |             |             |             |             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------------|-------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Accuracies*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      | Premium-Select |             | Premium        |             |             | Standard    |             |             |             |             |
| Probe system                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      | SP25M          | SP80 REVO   | SP25M          | SP80 REVO   | TP200       | SP25M       | SP80 REVO   | TP200       | PH20        | TP20        |
| Measurement reference temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |      | 19 °C to 21 °C |             | 18 °C to 22 °C |             |             |             |             |             |             |             |
| Maximum permissible length measurement error <sup>(2)</sup><br>$E_{L,MPE} (E_{0,MPE} / E_{150,MPE})$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | [µm] | 0.8 + L/450    | 1.0 + L/450 | 1.0 + L/400    | 1.2 + L/400 | 1.3 + L/400 | 1.2 + L/350 | 1.4 + L/350 | 1.5 + L/350 | 1.6 + L/350 | 1.7 + L/350 |
| Maximum permissible repeatability range of the length measurement error <sup>(2)</sup><br>$R_{0,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | [µm] | 0.6            | 0.8         | 0.8            | 1.0         | 1.1         | 1.0         | 1.1         | 1.2         | 1.3         | 1.4         |
| Maximum permissible single-stylus form error <sup>(1)</sup><br>$P_{Form.Sph.1 \times 25:SS:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | [µm] | 0.8            | 1.0         | 1.0            | 1.2         | 1.3         | 1.2         | 1.4         | 1.5         | 1.6         | 1.7         |
| Maximum permissible scanning mode form error on a sphere <sup>(3)</sup><br>$P_{Form.Sph.Scan:PP:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | [µm] | 1.1            | 1.3         | 1.3            | 1.5         | -           | 1.5         | 1.7         | -           | -           | -           |
| Maximum permissible scanning mode time <sup>(3)</sup><br>$T_{Sph.Scan:PP:Tact,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | [s]  | 72             | 72          | 72             | 72          | -           | 72          | 72          | -           | -           | -           |
| Ext. measurement ref. temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |      | -              |             | 16 °C to 26 °C |             |             |             |             |             |             |             |
| Maximum permissible length measurement error <sup>(2)</sup><br>$E_{L,MPE} (E_{0,MPE} / E_{150,MPE})$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | [µm] | -              | -           | 1.6 + L/200    | 1.8 + L/200 | 1.9 + L/200 | 1.8 + L/200 | 2.0 + L/200 | 2.1 + L/200 | 2.2 + L/200 | 2.3 + L/200 |
| Maximum permissible repeatability range of the length measurement error <sup>(2)</sup><br>$R_{0,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | [µm] | -              | -           | 1.3            | 1.5         | 1.5         | 1.5         | 1.6         | 1.7         | 1.8         | 1.9         |
| Maximum permissible single-stylus form error <sup>(1)</sup><br>$P_{Form.Sph.1 \times 25:SS:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | [µm] | -              | -           | 1.6            | 1.8         | 1.9         | 1.8         | 2.0         | 2.1         | 2.2         | 2.3         |
| Maximum permissible scanning mode form error on a sphere <sup>(3)</sup><br>$P_{Form.Sph.Scan:PP:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | [µm] | -              | -           | 1.9            | 2.1         | -           | 2.1         | 2.3         | -           | -           | -           |
| Maximum permissible scanning mode time <sup>(3)</sup><br>$T_{Sph.Scan:PP:Tact,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | [s]  | -              | -           | 72             | 72          | -           | 72          | 72          | -           | -           | -           |
| <div> <div> <p>(1) DIN EN ISO 10360-5:2020-11</p> <p><b>Maximum permissible single-stylus form error</b> <math>P_{Form.Sph.1 \times 25:SS:Tact,MPE}</math></p> <ul style="list-style-type: none"> <li>• TP20 with Standard Force Module and stylus Ø 4 x 10 mm</li> <li>• TP200 with Standard Force Module and stylus Ø 4 x &lt; 30 mm</li> <li>• SP25M with Module SM25-1 and stylus Ø 4 x &lt; 30 mm</li> <li>• SP80 with stylus Ø 5 x 50 mm</li> <li>• REVO with RSP3-3 and stylus Ø 4 x &lt; 30 mm</li> <li>• PH20 with Standard Force Module and stylus Ø 4 x &lt; 10 mm</li> </ul> </div> <div> <p>(2) DIN EN ISO 10360-2:2010-06</p> <p><b>Maximum permissible length measurement error</b> <math>E_{L,MPE} (E_{0,MPE} / E_{150,MPE})</math></p> <ul style="list-style-type: none"> <li>• TP20 with Standard Force Module and stylus Ø 4 x &lt; 30 mm</li> <li>• TP200 with Standard Force Module and stylus Ø 4 x &lt; 30 mm</li> <li>• SP25M with Module SM25-1 and stylus Ø 4 x &lt; 30 mm</li> <li>• SP80 with stylus Ø 5 x 50 mm</li> <li>• REVO with RSP3-3 and stylus Ø 4 x &lt; 30 mm</li> <li>• PH20 with Standard Force Module and stylus Ø 4 x &lt; 30 mm</li> <li>• Measuring length L in mm</li> </ul> </div> <div> <p>(3) DIN EN ISO 10360-5:2020-11</p> <p><b>Maximum permissible scanning mode form error on a sphere</b> <math>P_{Form.Sph.Scan:PP:Tact,MPE}</math></p> <ul style="list-style-type: none"> <li>• SP25M with Module SM25-1 and stylus Ø 4 x &lt; 30 mm</li> <li>• SP80 with stylus Ø 5 x 50 mm</li> <li>• REVO with RSP3-3 and stylus Ø 4 x &lt; 30 mm</li> </ul> </div> </div> <p>* accuracy values are achieved by incorporating of the temperature compensation</p> |      |                |             |                |             |             |             |             |             |             |             |

Table 5: Technical Data LH 67

| Device type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   | LH 67     |      |      |      | Unit  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------|------|------|------|-------|
| Measuring range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | X                 | 650       |      |      |      | mm    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Y <sup>(1)</sup>  | 750       | 1000 | 1500 | 2000 | mm    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Z                 | 700       |      |      |      | mm    |
| Overall dimensions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | L                 | 1719      | 1969 | 2469 | 2969 | mm    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W                 | 1361      |      |      |      | mm    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H <sup>(2)</sup>  | 2936      |      |      |      | mm    |
| Working area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | L1                | 1530      | 1780 | 2280 | 2780 | mm    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L2                | 236       | 236  | 236  | 236  | mm    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L3                | 270       | 315  | 402  | 493  | mm    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L4                | 990       | 1150 | 1475 | 1795 | mm    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L5                | 1413      | 1573 | 1898 | 2218 | mm    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W1                | 879       |      |      |      | mm    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W2                | 248       |      |      |      | mm    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W3                | 700       |      |      |      | mm    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W4                | 287       |      |      |      | mm    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H2 <sup>(2)</sup> | 750       |      |      |      | mm    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H3                | 948       |      |      |      | mm    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H4 <sup>(3)</sup> | 63        |      |      |      | mm    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H5                | 871       |      |      |      | mm    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H6                | 1416      | 1466 | 1516 | 1566 | mm    |
| Grid dimension threaded insert (M10) base plate <sup>(4)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   | 200 x 200 |      |      |      | mm    |
| Minimum distance to the ceiling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   | H1        |      |      |      | ≥ 50  |
| Minimum distance to the wall                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |           |      |      |      | ≥ 500 |
| Device weight                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   | 1550      | 2020 | 2860 | 3865 | kg    |
| Maximum permissible workpiece weight <sup>(5)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   | 340       | 720  | 1420 | 1690 | kg    |
| <sup>(1)</sup> further measuring ranges available on request<br><sup>(2)</sup> with active vibration damping system: height + max. 10 mm (optional)<br><sup>(3)</sup> with probe system PH10M PLUS / dimension varies depending on the used probe system<br><sup>(4)</sup> from measuring range Y > 2000 mm the grid dimension is 200 x 400 mm; further grid dimensions available on request<br><sup>(5)</sup> with centric loading and under the requirement that the workpiece support points fulfil the following condition: distance of the workpiece support points ≥ 75% Y measuring range |                   |           |      |      |      |       |

