Edge Grip End-Effector

**mEG Series**

Features

- different wafer sizes (6”/8”/12”/18”)
- MEMS wafer handling
- back side handling
- conductive PEEK coating
- for loading and unloading of several mechatronic components
- automated quick coupling or adapter (incl. e.g. mapping sensor, speed regulator etc.)

**Functional description**

The edge grip end-effectors (mEG series) are designed for back side handling of MEMS wafers. They enable direct handling of wafers with two flats (primary and secondary flat). The alignment of the wafer is not important for the handling procedure. The edge grip end-effector touches the wafer only at the edge exclusion. The process area is safe. An adapter for special applications is available.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loading</td>
<td>Automated</td>
</tr>
<tr>
<td>Wafer detection</td>
<td>Vacuum sensing or capacitive sensing (with adapter)</td>
</tr>
<tr>
<td>End-effector detection</td>
<td>Type and size</td>
</tr>
<tr>
<td>Centering accuracy (X, Y axis)</td>
<td>n.a.</td>
</tr>
<tr>
<td>Automated coupling</td>
<td>Optional (or with adapter)</td>
</tr>
<tr>
<td>Materials</td>
<td>Stainless steel, anodized aluminum, PEEK, NBR</td>
</tr>
<tr>
<td>PEEK coating</td>
<td>Conductive</td>
</tr>
<tr>
<td>Pneumatic</td>
<td></td>
</tr>
<tr>
<td>Pneumatic media</td>
<td>CDA</td>
</tr>
<tr>
<td>Supply pressure</td>
<td>5.5 – 6.5 bar</td>
</tr>
<tr>
<td>Optimum Bernoulli pressure</td>
<td>n.a.</td>
</tr>
<tr>
<td>Supply Vacuum</td>
<td>-50 kPa to -85 kPa</td>
</tr>
</tbody>
</table>

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**Edge Grip End-Effector**

**mEG** Types & wafer sizes

<table>
<thead>
<tr>
<th>Type</th>
<th>mEG 150</th>
<th>mEG 200</th>
<th>mEG 300 (multiple gripper)</th>
<th>mEG 450</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wafer size</td>
<td>150 mm (6&quot;)</td>
<td>200 mm (8&quot;)</td>
<td>300 mm (12&quot;)</td>
<td>450 mm (18&quot;)</td>
</tr>
<tr>
<td>Wafer thickness</td>
<td>&gt; 200 µm (8 mil)</td>
<td>&gt; 300 µm (12 mil)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Warpage (depends on wafer thickness)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Weight</td>
<td>596 g</td>
<td>690 g</td>
<td>Special design! Drawing on request</td>
<td>Special design! Drawing on request</td>
</tr>
</tbody>
</table>

**Mechanical dimensions in mm**

| A (length) | 313 | 344 |
| B (distance to wafer center) | 233 | 246 |
| C (width of end-effector) | 92 | 128 |
| D (height) | 3.5 | 2.9 |

Special customized designs available!

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