Balancing Machine for Differential Housings

DHK11-F

Applications

- Balancing of car and truck differential housings in high volume production in the automotive O.E.M. and Tier 1 supplier industries.

- Unbalance correction, depending on specification by:
  - drilling on the flange,
  - milling on the flange and/or milling on the cage for two plane compensation.

- Available configurations:
  - Single machine with manual loading (audit),
  - Combination with correction station and automatic loading.

- Types of loading:
  - Manual,
  - Automated with gantry loader,
  - Automated with robot.

Description

- Horizontal hard-bearing balancing machine for measuring and correcting unbalance in one or two planes.

- Workpieces supported on horizontally arranged rollers (maximum flexibility, highest precision).

- Measuring system with overslung or tangential belt drive, depending on the design.

- Unbalance correction with additional correction unit.

- Optional swarf removal by suction unit and workpiece specific exhaust hood.

Advantages

- Uses same reference dates (journal O.D.) as in the vehicle.
- Fully automatic processing.
- Simple repositioning of rollers for high flexibility.
- Easy operation.
- Universal application.
- High precision.
- Permanent calibration.

General view

Clamping and indexing station

Milling on the flange and on the cage

All information is subject to change without notice
1 Measuring station, 2 Clamping station, 3 Milling unit, 4 Swarf extractor, 5 Hydraulics

### Technical data

<table>
<thead>
<tr>
<th></th>
<th>DHK11-FM2</th>
<th>DHK11-FL2</th>
<th>DHK11-FL4</th>
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</thead>
<tbody>
<tr>
<td><strong>Rotor</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Weight, max. (kg)</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Total length, max. (mm)</td>
<td>230</td>
<td>230</td>
<td>230</td>
</tr>
<tr>
<td>Outer dia. on flange, max. (mm)</td>
<td>145</td>
<td>145</td>
<td>145</td>
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<tr>
<td><strong>Machine</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Width x depth x height (mm)</td>
<td>2300 x 3000 x 2800</td>
<td>2300 x 3000 x 4000</td>
<td>3500 x 4200 x 4000</td>
</tr>
<tr>
<td>Balancing speed, approx. (rpm)</td>
<td>600</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>Measuring accuracy (gmm)</td>
<td>&lt; 30</td>
<td>&lt; 30</td>
<td>&lt; 30</td>
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<tr>
<td>Cycle time (at 100 % audit), approx. (sec.)</td>
<td>180</td>
<td>60</td>
<td>30</td>
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<tr>
<td>Stations</td>
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<td>4</td>
</tr>
</tbody>
</table>

1 Depending on workpiece geometry

### Options

- Loading gantry (L)
- Loading robot (R)
- 2 axis milling unit for 2 plane correction
- Marker unit
- Interface with host computer

### Scope of supply

- Horizontal measuring station with belt drive
- Milling unit
- Clamping and indexing station
- Swarf extraction unit
- Measuring unit with keyboard and monitor
- Machine control
- Safety enclosure: class B as per ISO 7475
- Hydraulic unit