Table 6: Dimensions and weights LH 67

Technical Data LH 84

| Device type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |      | LH 84          |             |                |             |             |             |             |             |             |             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------------|-------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Accuracies*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |      | Premium-Select |             | Premium        |             |             | Standard    |             |             |             |             |
| Probe system                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |      | SP25M          | SP80 REVO   | SP25M          | SP80 REVO   | TP200       | SP25M       | SP80 REVO   | TP200       | PH20        | TP20        |
| Measurement reference temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      | 19 °C to 21 °C |             | 18 °C to 22 °C |             |             |             |             |             |             |             |
| Maximum permissible length measurement error <sup>(2)</sup><br>$E_{L,MPE} (E_{0,MPE} / E_{150,MPE})$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | [µm] | 0.7 + L/450    | 1.0 + L/450 | 1.0 + L/400    | 1.2 + L/400 | 1.3 + L/400 | 1.2 + L/350 | 1.4 + L/350 | 1.5 + L/350 | 1.6 + L/350 | 1.7 + L/350 |
| Maximum permissible repeatability range of the length measurement error <sup>(2)</sup><br>$R_{0,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | [µm] | 0.6            | 0.8         | 0.8            | 1.0         | 1.1         | 1.0         | 1.1         | 1.2         | 1.3         | 1.4         |
| Maximum permissible single-stylus form error <sup>(1)</sup><br>$P_{Form.Sph.1 \times 25.SS:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | [µm] | 0.7            | 1.0         | 1.0            | 1.2         | 1.3         | 1.2         | 1.4         | 1.5         | 1.6         | 1.7         |
| Maximum permissible scanning mode form error on a sphere <sup>(3)</sup><br>$P_{Form.Sph.Scan:PP:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | [µm] | 1.1            | 1.3         | 1.3            | 1.5         | -           | 1.5         | 1.7         | -           | -           | -           |
| Maximum permissible scanning mode time <sup>(3)</sup><br>$T_{Sph.Scan:PP:Tact,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | [s]  | 72             | 72          | 72             | 72          | -           | 72          | 72          | -           | -           | -           |
| Ext. measurement ref. temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      | -              |             | 16 °C to 26 °C |             |             |             |             |             |             |             |
| Maximum permissible length measurement error <sup>(2)</sup><br>$E_{L,MPE} (E_{0,MPE} / E_{150,MPE})$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | [µm] | -              | -           | 1.6 + L/200    | 1.8 + L/200 | 1.9 + L/200 | 1.8 + L/200 | 2.0 + L/200 | 2.1 + L/200 | 2.2 + L/200 | 2.3 + L/200 |
| Maximum permissible repeatability range of the length measurement error <sup>(2)</sup><br>$R_{0,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | [µm] | -              | -           | 1.3            | 1.5         | 1.5         | 1.5         | 1.6         | 1.7         | 1.8         | 1.9         |
| Maximum permissible single-stylus form error <sup>(1)</sup><br>$P_{Form.Sph.1 \times 25.SS:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | [µm] | -              | -           | 1.6            | 1.8         | 1.9         | 1.8         | 2.0         | 2.1         | 2.2         | 2.3         |
| Maximum permissible scanning mode form error on a sphere <sup>(3)</sup><br>$P_{Form.Sph.Scan:PP:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | [µm] | -              | -           | 1.9            | 2.1         | -           | 2.1         | 2.3         | -           | -           | -           |
| Maximum permissible scanning mode time <sup>(3)</sup><br>$T_{Sph.Scan:PP:Tact,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | [s]  | -              | -           | 72             | 72          | -           | 72          | 72          | -           | -           | -           |
| <div> <div> <b>(1) DIN EN ISO 10360-5:2020-11</b><br/> <b>Maximum permissible single-stylus form error <math>P_{Form.Sph.1 \times 25.SS:Tact,MPE}</math></b> <ul style="list-style-type: none"> <li>TP20 with Standard Force Module and stylus Ø 4 x 10 mm</li> <li>TP200 with Standard Force Module and stylus Ø 4 x 30 mm</li> <li>SP25M with Module SM25-1 and stylus Ø 4 x 30 mm</li> <li>SP80 with stylus Ø 5 x 50 mm</li> <li>REVO with RSP3-3 and stylus Ø 4 x 30 mm</li> <li>PH20 with Standard Force Module and stylus Ø 4 x 10 mm</li> </ul> </div> <div> <b>(2) DIN EN ISO 10360-2:2010-06</b><br/> <b>Maximum permissible length measurement error <math>E_{L,MPE} (E_{0,MPE} / E_{150,MPE})</math></b> <ul style="list-style-type: none"> <li>TP20 with Standard Force Module and stylus Ø 4 x 30 mm</li> <li>TP200 with Standard Force Module and stylus Ø 4 x 30 mm</li> <li>SP25M with Module SM25-1 and stylus Ø 4 x 30 mm</li> <li>SP80 with stylus Ø 5 x 50 mm</li> <li>REVO with RSP3-3 and stylus Ø 4 x 30 mm</li> <li>PH20 with Standard Force Module and stylus Ø 4 x 30 mm</li> <li>Measuring length L in mm</li> </ul> </div> <div> <b>(3) DIN EN ISO 10360-5:2020-11</b><br/> <b>Maximum permissible scanning mode form error on a sphere <math>P_{Form.Sph.Scan:PP:Tact,MPE}</math></b> <ul style="list-style-type: none"> <li>SP25M with Module SM25-1 and stylus Ø 4 x 30 mm</li> <li>SP80 with stylus Ø 5 x 50 mm</li> <li>REVO with RSP3-3 and stylus Ø 4 x 30 mm</li> </ul> </div> </div> <div>* accuracy values are achieved by incorporating of the temperature compensation</div> |      |                |             |                |             |             |             |             |             |             |             |

Table 7: Technical Data LH 84

| Device type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   | LH 84     |      |      | Unit |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------|------|------|------|
| Measuring range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | X                 | 800       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Y <sup>(1)</sup>  | 1000      | 1500 | 2000 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Z                 | 400       |      |      | mm   |
| Overall dimensions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | L                 | 1969      | 2469 | 2969 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W                 | 1536      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H <sup>(2)</sup>  | 2436      |      |      | mm   |
| Working area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | L1                | 1780      | 2280 | 2780 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L2                | 236       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L3                | 315       | 402  | 493  | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L4                | 1150      | 1475 | 1795 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L5                | 1573      | 1898 | 2218 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W1                | 1054      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W2                | 272       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W3                | 900       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W4                | 260       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H2 <sup>(2)</sup> | 750       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H3                | 648       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H4 <sup>(3)</sup> | 63        |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H5                | 671       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H6                | 1166      | 1216 | 1266 | mm   |
| Grid dimension threaded insert (M10) base plate <sup>(4)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   | 200 x 200 |      |      | mm   |
| Minimum distance to the ceiling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H1                | ≥ 50      |      |      | mm   |
| Minimum distance to the wall                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   | ≥ 500     |      |      | mm   |
| Device weight                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   | 2245      | 3185 | 4320 | kg   |
| Maximum permissible workpiece weight <sup>(5)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   | 590       | 1160 | 2130 | kg   |
| <sup>(1)</sup> further measuring ranges available on request<br><sup>(2)</sup> with active vibration damping system: height + max. 10 mm (optional)<br><sup>(3)</sup> with probe system PH10M PLUS / dimension varies depending on the used probe system<br><sup>(4)</sup> from measuring range Y > 2000 mm the grid dimension is 200 x 400 mm; further grid dimensions available on request<br><sup>(5)</sup> with centric loading and under the requirement that the workpiece support points fulfil the following condition: distance of the workpiece support points ≥ 75% Y measuring range |                   |           |      |      |      |

