

Latest News

Precision Planetary Gear Unit PSE

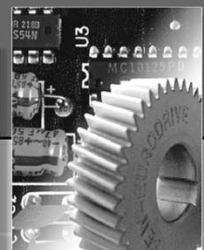
Edition

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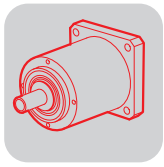


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1 The New Product Design



Figure 1: Precision Planetary Gear Unit PSE511

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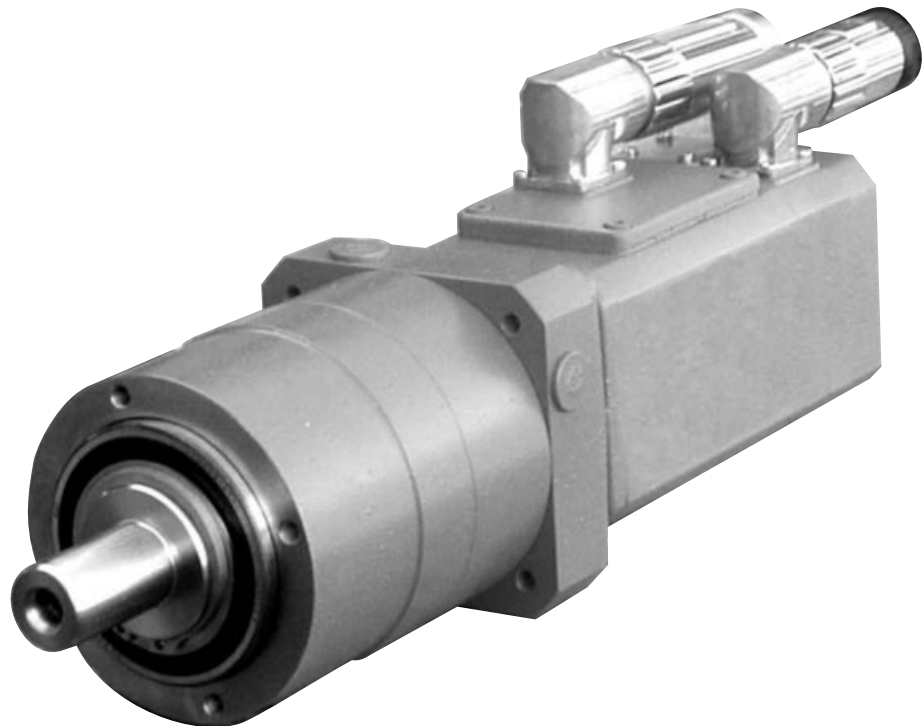
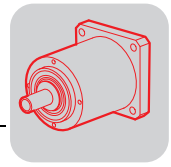
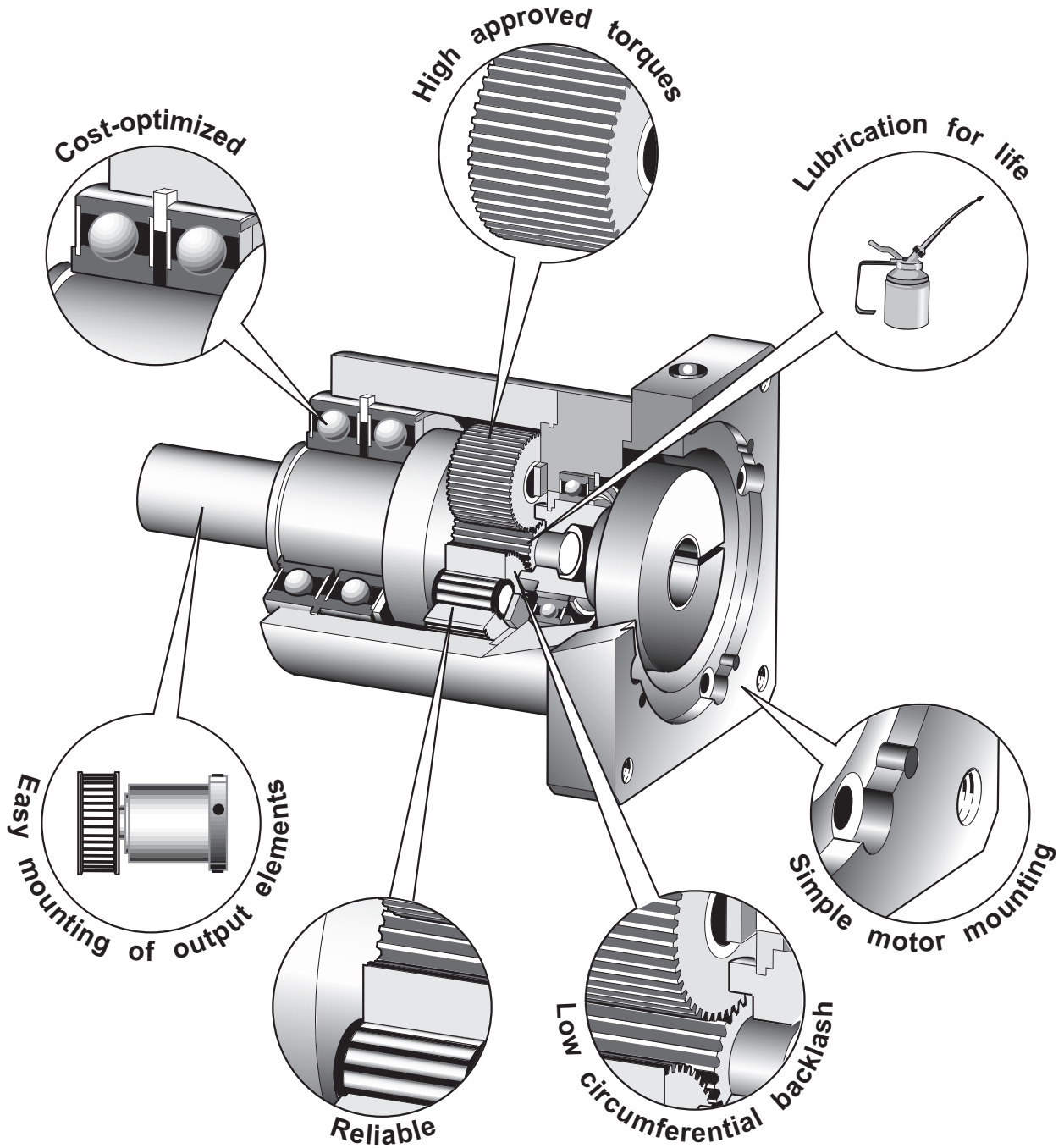


