The **Leybold Optics OLCI and Leybold Optics HP OLCI** series of optical measuring devices (optical low-coherence interferometry) were developed for contactless measurement of thicknesses and profiles. The measuring process is based on the principles of optical coherence tomography (OCT), in which light of a low coherence length is used to measure distance by means of an interferometer. The measured objects are scanned at several points. A movable sensor head can scan the surface and/or thickness profile. The depth resolution is only limited by the coherence length of the light source. It is also dependent on the refraction index of the sample.

The measuring devices feature integrated Windows PCs. They can be used as a single workstation solution or as a server. Networking is via simple TCP/IP connections, allowing results to be displayed simultaneously at different points. The devices can also be easily incorporated into existing production processes.

The measuring devices continuously calibrate themselves internally. The measuring arrangements can be implemented individually to customer requirements. Single or multiple-layer measurements are possible.

**Typical applications.**

Measurement of substrate and film thickness
- Optical glass
- Films
- Eye-glass and contact lenses
- Surface coatings and paints
- Barrier coatings
- Adhesives
- Packaging
- Wafer thickness and solar cells
- Tubes and catheters

Used in following Industries:
Glass, ophthalmics, semiconductor, medical, coatings, packaging
Optional mapping system.

The mapping system allows to create xy-surface profiles. All axes are driven by stepper motors. The standard scanning range is up to 300 x 300 mm. Larger range on request.

Technical data.

| Dimensions (H x W x D) | 600 mm x 600 mm x 993 mm |
| Max. sample size (H x W x D) | 70 mm x 300 mm x 300 mm |
| Weight | Approx. 55 kg |

Measurement parameters.

<table>
<thead>
<tr>
<th></th>
<th>Range (mm)</th>
<th>Precision (µm)</th>
<th>Reproducibility (µm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>X-axis (scan)</td>
<td>300</td>
<td>20</td>
<td>3</td>
</tr>
<tr>
<td>Y-axis (scan)</td>
<td>300</td>
<td>20</td>
<td>3</td>
</tr>
<tr>
<td>Z-axis (focus)</td>
<td>80</td>
<td>20</td>
<td>3</td>
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</tbody>
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