Table 8: Dimensions and weights LH 84

Technical Data LH 85

| Device type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      | LH 85          |             |                |             |             |             |             |             |             |             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------------|-------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Accuracies*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      | Premium-Select |             | Premium        |             |             | Standard    |             |             |             |             |
| Probe system                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      | SP25M          | SP80 REVO   | SP25M          | SP80 REVO   | TP200       | SP25M       | SP80 REVO   | TP200       | PH20        | TP20        |
| Measurement reference temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      | 19 °C to 21 °C |             | 18 °C to 22 °C |             |             |             |             |             |             |             |
| Maximum permissible length measurement error <sup>(2)</sup><br>$E_{L,MPE} (E_{0,MPE} / E_{150,MPE})$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | [µm] | 0.8 + L/450    | 1.0 + L/450 | 1.0 + L/400    | 1.2 + L/400 | 1.3 + L/400 | 1.2 + L/350 | 1.4 + L/350 | 1.5 + L/350 | 1.6 + L/350 | 1.7 + L/350 |
| Maximum permissible repeatability range of the length measurement error <sup>(2)</sup><br>$R_{0,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | [µm] | 0.6            | 0.8         | 0.8            | 1.0         | 1.1         | 1.0         | 1.1         | 1.2         | 1.3         | 1.4         |
| Maximum permissible single-stylus form error <sup>(1)</sup><br>$P_{Form.Sph.1 \times 25:SS:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | [µm] | 0.8            | 1.0         | 1.0            | 1.2         | 1.3         | 1.2         | 1.4         | 1.5         | 1.6         | 1.7         |
| Maximum permissible scanning mode form error on a sphere <sup>(3)</sup><br>$P_{Form.Sph.Scan:PP:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | [µm] | 1.1            | 1.3         | 1.3            | 1.5         | -           | 1.5         | 1.7         | -           | -           | -           |
| Maximum permissible scanning mode time <sup>(3)</sup><br>$T_{Sph.Scan:PP:Tact,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | [s]  | 72             | 72          | 72             | 72          | -           | 72          | 72          | -           | -           | -           |
| Ext. measurement ref. temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      | -              |             | 16 °C to 26 °C |             |             |             |             |             |             |             |
| Maximum permissible length measurement error <sup>(2)</sup><br>$E_{L,MPE} (E_{0,MPE} / E_{150,MPE})$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | [µm] | -              | -           | 1.6 + L/200    | 1.8 + L/200 | 1.9 + L/200 | 1.8 + L/200 | 2.0 + L/200 | 2.1 + L/200 | 2.2 + L/200 | 2.3 + L/200 |
| Maximum permissible repeatability range of the length measurement error <sup>(2)</sup><br>$R_{0,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | [µm] | -              | -           | 1.3            | 1.5         | 1.5         | 1.5         | 1.6         | 1.7         | 1.8         | 1.9         |
| Maximum permissible single-stylus form error <sup>(1)</sup><br>$P_{Form.Sph.1 \times 25:SS:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | [µm] | -              | -           | 1.6            | 1.8         | 1.9         | 1.8         | 2.0         | 2.1         | 2.2         | 2.3         |
| Maximum permissible scanning mode form error on a sphere <sup>(3)</sup><br>$P_{Form.Sph.Scan:PP:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | [µm] | -              | -           | 1.9            | 2.1         | -           | 2.1         | 2.3         | -           | -           | -           |
| Maximum permissible scanning mode time <sup>(3)</sup><br>$T_{Sph.Scan:PP:Tact,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | [s]  | -              | -           | 72             | 72          | -           | 72          | 72          | -           | -           | -           |
| <div> <div> <b>(1) DIN EN ISO 10360-5:2020-11</b><br/> <b>Maximum permissible single-stylus form error <math>P_{Form.Sph.1 \times 25:SS:Tact,MPE}</math></b> <ul style="list-style-type: none"> <li>TP20 with Standard Force Module and stylus Ø 4 x 10 mm</li> <li>TP200 with Standard Force Module and stylus Ø 4 x &lt; 30 mm</li> <li>SP25M with Module SM25-1 and stylus Ø 4 x &lt; 30 mm</li> <li>SP80 with stylus Ø 5 x 50 mm</li> <li>REVO with RSP3-3 and stylus Ø 4 x &lt; 30 mm</li> <li>PH20 with Standard Force Module and stylus Ø 4 x &lt; 10 mm</li> </ul> </div> <div> <b>(2) DIN EN ISO 10360-2:2010-06</b><br/> <b>Maximum permissible length measurement error <math>E_{L,MPE} (E_{0,MPE} / E_{150,MPE})</math></b> <ul style="list-style-type: none"> <li>TP20 with Standard Force Module and stylus Ø 4 x &lt; 30 mm</li> <li>TP200 with Standard Force Module and stylus Ø 4 x &lt; 30 mm</li> <li>SP25M with Module SM25-1 and stylus Ø 4 x &lt; 30 mm</li> <li>SP80 with stylus Ø 5 x 50 mm</li> <li>REVO with RSP3-3 and stylus Ø 4 x &lt; 30 mm</li> <li>PH20 with Standard Force Module and stylus Ø 4 x &lt; 30 mm</li> <li>Measuring length L in mm</li> </ul> </div> <div> <b>(3) DIN EN ISO 10360-5:2020-11</b><br/> <b>Maximum permissible scanning mode form error on a sphere <math>P_{Form.Sph.Scan:PP:Tact,MPE}</math></b> <ul style="list-style-type: none"> <li>SP25M with Module SM25-1 and stylus Ø 4 x &lt; 30 mm</li> <li>SP80 with stylus Ø 5 x 50 mm</li> <li>REVO with RSP3-3 and stylus Ø 4 x &lt; 30 mm</li> </ul> </div> </div> <div>* accuracy values are achieved by incorporating of the temperature compensation</div> |      |                |             |                |             |             |             |             |             |             |             |

Table 9: Technical Data LH 85

| Device type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   | LH 85     |      |      | Unit |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------|------|------|------|
| Measuring range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | X                 | 800       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Y <sup>(1)</sup>  | 1000      | 1500 | 2000 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Z                 | 500       |      |      | mm   |
| Overall dimensions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | L                 | 1969      | 2469 | 2969 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W                 | 1536      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H <sup>(2)</sup>  | 2536      |      |      | mm   |
| Working area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | L1                | 1780      | 2280 | 2780 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L2                | 236       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L3                | 315       | 402  | 493  | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L4                | 1150      | 1475 | 1795 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L5                | 1573      | 1898 | 2218 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W1                | 1054      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W2                | 272       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W3                | 900       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W4                | 260       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H2 <sup>(2)</sup> | 750       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H3                | 748       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H4 <sup>(3)</sup> | 63        |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H5                | 671       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H6                | 1266      | 1316 | 1366 | mm   |
| Grid dimension threaded insert (M10) base plate <sup>(4)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   | 200 x 200 |      |      | mm   |
| Minimum distance to the ceiling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H1                | ≥ 50      |      |      | mm   |
| Minimum distance to the wall                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   | ≥ 500     |      |      | mm   |
| Device weight                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   | 2250      | 3190 | 4325 | kg   |
| Maximum permissible workpiece weight <sup>(5)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   | 590       | 1160 | 2130 | kg   |
| <sup>(1)</sup> further measuring ranges available on request<br><sup>(2)</sup> with active vibration damping system: height + max. 10 mm (optional)<br><sup>(3)</sup> with probe system PH10M PLUS / dimension varies depending on the used probe system<br><sup>(4)</sup> from measuring range Y > 2000 mm the grid dimension is 200 x 400 mm; further grid dimensions available on request<br><sup>(5)</sup> with centric loading and under the requirement that the workpiece support points fulfil the following condition: distance of the workpiece support points ≥ 75% Y measuring range |                   |           |      |      |      |