Figure 2: Precision Planetary Geared Motors PSE311 CM56/TF/B/SM11

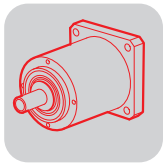
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2 Your Advantages



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2.1 High approved torques

All torque-transferring components have been taken from the high-quality PSF and PSB series. High torque values are attained through broad gearing and tight interlocking of planetary gears with the sun wheel.

| Gear unit type | Rated output torque M_N [Nm] |
|----------------|--------------------------------|
| PSE211/212 | 55 |
| PSE311/312 | 110 |
| PSE411/412 | 160 |
| PSE511/512 | 300 |
| PSE611/612 | 600 |

2.2 High approved overhung loads

The acceptable overhung loads on the output end can be increased using the "Reinforced Bearing" option.

2.3 High approved speeds

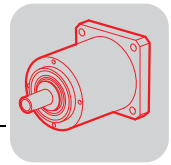
The special output end bearing with integrated oil seal (2RS bearing) temporarily allows high speeds.

2.4 Low circumferential backlash

The PSE gear units are manufactured with the highest precision and ensure high positioning accuracy through low circumferential backlash. In the standard design, the circumferential backlash is a maximum of 6'. The reduced backlash version achieves circumferential backlashes of $\leq 3'$. Gear units with circumferential backlash of less than 1' are available upon request.

2.5 Reliable

The high-quality components from the PSF and PSB gear unit series also guarantee highest reliability for PSE. Through the use of high-strength materials and long-standing experience of components already in use, implementing very demanding drive solutions is a reality.



2.6 *Lubrication for life*

The gear units are lubricated for life using synthetic lubricant.

2.7 *Easy and safe mounting of output elements*

For the PSE precision planetary gear unit, output elements can be easily mounted onto the output shaft with no assembly errors and inaccuracies. The shaft collar serves as the defined stop point.

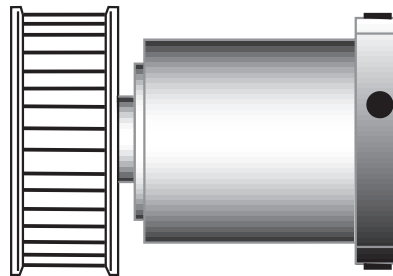
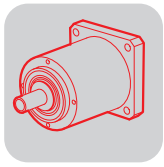


