An optimised grease distribution and run-in provide the following advantages to your spindle system:

- Optimised speed maximums
- Reduction of operating temperature in the bearing
- Optimised oil release from grease
- Maximum service life
- High operating reliability

The grease distribution and run-in should be carried out in two steps:

1. Short intervals
2. Continuous running

1. **Short intervals**
The spindle should be brought up to speed in short intervals whereas the individual speed is always just a fraction of the nominal speed. The respective partial speed has to be achieved within 20 seconds and should be held for approx. 1 min. The complete cycle should be set up as follows:

- 5 x 1 minute at \( n = n_{\text{max}} \times 0.33 \) - after this 2 min rest
- 5 x 1 minute at \( n = n_{\text{max}} \times 0.66 \) - after this 2 min rest
- 5 x 1 minute at \( n = n_{\text{max}} \times 1.00 \) - after this 2 min rest

2. **Continuous running**
For the continuous running cycle the spindle should be operated at maximal nominal speed (approx. 30 minutes). However, no external loads should be applied to the spindle.

- 2 x 30 minutes at \( n_{\text{max}} \) - after this 5 min rest

**Caution:**
The run-in cycle should be stopped in case the permitted grease temperature is exceeded or high noise level is measured. A temperature of 60°C on the spindle housing should not be exceeded.

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### Run-in cycles:

<table>
<thead>
<tr>
<th>Operating</th>
<th>1 min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rest</td>
<td>2 min</td>
</tr>
<tr>
<td><strong>Continuous running</strong></td>
<td>30 min</td>
</tr>
</tbody>
</table>

**Further notes:**

- It is important that all steps of the cycles are monitored with appropriate control devices regarding temperature and noise.
- The viscosity and the amount of grease in the bearing have an influence on the grease distribution and run-in duration.
- Information regarding the amount of grease can be taken from the GMN Information sheet „Guideline for Greasing GMN Spindle Bearings“.