Table 10: Dimensions and weights LH 85

Technical Data LH 87

| Device type                                                                                                |      | LH 87          |             |                |             |             |             |             |             |             |             |
|------------------------------------------------------------------------------------------------------------|------|----------------|-------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Accuracies*                                                                                                |      | Premium-Select |             | Premium        |             |             | Standard    |             |             |             |             |
| Probe system                                                                                               |      | SP25M          | SP80 REVO   | SP25M          | SP80 REVO   | TP200       | SP25M       | SP80 REVO   | TP200       | PH20        | TP20        |
| Measurement reference temperature                                                                          |      | 19 °C to 21 °C |             | 18 °C to 22 °C |             |             |             |             |             |             |             |
| Maximum permissible length measurement error <sup>(2)</sup><br>$E_{L,MPE} (E_{0,MPE} / E_{150,MPE})$       | [µm] | 0.8 + L/450    | 1.0 + L/450 | 1.0 + L/400    | 1.2 + L/400 | 1.3 + L/400 | 1.2 + L/350 | 1.4 + L/350 | 1.5 + L/350 | 1.6 + L/350 | 1.7 + L/350 |
| Maximum permissible repeatability range of the length measurement error <sup>(2)</sup><br>$R_{0,MPL}$      | [µm] | 0.6            | 0.8         | 0.8            | 1.0         | 1.1         | 1.0         | 1.1         | 1.2         | 1.3         | 1.4         |
| Maximum permissible single-stylus form error <sup>(1)</sup><br>$P_{Form.Sph.1 \times 25.SS:Tact,MPE}$      | [µm] | 0.8            | 1.0         | 1.0            | 1.2         | 1.3         | 1.2         | 1.4         | 1.5         | 1.6         | 1.7         |
| Maximum permissible scanning mode form error on a sphere <sup>(3)</sup><br>$P_{Form.Sph.Scan:PP:Tact,MPE}$ | [µm] | 1.1            | 1.3         | 1.3            | 1.5         | -           | 1.5         | 1.7         | -           | -           | -           |
| Maximum permissible scanning mode time <sup>(3)</sup><br>$T_{Sph.Scan:PP:Tact,MPL}$                        | [s]  | 72             | 72          | 72             | 72          | -           | 72          | 72          | -           | -           | -           |
| Ext. measurement ref. temperature                                                                          |      | -              |             | 16 °C to 26 °C |             |             |             |             |             |             |             |
| Maximum permissible length measurement error <sup>(2)</sup><br>$E_{L,MPE} (E_{0,MPE} / E_{150,MPE})$       | [µm] | -              | -           | 1.6 + L/200    | 1.8 + L/200 | 1.9 + L/200 | 1.8 + L/200 | 2.0 + L/200 | 2.1 + L/200 | 2.2 + L/200 | 2.3 + L/200 |
| Maximum permissible repeatability range of the length measurement error <sup>(2)</sup><br>$R_{0,MPL}$      | [µm] | -              | -           | 1.3            | 1.5         | 1.5         | 1.5         | 1.6         | 1.7         | 1.8         | 1.9         |
| Maximum permissible single-stylus form error <sup>(1)</sup><br>$P_{Form.Sph.1 \times 25.SS:Tact,MPE}$      | [µm] | -              | -           | 1.6            | 1.8         | 1.9         | 1.8         | 2.0         | 2.1         | 2.2         | 2.3         |
| Maximum permissible scanning mode form error on a sphere <sup>(3)</sup><br>$P_{Form.Sph.Scan:PP:Tact,MPE}$ | [µm] | -              | -           | 1.9            | 2.1         | -           | 2.1         | 2.3         | -           | -           | -           |
| Maximum permissible scanning mode time <sup>(3)</sup><br>$T_{Sph.Scan:PP:Tact,MPL}$                        | [s]  | -              | -           | 72             | 72          | -           | 72          | 72          | -           | -           | -           |

(1) DIN EN ISO 10360-5:2020-11

Maximum permissible single-stylus form error  $P_{Form.Sph.1 \times 25.SS:Tact,MPE}$

- TP20 with Standard Force Module and stylus Ø 4 x 10 mm
- TP200 with Standard Force Module and stylus Ø 4 x < 30 mm
- SP25M with Module SM25-1 and stylus Ø 4 x < 30 mm
- SP80 with stylus Ø 5 x 50 mm
- REVO with RSP3-3 and stylus Ø 4 x < 30 mm
- PH20 with Standard Force Module and stylus Ø 4 x < 10 mm

(2) DIN EN ISO 10360-2:2010-06

Maximum permissible length measurement error  $E_{L,MPE} (E_{0,MPE} / E_{150,MPE})$

- TP20 with Standard Force Module and stylus Ø 4 x < 30 mm
- TP200 with Standard Force Module and stylus Ø 4 x < 30 mm
- SP25M with Module SM25-1 and stylus Ø 4 x < 30 mm
- SP80 with stylus Ø 5 x 50 mm
- REVO with RSP3-3 and stylus Ø 4 x < 30 mm
- PH20 with Standard Force Module and stylus Ø 4 x < 30 mm
- Measuring length L in mm

(3) DIN EN ISO 10360-5:2020-11

Maximum permissible scanning mode form error on a sphere  $P_{Form.Sph.Scan:PP:Tact,MPE}$

- SP25M with Module SM25-1 and stylus Ø 4 x < 30 mm
- SP80 with stylus Ø 5 x 50 mm
- REVO with RSP3-3 and stylus Ø 4 x < 30 mm

\* accuracy values are achieved by incorporating of the temperature compensation

Table 11: Technical Data LH 87

| Device type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   | LH 87     |      |      | Unit |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------|------|------|------|
| Measuring range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | X                 | 800       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Y <sup>(1)</sup>  | 1000      | 1500 | 2000 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Z                 | 700       |      |      | mm   |
| Overall dimensions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | L                 | 1969      | 2469 | 2969 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W                 | 1536      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H <sup>(2)</sup>  | 2936      |      |      | mm   |
| Working area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | L1                | 1780      | 2280 | 2780 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L2                | 236       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L3                | 315       | 402  | 493  | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L4                | 1150      | 1475 | 1795 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L5                | 1573      | 1898 | 2218 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W1                | 1054      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W2                | 272       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W3                | 900       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W4                | 260       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H2 <sup>(2)</sup> | 750       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H3                | 948       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H4 <sup>(3)</sup> | 63        |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H5                | 871       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H6                | 1466      | 1516 | 1566 | mm   |
| Grid dimension threaded insert (M10) base plate <sup>(4)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   | 200 x 200 |      |      | mm   |
| Minimum distance to the ceiling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H1                | ≥ 50      |      |      | mm   |
| Minimum distance to the wall                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   | ≥ 500     |      |      | mm   |
| Device weight                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   | 2270      | 3210 | 4345 | kg   |
| Maximum permissible workpiece weight <sup>(5)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   | 590       | 1160 | 2130 | kg   |
| <sup>(1)</sup> further measuring ranges available on request<br><sup>(2)</sup> with active vibration damping system: height + max. 10 mm (optional)<br><sup>(3)</sup> with probe system PH10M PLUS / dimension varies depending on the used probe system<br><sup>(4)</sup> from measuring range Y > 2000 mm the grid dimension is 200 x 400 mm; further grid dimensions available on request<br><sup>(5)</sup> with centric loading and under the requirement that the workpiece support points fulfil the following condition: distance of the workpiece support points ≥ 75% Y measuring range |                   |           |      |      |      |