Figure 3: Easy and safe assembly of output elements at the shaft collar

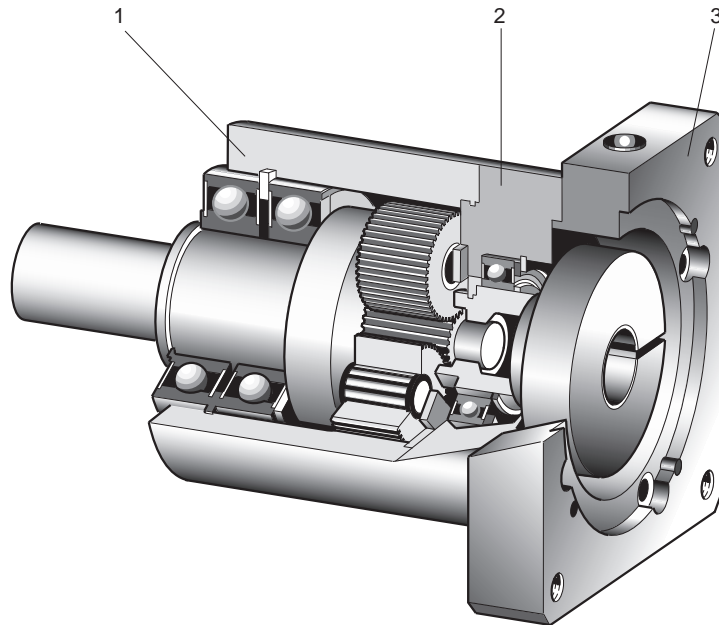
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2.8 Assembly of all commercially available servomotors

The mounting options correspond to those of PSF and PSB gear unit series. This ensures that **all commercial motor types can be attached**.

Only matched mounting flanges are used for reasons of **flexibility**. However, the built-on housings remain the same.

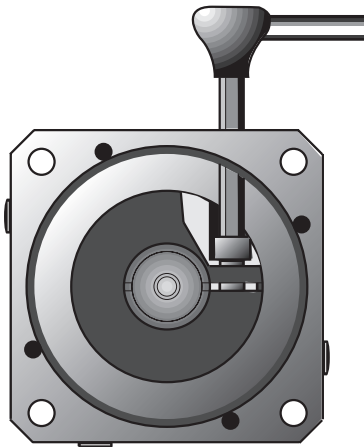


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- (1) Gear unit housing
- (2) Built-on housing
- (3) Mounting flange

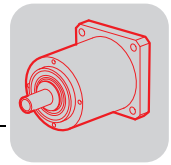
Proven EK coupling

The motor assembly remains as easy and safe as before. The **proven, reliable EK coupling** of the PSF and PSB series that has been designed specifically for high torque values was adapted without changes.



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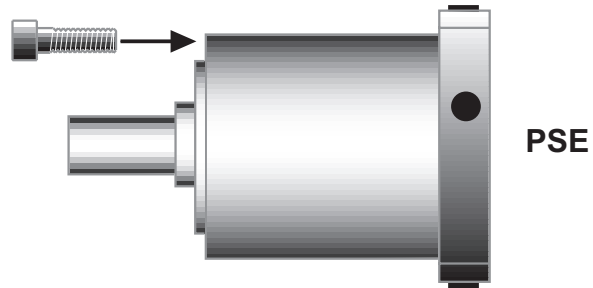
Figure 4: Assembly of EK coupling



2.9 Installation in the system

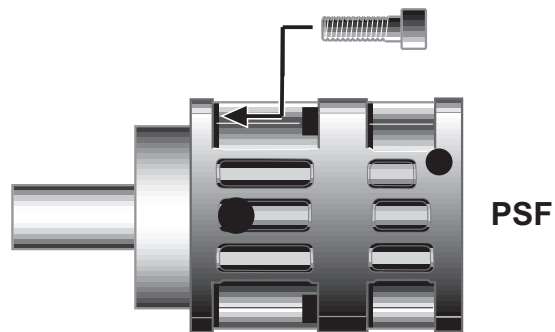
Contrary to the PSF series, the PSE gear unit is mounted into the existing system design via tapped holes in the housing.

