PSBN

The high-performance precision planetary gearbox with helical teeth for a particularly quiet drive

- The highest speed for the best performance
- Optimal, homogeneous helical teeth synchronism for enhanced quality
- Particularly quiet drive
Perfectly sealed
This gearbox resists dust and water jets. Thanks to its radial shaft seal, the PSBN is also ideal in the most grueling conditions. Perfect IP 65 protection class, due to its intelligent design.

Minimized backlash for maximized precision
Thanks to the high gear tooth quality, the PSBN also exhibits minimized backlash (< 1 arcmin). This increases your machine’s precision and provides you with a high precision drive solution.

Related content:
- High-precision, fast and quiet
- Specifically quiet drive
- More flexibility for the motor
- For any mounting position
- The highest speed for the best performance
- Helical teeth for enhanced quality

Our new precision planetary gearbox at a glance:

Particularly quiet drive
Our Neugart-developed helical teeth save you money. With the PSBN your machine does not need expensive sound absorption measures. The value of the whole system increases as a result.

More flexibility for the motor
The PSBN input flange can be individually adapted to your motor to improve your flexibility.

For any mounting position
Our lifetime lubricated maintenance-free precision planetary gearbox extracts the most out of little space. The PSBN can be installed virtually anywhere, giving you greater freedom.

The highest speed for the best performance
Thanks to its low-friction bearing design and optimized lubrication, the PSBN operates with particular reliability and low heat generation – even in complex production cycles.

Helical teeth for enhanced quality
This is progress: The innovative helical teeth of the PSBN safeguard the optimal, homogeneous synchronism. Vibrations are minimized for greater workpiece surface and printed quality.
## Technical highlights

<table>
<thead>
<tr>
<th>Gearbox characteristics</th>
<th>PSBN070</th>
<th>PSBN090</th>
<th>PSBN115</th>
<th>PSBN142</th>
<th>z(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service life (2)</td>
<td>tₙ</td>
<td>h</td>
<td>20,000</td>
<td>30,000</td>
<td></td>
</tr>
<tr>
<td>Service life (2) at T₂₀ₓ × 0.88</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Efficiency at full load (3)</td>
<td>η</td>
<td>%</td>
<td>98</td>
<td>96</td>
<td>1</td>
</tr>
<tr>
<td>Operating temperature Tₑₑₑ / Tₘₘₘ</td>
<td></td>
<td></td>
<td>-25 / +90</td>
<td></td>
<td></td>
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<tr>
<td>Protection class</td>
<td></td>
<td></td>
<td>IP 65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard backlash</td>
<td>jₛ</td>
<td>arcmin</td>
<td>&lt; 3</td>
<td>&lt; 5</td>
<td>1</td>
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<tr>
<td>Reduced backlash</td>
<td></td>
<td></td>
<td>&lt; 2</td>
<td>&lt; 1</td>
<td>2</td>
</tr>
<tr>
<td>Torsional stiffness (2)</td>
<td>cₛ</td>
<td>Nm/arcmin</td>
<td>3.7 - 5.0</td>
<td>7.7 - 10.5</td>
<td>21.0 - 29.0</td>
</tr>
<tr>
<td>Gearbox weight</td>
<td>mₛ</td>
<td>kg</td>
<td>1.4</td>
<td>2.7</td>
<td>5.6</td>
</tr>
<tr>
<td>Running noise (4)</td>
<td>Qₙ</td>
<td>dB(A)</td>
<td>57</td>
<td>58</td>
<td>63</td>
</tr>
</tbody>
</table>

### Output shaft loads

| Radial force (2)(5)                                                                    | Fᵣ     | N      | 850 - 1600 | 1700 - 3100 | 2000 - 4500 | 3700 - 9500 |
| Axial force (2)(5)                                                                      | Fₐ     | N      | 1300 - 1500 | 2500 - 3000 | 3700 - 4500 | 7700 - 9600 |
| Tilting moment (2)(6)                                                                   | Mₛ     | Nm     | 58 - 68    | 138 - 154   | 197 - 226   | 495 - 794   |

### Moment of inertia

| Mass moment of inertia (2)                                                              | J       | kgcm²  | 0.126 - 0.250 | 0.324 - 0.760 | 0.862 - 2.520 | 6.539 - 14.440 | 1 |
|                                                                                       |         |        | 0.123 - 0.175 | 0.124 - 0.200 | 0.321 - 0.600 | 0.841 - 2.003  | 2 |

### Output torques

| Nominal output torque (3)                                                                | T₂ᴺ     | Nm     | 28 - 40 | 54 - 80 | 135 - 180 | 305 - 470 | 1 |
| Max. output torque (3)(7)                                                                | T₂max   | Nm     | 45 - 64 | 86 - 128 | 216 - 288 | 488 - 752 | 1 |
| Emergency stop torque (3)(8)                                                             | T₂Stop  | Nm     | 80 - 130 | 175 - 280 | 340 - 650 | 600 - 1650 | 1 |

### Input speeds

| Average thermal input speed at T₂ᴺ and S1 (3)(9)                                        | n₁IN    | rpm    | 3400 - 5000 | 3200 - 4500 | 2700 - 4000 | 1450 - 3500 | 1 |
| Max. mechanical input speed (9)                                                         | n₁Limit | rpm    | 14000     | 10000      | 8500        | 6500        | 1 |

### Geometry*

| Shaft diameter output                                                                  | D3      | j6     | 16       | 22       | 32      | 40       | 1 |
| Centering diameter output                                                              | D5      | g6     | 50       | 80       | 110     | 130      | 2 |
| Flange cross section output                                                            | Q1      |        | 60       | 90       | 115     | 140      | 1 |
| Min. total length                                                                      | L1      |        | 116.5    | 140.5    | 182.5   | 247.5    | 1 |
| Shaft length output                                                                    | L3      |        | 37       | 48       | 65      | 97       | 2 |

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(1) Dimensions in mm
(2) Number of stages
(3) Other (sometimes higher) values following changes to T₂₀ₓ, Fᵣ, Fₐ, cycle, and service life of bearing.
(4) Application-specific configuration with NCP – www.neugart.com
(5) The ratio-dependent values can be retrieved in Tec Data Finder – www.neugart.com

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Drawing corresponds to a PSBN090 / 1-stage / smooth output shaft / 14 mm clamping system / motor adaptation – 2-part – round universal flange / B5 flange type motor

All other variants can be retrieved in the Tec Data Finder at: www.neugart.com
Our **PSBN** is the ideal combination of a precision planetary gearbox and efficient bearing technology. It has been developed specifically for delivering maximum performance at high speeds.

Its helical teeth safeguard particularly homogeneous – and above-average – quiet running noise.

The product code shows the numerous variants of the **PSBN**. You can select the gearbox variant most suited to your requirements.

The Neugart Tec Data Finder lets you configure your high-performance precision planetary gearbox quite simply yourself.

The product code helps you to quickly and directly request a quote.

Use **Tec Data Finder** to easily generate all the relevant information about your gearbox online. This includes the specific and geometrical data in the form of a dimension sheet as well as the CAD models in all of the usual formats.

The **NCP** configuration software enables you to determine the optimum motor-gearbox combination for your application with the relevant dynamics data and loads.

A huge number of possible applications and over 11,000 motors are available to you.

**Do you still have unanswered questions or want more information?**

We would be happy to advise on all matters relating to drive technology.

You can find your local sales contact at [www.neugart.com](http://www.neugart.com)

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