Table 12: Dimensions and weights LH 87

Technical Data LH 104

| Device type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      | LH 104         |             |                |             |                                                                                                                                                                                                                                                                                                                                                              |             |             |             |             |             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------------|-------------|----------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|
| Accuracies*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      | Premium-Select |             | Premium        |             |                                                                                                                                                                                                                                                                                                                                                              | Standard    |             |             |             |             |
| Probe system                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      | SP25M          | SP80 REVO   | SP25M          | SP80 REVO   | TP200                                                                                                                                                                                                                                                                                                                                                        | SP25M       | SP80 REVO   | TP200       | PH20        | TP20        |
| Measurement reference temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      | 19 °C to 21 °C |             | 18 °C to 22 °C |             |                                                                                                                                                                                                                                                                                                                                                              |             |             |             |             |             |
| Maximum permissible length measurement error <sup>(2)</sup><br>$E_{L,MPE} (E_{0,MPE} / E_{150,MPE})$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | [µm] | 0.9 + L/450    | 1.1 + L/450 | 1.1 + L/400    | 1.3 + L/400 | 1.4 + L/400                                                                                                                                                                                                                                                                                                                                                  | 1.3 + L/350 | 1.5 + L/350 | 1.6 + L/350 | 1.7 + L/350 | 1.8 + L/350 |
| Maximum permissible repeatability range of the length measurement error <sup>(2)</sup><br>$R_{0,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | [µm] | 0.7            | 0.9         | 0.9            | 1.1         | 1.2                                                                                                                                                                                                                                                                                                                                                          | 1.0         | 1.2         | 1.3         | 1.4         | 1.5         |
| Maximum permissible single-stylus form error <sup>(1)</sup><br>$P_{Form.Sph.1 \times 25.SS:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | [µm] | 0.9            | 1.1         | 1.1            | 1.3         | 1.4                                                                                                                                                                                                                                                                                                                                                          | 1.3         | 1.5         | 1.6         | 1.7         | 1.8         |
| Maximum permissible scanning mode form error on a sphere <sup>(3)</sup><br>$P_{Form.Sph.Scan:PP:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | [µm] | 1.2            | 1.4         | 1.4            | 1.6         | -                                                                                                                                                                                                                                                                                                                                                            | 1.6         | 1.8         | -           | -           | -           |
| Maximum permissible scanning mode time <sup>(3)</sup><br>$T_{Sph.Scan:PP:Tact,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | [s]  | 72             | 72          | 72             | 72          | -                                                                                                                                                                                                                                                                                                                                                            | 72          | 72          | -           | -           | -           |
| Ext. measurement ref. temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      | -              |             | 16 °C to 26 °C |             |                                                                                                                                                                                                                                                                                                                                                              |             |             |             |             |             |
| Maximum permissible length measurement error <sup>(2)</sup><br>$E_{L,MPE} (E_{0,MPE} / E_{150,MPE})$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | [µm] | -              | -           | 1.7 + L/200    | 1.9 + L/200 | 2.0 + L/200                                                                                                                                                                                                                                                                                                                                                  | 1.9 + L/200 | 2.1 + L/200 | 2.2 + L/200 | 2.3 + L/200 | 2.4 + L/200 |
| Maximum permissible repeatability range of the length measurement error <sup>(2)</sup><br>$R_{0,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | [µm] | -              | -           | 1.4            | 1.6         | 1.6                                                                                                                                                                                                                                                                                                                                                          | 1.5         | 1.7         | 1.8         | 1.9         | 2.0         |
| Maximum permissible single-stylus form error <sup>(1)</sup><br>$P_{Form.Sph.1 \times 25.SS:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | [µm] | -              | -           | 1.7            | 1.9         | 2.0                                                                                                                                                                                                                                                                                                                                                          | 1.9         | 2.1         | 2.2         | 2.3         | 2.4         |
| Maximum permissible scanning mode form error on a sphere <sup>(3)</sup><br>$P_{Form.Sph.Scan:PP:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | [µm] | -              | -           | 2.0            | 2.2         | -                                                                                                                                                                                                                                                                                                                                                            | 2.2         | 2.4         | -           | -           | -           |
| Maximum permissible scanning mode time <sup>(3)</sup><br>$T_{Sph.Scan:PP:Tact,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | [s]  | -              | -           | 72             | 72          | -                                                                                                                                                                                                                                                                                                                                                            | 72          | 72          | -           | -           | -           |
| <b>(1) DIN EN ISO 10360-5:2020-11</b><br><b>Maximum permissible single-stylus form error <math>P_{Form.Sph.1 \times 25.SS:Tact,MPE}</math></b> <ul style="list-style-type: none"> <li>• TP20 with Standard Force Module and stylus Ø 4 x 10 mm</li> <li>• TP200 with Standard Force Module and stylus Ø 4 x &lt; 30 mm</li> <li>• SP25M with Module SM25-1 and stylus Ø 4 x &lt; 30 mm</li> <li>• SP80 with stylus Ø 5 x 50 mm</li> <li>• REVO with RSP3-3 and stylus Ø 4 x &lt; 30 mm</li> <li>• PH20 with Standard Force Module and stylus Ø 4 x &lt; 10 mm</li> </ul>                                         |      |                |             |                |             | <b>(3) DIN EN ISO 10360-5:2020-11</b><br><b>Maximum permissible scanning mode form error on a sphere <math>P_{Form.Sph.Scan:PP:Tact,MPE}</math></b> <ul style="list-style-type: none"> <li>• SP25M with Module SM25-1 and stylus Ø 4 x &lt; 30 mm</li> <li>• SP80 with stylus Ø 5 x 50 mm</li> <li>• REVO with RSP3-3 and stylus Ø 4 x &lt; 30 mm</li> </ul> |             |             |             |             |             |
| <b>(2) DIN EN ISO 10360-2:2010-06</b><br><b>Maximum permissible length measurement error <math>E_{L,MPE} (E_{0,MPE} / E_{150,MPE})</math></b> <ul style="list-style-type: none"> <li>• TP20 with Standard Force Module and stylus Ø 4 x &lt; 30 mm</li> <li>• TP200 with Standard Force Module and stylus Ø 4 x &lt; 30 mm</li> <li>• SP25M with Module SM25-1 and stylus Ø 4 x &lt; 30 mm</li> <li>• SP80 with stylus Ø 5 x 50 mm</li> <li>• REVO with RSP3-3 and stylus Ø 4 x &lt; 30 mm</li> <li>• PH20 with Standard Force Module and stylus Ø 4 x &lt; 30 mm</li> <li>• Measuring length L in mm</li> </ul> |      |                |             |                |             | * accuracy values are achieved by incorporating of the temperature compensation                                                                                                                                                                                                                                                                              |             |             |             |             |             |

Table 13: Technical Data LH 104

| Device type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   | LH 104    |      |      | Unit |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------|------|------|------|
| Measuring range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | X                 | 1000      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Y <sup>(1)</sup>  | 1000      | 1500 | 2000 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Z                 | 400       |      |      | mm   |
| Overall dimensions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | L                 | 1969      | 2469 | 2969 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W                 | 1751      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H <sup>(2)</sup>  | 2536      |      |      | mm   |
| Working area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | L1                | 1780      | 2280 | 2780 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L2                | 236       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L3                | 315       | 402  | 493  | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L4                | 1150      | 1475 | 1795 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L5                | 1573      | 1898 | 2218 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W1                | 1269      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W2                | 288       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W3                | 1100      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W4                | 275       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H2 <sup>(2)</sup> | 750       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H3                | 748       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H4 <sup>(3)</sup> | 63        |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H5                | 671       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H6                | 1266      | 1316 | 1366 | mm   |
| Grid dimension threaded insert (M10) base plate <sup>(4)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   | 200 x 200 |      |      | mm   |
| Minimum distance to the ceiling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H1                | ≥ 50      |      |      | mm   |
| Minimum distance to the wall                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   | ≥ 500     |      |      | mm   |
| Device weight                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   | 2550      | 3635 | 4950 | kg   |
| Maximum permissible workpiece weight <sup>(5)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   | 680       | 1340 | 1520 | kg   |
| <sup>(1)</sup> further measuring ranges available on request<br><sup>(2)</sup> with active vibration damping system: height + max. 10 mm (optional)<br><sup>(3)</sup> with probe system PH10M PLUS / dimension varies depending on the used probe system<br><sup>(4)</sup> from measuring range Y > 2000 mm the grid dimension is 200 x 400 mm; further grid dimensions available on request<br><sup>(5)</sup> with centric loading and under the requirement that the workpiece support points fulfil the following condition: distance of the workpiece support points ≥ 75% Y measuring range |                   |           |      |      |      |