PSE:
Fitting from machine side

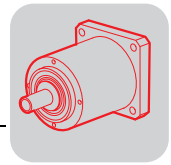


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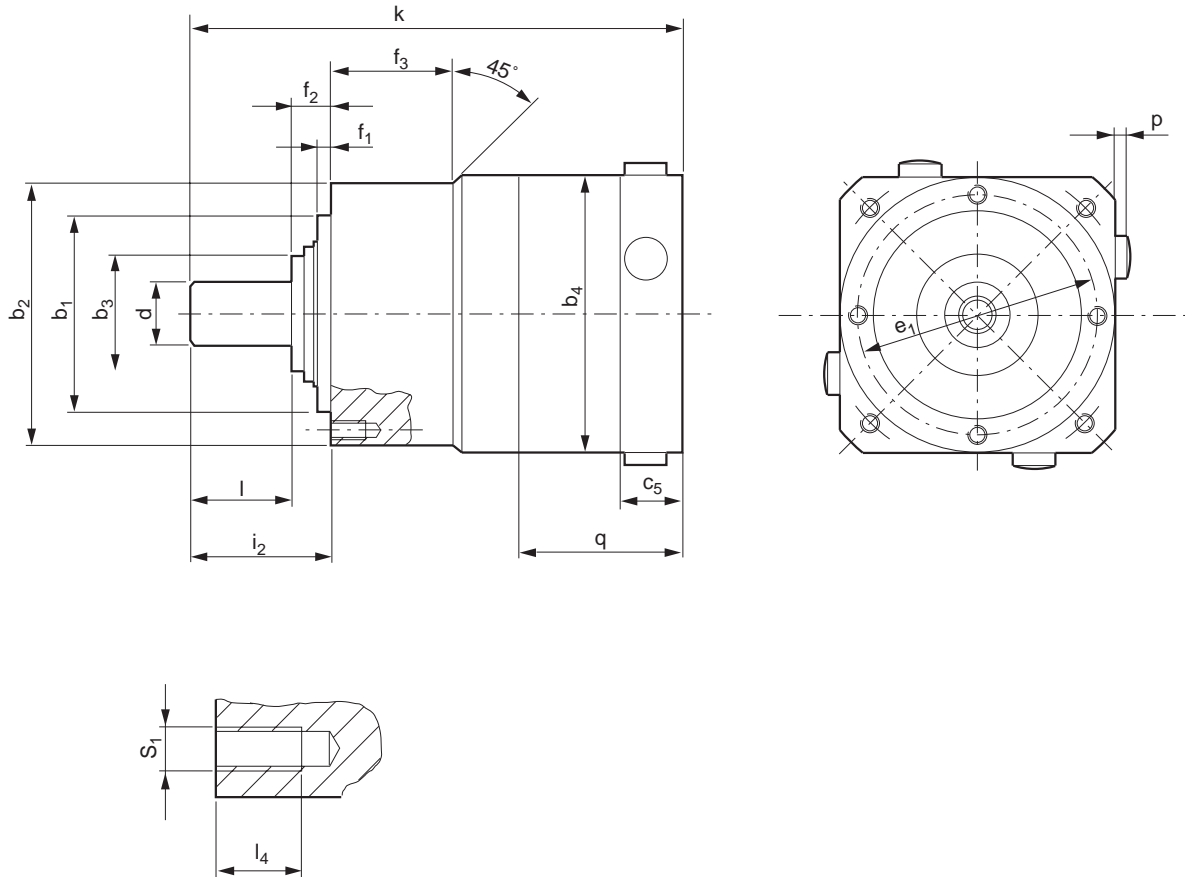
PSF:
Fitting from gear unit side



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3.3 Dimension drawing



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This dimension drawing shows the PSE gear unit without EK coupling on the input side. Detailed dimension drawings of the PSE series can be found in the “Low-Backlash Planetary Gear Units” catalog (order number 1051 4244).

| Gear unit | d | b ₁ | b ₃ | f ₁ | f ₂ | s ₁ | e ₁ | c ₅ | q | Motor shaft ¹⁾ [mm] | k |
|-----------|----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------|-----------------------------------|-------|
| | l | b ₂ | b ₄ | i ₂ | f ₃ | l ₄ | | | | | |
| PSE211 | 16 | 52 | 25 | 5 | 8 | M5 | 62 | 23 | 58 | ≤ 40 | 151 |
| PSE212 | 28 | 70 | 92 | 36 | 30 | 10 | | | | | 174 |
| PSE311 | 22 | 68 | 40 | 5 | 10 | M6 | 80 | 23 | 58 | ≤ 50 | 181 |
| PSE312 | 36 | 90 | 92 | 46 | 53 | 12 | | | | | 204 |
| PSE411 | 32 | 90 | 50 | 6 | 12 | M8 | 108 | 27 | 60 | ≤ 50 | 231 |
| PSE412 | 58 | 120 | 120 | 70 | - | 16 | | | | | 263.5 |
| PSE511 | 32 | 90 | 50 | 6 | 12 | M8 | 108 | 27 | 60 | ≤ 50 | 231 |
| PSE512 | 58 | 120 | 120 | 70 | - | 16 | | | | | 263.5 |
| PSE611 | 40 | 120 | 65 | 8 | 15 | M10 | 140 | 29 | 63.5 | ≤ 50 | 282 |
| PSE612 | 82 | 155 | 155 | 97 | - | 20 | | | | | 317 |

1) The length measurements q and also k apply only to motorshaft lengths that are smaller than the specified value.

Tolerance of the centering shoulder b₁ → ISO h6

Tolerance of the shaft diameter d → ISO k6

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