News on a classic: Mechanical linear drive unit WIESEL BASELine
**WIESEL BASELine**

A classic is rediscovered.

The new mechanical linear drive units.

A linear axis with integrated drive and single guide – this concept has been successful for years with the WIESEL W0 series and in thousands of different applications. THOMSON NEFF has now developed it even further: with its strong and low-maintenance technology, the new WIESEL BASELine is well on its way to becoming a classic product at an extremely attractive price.

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**Easy to replace**

The special model WBE40/WBE60 now makes it extremely easy to change from Model W00/W02 to the new WIESEL BASELine. A new design is not necessary as the outside dimensions are the same and the power bridge has been matched. (Data sheet on request)
WIESEL BASELine WB40
with ball screw drive or trapezoidal screw drive and sliding guide

Technical data
- Linear speed: max. 0.25 m/s
- Repeatability: ± 0.05 mm
- Acceleration: max. 5 m/s²
- Rotational speed: max. 3000 rpm
- Drive element: Ball screw drive with low-backlash single nut or trapezoidal screw drive
- Diameter: 12 mm
- Lead: KGT 5 mm, TGT 8 mm
- Stroke length: 30 up to 1000 mm
- Power bridge: 128 mm
- Geometrical moment of inertia: Iy = 1.04 \times 10^5 \text{ mm}^4, Iz = 1.29 \times 10^5 \text{ mm}^4
- Weights:
  - Base without stroke: 1.07 kg
  - 100 mm stroke: 0.3 kg
  - Power bridge: 0.45 kg
- Provided: with 4 pieces KAO mounting brackets

Theoretical critical rotational speed

Dynamic load and load moments

<table>
<thead>
<tr>
<th>Rotational speed [rpm]</th>
<th>KGT 5 Lead F [mm]</th>
<th>TGT 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>0.02</td>
<td>*</td>
</tr>
<tr>
<td>1500</td>
<td>0.35</td>
<td>*</td>
</tr>
<tr>
<td>3000</td>
<td>0.5</td>
<td>*</td>
</tr>
</tbody>
</table>

* Values in determination

\[ L = \text{stroke} + 200 \pm 1 \]
\[ \text{max stroke} + 136 \pm 1 \]

Idle torques [Nm]

<table>
<thead>
<tr>
<th>Load</th>
<th>dynam. [N]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fx drive KGT 1205</td>
<td>200</td>
</tr>
<tr>
<td>Fx drive TGT 12x8</td>
<td>500</td>
</tr>
<tr>
<td>Fy</td>
<td>200</td>
</tr>
<tr>
<td>±Fz</td>
<td>250</td>
</tr>
</tbody>
</table>

Load moment dynam. [Nm]

| Mx   | 6 |
| My   | 15 |
| Mz   | 10 |

\(^{1)}\) Max. total load of the system linear drive unit
WIESEL BASEline WB60
with ball screw drive or trapezoidal screw drive and sliding guide

Technical data
- Linear speed: max. 1 m/s
- Repeatability: ± 0.05 mm
- Acceleration: max. 5 m/s²
- Rotational speed: max. 3000 rpm
- Drive element: Ball screw drive with low-backlash single nut or trapezoidal screw drive
  - Diameter: 20 mm
  - Lead: KGT 5, 20 mm
  - TGT 8 mm
- Stroke length: 40 up to 5200 mm
- Power bridge: 210 mm
- Geometrical moment of inertia: 6.1·10⁵ mm₄
- Weights: Base without stroke: 3.63 kg
  - 100 mm stroke: 0.72 kg
  - Power bridge: 1.17 kg
- Provide: with 4 pieces KAO mounting brackets

Idle torques [Nm]

<table>
<thead>
<tr>
<th>Rotational speed [rpm]</th>
<th>KGT 5</th>
<th>Lead P [mm]</th>
<th>KGT 20</th>
<th>TGT 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>0.50</td>
<td>0.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1500</td>
<td>1.00</td>
<td>1.35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3000</td>
<td>1.50</td>
<td>1.80</td>
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</table>

SA-diagram

Dynamic load and load moments

<table>
<thead>
<tr>
<th>Load</th>
<th>dynam. [Nm]</th>
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</thead>
<tbody>
<tr>
<td>Fx drive KGT 2005</td>
<td>2500</td>
</tr>
<tr>
<td>Fx drive KGT 2020</td>
<td>1500</td>
</tr>
<tr>
<td>Fx drive TGT 20x8</td>
<td>2500</td>
</tr>
<tr>
<td>Fy</td>
<td>500</td>
</tr>
<tr>
<td>±Fz</td>
<td>650</td>
</tr>
</tbody>
</table>

Load moment dynam. [Nm] |
<table>
<thead>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mx</td>
</tr>
<tr>
<td>My</td>
</tr>
<tr>
<td>Mz</td>
</tr>
</tbody>
</table>

* Values in determination

1) Max. total load of the system linear drive unit
Proven technology that simply excels.

Guide system
With its low-maintenance sliding rail, the WIESEL BASEline offers a strong and reliable guide system that can even be easily replaced by the user.

Screw support
Even for great strokes, the integrated screw supports are very dynamic and reliable and they run smoothly.

Sealing strip
The proven sealing strip protects the drive reliably from dirt and dust, thus guaranteeing reliability.

Cross section WB60
The rigid aluminium section is fastened directly to the machine frame by mounting brackets. This makes alignment simple and guarantees direct power transmission. The flat power bridge allows the use of all kinds of different fastening methods.

Lubrication
Maintenance is extremely easy: The ball screw is easily lubricated through a lubricating nipple on the power bridge. The trapezoidal screw drive and the fixed and movable bearings are maintenance-free.

Drive system
At the core of the WIESEL BASEline there is either a high-precision ball screw drive with a low-backlash single nut or a trapezoidal screw drive from our own production.