Table 14: Dimensions and weights LH 104

Technical Data LH 105

| Device type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      | LH 105         |             |                |             |             |             |             |             |             |             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------------|-------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Accuracies*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      | Premium-Select |             | Premium        |             |             | Standard    |             |             |             |             |
| Probe system                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      | SP25M          | SP80 REVO   | SP25M          | SP80 REVO   | TP200       | SP25M       | SP80 REVO   | TP200       | PH20        | TP20        |
| Measurement reference temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      | 19 °C to 21 °C |             | 18 °C to 22 °C |             |             |             |             |             |             |             |
| Maximum permissible length measurement error <sup>(2)</sup><br>$E_{L,MPE} (E_{0,MPE} / E_{150,MPE})$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | [µm] | 0.9 + L/450    | 1.1 + L/450 | 1.1 + L/400    | 1.3 + L/400 | 1.4 + L/400 | 1.3 + L/350 | 1.5 + L/350 | 1.6 + L/350 | 1.7 + L/350 | 1.8 + L/350 |
| Maximum permissible repeatability range of the length measurement error <sup>(2)</sup><br>$R_{0,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | [µm] | 0.7            | 0.9         | 0.9            | 1.1         | 1.2         | 1.0         | 1.2         | 1.3         | 1.4         | 1.5         |
| Maximum permissible single-stylus form error <sup>(1)</sup><br>$P_{Form.Sph.1 \times 25:SS:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | [µm] | 0.9            | 1.1         | 1.1            | 1.3         | 1.4         | 1.3         | 1.5         | 1.6         | 1.7         | 1.8         |
| Maximum permissible scanning mode form error on a sphere <sup>(3)</sup><br>$P_{Form.Sph.Scan:PP:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | [µm] | 1.2            | 1.4         | 1.4            | 1.6         | -           | 1.6         | 1.8         | -           | -           | -           |
| Maximum permissible scanning mode time <sup>(3)</sup><br>$T_{Sph.Scan:PP:Tact,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | [s]  | 72             | 72          | 72             | 72          | -           | 72          | 72          | -           | -           | -           |
| Ext. measurement ref. temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      | -              |             | 16 °C to 26 °C |             |             |             |             |             |             |             |
| Maximum permissible length measurement error <sup>(2)</sup><br>$E_{L,MPE} (E_{0,MPE} / E_{150,MPE})$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | [µm] | -              | -           | 1.7 + L/200    | 1.9 + L/200 | 2.0 + L/200 | 1.9 + L/200 | 2.1 + L/200 | 2.2 + L/200 | 2.3 + L/200 | 2.4 + L/200 |
| Maximum permissible repeatability range of the length measurement error <sup>(2)</sup><br>$R_{0,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | [µm] | -              | -           | 1.4            | 1.6         | 1.6         | 1.5         | 1.7         | 1.8         | 1.9         | 2.0         |
| Maximum permissible single-stylus form error <sup>(1)</sup><br>$P_{Form.Sph.1 \times 25:SS:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | [µm] | -              | -           | 1.7            | 1.9         | 2.0         | 1.9         | 2.1         | 2.2         | 2.3         | 2.4         |
| Maximum permissible scanning mode form error on a sphere <sup>(3)</sup><br>$P_{Form.Sph.Scan:PP:Tact,MPE}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | [µm] | -              | -           | 2.0            | 2.2         | -           | 2.2         | 2.4         | -           | -           | -           |
| Maximum permissible scanning mode time <sup>(3)</sup><br>$T_{Sph.Scan:PP:Tact,MPL}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | [s]  | -              | -           | 72             | 72          | -           | 72          | 72          | -           | -           | -           |
| <div> <div> <b>(1) DIN EN ISO 10360-5:2020-11</b><br/> <b>Maximum permissible single-stylus form error <math>P_{Form.Sph.1 \times 25:SS:Tact,MPE}</math></b> <ul style="list-style-type: none"> <li>TP20 with Standard Force Module and stylus Ø 4 x 10 mm</li> <li>TP200 with Standard Force Module and stylus Ø 4 x &lt; 30 mm</li> <li>SP25M with Module SM25-1 and stylus Ø 4 x &lt; 30 mm</li> <li>SP80 with stylus Ø 5 x 50 mm</li> <li>REVO with RSP3-3 and stylus Ø 4 x &lt; 30 mm</li> <li>PH20 with Standard Force Module and stylus Ø 4 x &lt; 10 mm</li> </ul> </div> <div> <b>(2) DIN EN ISO 10360-2:2010-06</b><br/> <b>Maximum permissible length measurement error <math>E_{L,MPE} (E_{0,MPE} / E_{150,MPE})</math></b> <ul style="list-style-type: none"> <li>TP20 with Standard Force Module and stylus Ø 4 x &lt; 30 mm</li> <li>TP200 with Standard Force Module and stylus Ø 4 x &lt; 30 mm</li> <li>SP25M with Module SM25-1 and stylus Ø 4 x &lt; 30 mm</li> <li>SP80 with stylus Ø 5 x 50 mm</li> <li>REVO with RSP3-3 and stylus Ø 4 x &lt; 30 mm</li> <li>PH20 with Standard Force Module and stylus Ø 4 x &lt; 30 mm</li> <li>Measuring length L in mm</li> </ul> </div> <div> <b>(3) DIN EN ISO 10360-5:2020-11</b><br/> <b>Maximum permissible scanning mode form error on a sphere <math>P_{Form.Sph.Scan:PP:Tact,MPE}</math></b> <ul style="list-style-type: none"> <li>SP25M with Module SM25-1 and stylus Ø 4 x &lt; 30 mm</li> <li>SP80 with stylus Ø 5 x 50 mm</li> <li>REVO with RSP3-3 and stylus Ø 4 x &lt; 30 mm</li> </ul> </div> </div> <div>* accuracy values are achieved by incorporating of the temperature compensation</div> |      |                |             |                |             |             |             |             |             |             |             |

Table 15: Technical Data LH 105

| Device type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   | LH 105    |      |      | Unit |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------|------|------|------|
| Measuring range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | X                 | 1000      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Y <sup>(1)</sup>  | 1000      | 1500 | 2000 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Z                 | 500       |      |      | mm   |
| Overall dimensions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | L                 | 1969      | 2469 | 2969 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W                 | 1751      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H <sup>(2)</sup>  | 2536      |      |      | mm   |
| Working area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | L1                | 1780      | 2280 | 2780 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L2                | 236       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L3                | 315       | 402  | 493  | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L4                | 1150      | 1475 | 1795 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L5                | 1573      | 1898 | 2218 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W1                | 1269      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W2                | 288       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W3                | 1100      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W4                | 275       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H2 <sup>(2)</sup> | 750       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H3                | 748       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H4 <sup>(3)</sup> | 63        |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H5                | 671       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H6                | 1266      | 1316 | 1366 | mm   |
| Grid dimension threaded insert (M10) base plate <sup>(4)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   | 200 x 200 |      |      | mm   |
| Minimum distance to the ceiling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H1                | ≥ 50      |      |      | mm   |
| Minimum distance to the wall                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   | ≥ 500     |      |      | mm   |
| Device weight                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   | 2550      | 3635 | 4950 | kg   |
| Maximum permissible workpiece weight <sup>(5)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   | 680       | 1340 | 1520 | kg   |
| <sup>(1)</sup> further measuring ranges available on request<br><sup>(2)</sup> with active vibration damping system: height + max. 10 mm (optional)<br><sup>(3)</sup> with probe system PH10M PLUS / dimension varies depending on the used probe system<br><sup>(4)</sup> from measuring range Y > 2000 mm the grid dimension is 200 x 400 mm; further grid dimensions available on request<br><sup>(5)</sup> with centric loading and under the requirement that the workpiece support points fulfil the following condition: distance of the workpiece support points ≥ 75% Y measuring range |                   |           |      |      |      |

Table 16: Dimensions and weights LH 105

Technical Data LH 107

| Device type                                                                                                |      | LH 107         |             |                |             |             |             |             |             |             |             |
|------------------------------------------------------------------------------------------------------------|------|----------------|-------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Accuracies*                                                                                                |      | Premium-Select |             | Premium        |             |             | Standard    |             |             |             |             |
| Probe system                                                                                               |      | SP25M          | SP80 REVO   | SP25M          | SP80 REVO   | TP200       | SP25M       | SP80 REVO   | TP200       | PH20        | TP20        |
| Measurement reference temperature                                                                          |      | 19 °C to 21 °C |             | 18 °C to 22 °C |             |             |             |             |             |             |             |
| Maximum permissible length measurement error <sup>(2)</sup><br>$E_{L,MPE} (E_{0,MPE} / E_{150,MPE})$       | [µm] | 1.0 + L/450    | 1.2 + L/450 | 1.2 + L/400    | 1.4 + L/400 | 1.5 + L/400 | 1.4 + L/350 | 1.6 + L/350 | 1.7 + L/350 | 1.8 + L/350 | 1.9 + L/350 |
| Maximum permissible repeatability range of the length measurement error <sup>(2)</sup><br>$R_{0,MPL}$      | [µm] | 0.8            | 1.0         | 1.0            | 1.2         | 1.3         | 1.1         | 1.3         | 1.4         | 1.5         | 1.6         |
| Maximum permissible single-stylus form error <sup>(1)</sup><br>$P_{Form.Sph.1 \times 25:SS:Tact,MPE}$      | [µm] | 1.0            | 1.2         | 1.2            | 1.4         | 1.5         | 1.4         | 1.6         | 1.7         | 1.8         | 1.9         |
| Maximum permissible scanning mode form error on a sphere <sup>(3)</sup><br>$P_{Form.Sph.Scan:PP:Tact,MPE}$ | [µm] | 1.3            | 1.5         | 1.5            | 1.7         | -           | 1.7         | 1.9         | -           | -           | -           |
| Maximum permissible scanning mode time <sup>(3)</sup><br>$T_{Sph.Scan:PP:Tact,MPL}$                        | [s]  | 72             | 72          | 72             | 72          | -           | 72          | 72          | -           | -           | -           |
| Ext. measurement ref. temperature                                                                          |      | -              |             | 16 °C to 26 °C |             |             |             |             |             |             |             |
| Maximum permissible length measurement error <sup>(2)</sup><br>$E_{L,MPE} (E_{0,MPE} / E_{150,MPE})$       | [µm] | -              | -           | 1.8 + L/200    | 2.0 + L/200 | 2.1 + L/200 | 2.0 + L/200 | 2.2 + L/200 | 2.3 + L/200 | 2.4 + L/200 | 2.5 + L/200 |
| Maximum permissible repeatability range of the length measurement error <sup>(2)</sup><br>$R_{0,MPL}$      | [µm] | -              | -           | 1.5            | 1.7         | 1.7         | 1.6         | 1.8         | 1.9         | 2.0         | 2.1         |
| Maximum permissible single-stylus form error <sup>(1)</sup><br>$P_{Form.Sph.1 \times 25:SS:Tact,MPE}$      | [µm] | -              | -           | 1.8            | 2.0         | 2.1         | 2.0         | 2.2         | 2.3         | 2.4         | 2.5         |
| Maximum permissible scanning mode form error on a sphere <sup>(3)</sup><br>$P_{Form.Sph.Scan:PP:Tact,MPE}$ | [µm] | -              | -           | 2.1            | 2.3         | -           | 2.3         | 2.5         | -           | -           | -           |
| Maximum permissible scanning mode time <sup>(3)</sup><br>$T_{Sph.Scan:PP:Tact,MPL}$                        | [s]  | -              | -           | 72             | 72          | -           | 72          | 72          | -           | -           | -           |

(1) DIN EN ISO 10360-5:2020-11

Maximum permissible single-stylus form error  $P_{Form.Sph.1 \times 25:SS:Tact,MPE}$

- TP20 with Standard Force Module and stylus Ø 4 x 10 mm
- TP200 with Standard Force Module and stylus Ø 4 x < 30 mm
- SP25M with Module SM25-1 and stylus Ø 4 x < 30 mm
- SP80 with stylus Ø 5 x 50 mm
- REVO with RSP3-3 and stylus Ø 4 x < 30 mm
- PH20 with Standard Force Module and stylus Ø 4 x < 10 mm

(2) DIN EN ISO 10360-2:2010-06

Maximum permissible length measurement error  $E_{L,MPE} (E_{0,MPE} / E_{150,MPE})$

- TP20 with Standard Force Module and stylus Ø 4 x < 30 mm
- TP200 with Standard Force Module and stylus Ø 4 x < 30 mm
- SP25M with Module SM25-1 and stylus Ø 4 x < 30 mm
- SP80 with stylus Ø 5 x 50 mm
- REVO with RSP3-3 and stylus Ø 4 x < 30 mm
- PH20 with Standard Force Module and stylus Ø 4 x < 30 mm
- Measuring length L in mm

(3) DIN EN ISO 10360-5:2020-11

Maximum permissible scanning mode form error on a sphere  $P_{Form.Sph.Scan:PP:Tact,MPE}$

- SP25M with Module SM25-1 and stylus Ø 4 x < 30 mm
- SP80 with stylus Ø 5 x 50 mm
- REVO with RSP3-3 and stylus Ø 4 x < 30 mm

\* accuracy values are achieved by incorporating of the temperature compensation

Table 17: Technical Data LH 107

| Device type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   | LH 107    |      |      | Unit |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------|------|------|------|
| Measuring range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | X                 | 1000      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Y <sup>(1)</sup>  | 1000      | 1500 | 2000 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Z                 | 700       |      |      | mm   |
| Overall dimensions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | L                 | 1969      | 2469 | 2969 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W                 | 1751      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H <sup>(2)</sup>  | 2936      |      |      | mm   |
| Working area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | L1                | 1780      | 2280 | 2780 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L2                | 236       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L3                | 315       | 402  | 493  | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L4                | 1150      | 1475 | 1795 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | L5                | 1573      | 1898 | 2218 | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W1                | 1269      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W2                | 288       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W3                | 1100      |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | W4                | 275       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H2 <sup>(2)</sup> | 750       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H3                | 948       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H4 <sup>(3)</sup> | 63        |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H5                | 871       |      |      | mm   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H6                | 1466      | 1516 | 1566 | mm   |
| Grid dimension threaded insert (M10) base plate <sup>(4)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   | 200 x 200 |      |      | mm   |
| Minimum distance to the ceiling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | H1                | ≥ 50      |      |      | mm   |
| Minimum distance to the wall                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   | ≥ 500     |      |      | mm   |
| Device weight                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   | 2575      | 3660 | 4975 | kg   |
| Maximum permissible workpiece weight <sup>(5)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   | 680       | 1340 | 1520 | kg   |
| <sup>(1)</sup> further measuring ranges available on request<br><sup>(2)</sup> with active vibration damping system: height + max. 10 mm (optional)<br><sup>(3)</sup> with probe system PH10M PLUS / dimension varies depending on the used probe system<br><sup>(4)</sup> from measuring range Y > 2000 mm the grid dimension is 200 x 400 mm; further grid dimensions available on request<br><sup>(5)</sup> with centric loading and under the requirement that the workpiece support points fulfil the following condition: distance of the workpiece support points ≥ 75% Y measuring range |                   |           |      |      |      |

Table 18: Dimensions and weights LH 107

# Layout LH-S

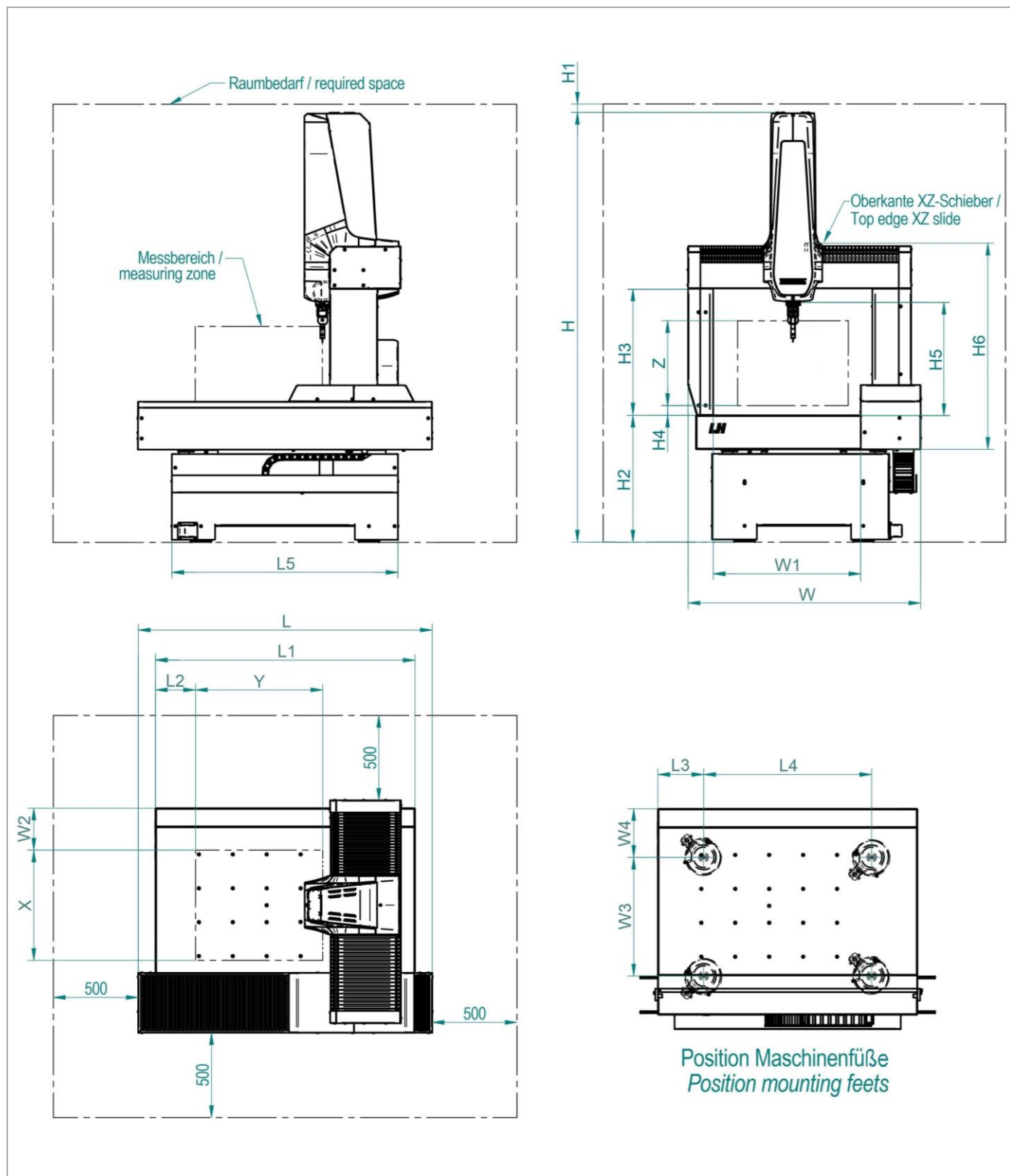


Figure 1: Layout LH-S

## Measuring system

| Measuring system        |                  | Premium-Select                                 | Premium   Standard |
|-------------------------|------------------|------------------------------------------------|--------------------|
| Length measuring system |                  | Photoelectric reflected light measuring system |                    |
|                         | optical division | 20.0 $\mu\text{m}$                             |                    |
|                         | resolution       | 0.02 $\mu\text{m}$                             | 0.1 $\mu\text{m}$  |

Table 19: Measuring system LH-S

## Measurement reference temperature

| Measurement reference temperature | Premium-Select                  | Premium   Standard              |
|-----------------------------------|---------------------------------|---------------------------------|
| Temperature range for $E_{L,MPE}$ | 19 °C to 21 °C                  | 18 °C to 22 °C                  |
| per day                           | 1.0 $^{\circ}\text{C}/\text{d}$ | 2.0 $^{\circ}\text{C}/\text{d}$ |
| per hour                          | 0.5 $^{\circ}\text{C}/\text{h}$ | 1.0 $^{\circ}\text{C}/\text{h}$ |
| spatial                           | 0.5 $^{\circ}\text{C}/\text{m}$ | 1.0 $^{\circ}\text{C}/\text{m}$ |

Table 20: Measurement reference temperature LH-S

| Extended measurement reference temperature | Premium-Select | Premium   Standard              |
|--------------------------------------------|----------------|---------------------------------|
| Temperature range for $E_{L,MPE}$          | -              | 16 °C to 26 °C                  |
| per day                                    | -              | 3.0 $^{\circ}\text{C}/\text{d}$ |
| per hour                                   | -              | 1.5 $^{\circ}\text{C}/\text{h}$ |
| spatial                                    | -              | 1.5 $^{\circ}\text{C}/\text{m}$ |

Table 21: Extended measurement reference temperature LH-S

## Dynamic

| Dynamic <sup>(1)</sup>            |            | Premium-Select         | Premium   Standard |
|-----------------------------------|------------|------------------------|--------------------|
| Joystick mode<br>$v_{\text{max}}$ | creep mode | 0 to 20 mm/s           |                    |
|                                   | normal     | 0 to 100 mm/s          |                    |
| CNC mode<br>$v_{\text{max}}$      | axis       | 300 mm/s               | 400 mm/s           |
|                                   | vector     | 520 mm/s               | 690 mm/s           |
| CNC mode<br>$a_{\text{max}}$      | axis       | 1200 mm/s <sup>2</sup> |                    |
|                                   | vector     | 2000 mm/s <sup>2</sup> |                    |

(1) depending on the used controller

Table 22: Dynamic LH-S

## Operating conditions

| Operating conditions                                          |                                                                                                                     |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Environmental conditions                                      |                                                                                                                     |
| Ambient temperature range                                     | 15 °C to 30 °C                                                                                                      |
| Relative humidity                                             | 40 % to 70 % (non-condensing)                                                                                       |
| Max. height of the installation site                          | 2000 m above sea level                                                                                              |
| Electrical connection values                                  |                                                                                                                     |
|                                                               | Electricity quality according to EN 60204-1:2019-06                                                                 |
|                                                               | single-phase alternating current (1P+N+PE), 115/230 V (±10 %), 50/60 Hz                                             |
|                                                               | Power consumption max. 1000 VA                                                                                      |
| Pneumatic connection values                                   |                                                                                                                     |
| LH-S<br>with elastomer vibration damping system               | Supply pressure min. 6 bar, max. 10 bar, pre-filtered                                                               |
|                                                               | Compressed air quality according to DIN ISO 8573-1:2010 [5:4:4]                                                     |
|                                                               | Air consumption ø 52 NI/min, max. 71 NI/min                                                                         |
| LH-S<br>with pneumatic vibration damping system<br>(optional) | Supply pressure min. 6 bar, max. 10 bar, pre-filtered                                                               |
|                                                               | Compressed air quality according to DIN ISO 8573-1:2010 [4:3:0],<br>max. total oil content: 0.003 mg/m <sup>3</sup> |
|                                                               | Air consumption ø 76 NI/min, max. 120 NI/min                                                                        |
| Probe system REVO<br>(optional)                               | Supply pressure min. 5 bar, max. 8.5 bar, pre-filtered                                                              |
|                                                               | Compressed air quality according to DIN ISO 8573-1:2010 [4:4:4]                                                     |
|                                                               | Air consumption max. 50 NI/min                                                                                      |

Table 23: Operating conditions LH-S



