Planetgear™ Speed Reducers

Planetgear 7000 Speed Reducer
Since 1981, the benefits of our self-aligning planetary gear train have been proven in application after application.

- Planetgear performance has withstood many tough environments, including shock loads, frequent reversals and hostile atmospheres containing moisture and abrasives.
- The new Planetgear 7000 integrates enhanced mechanical geometry with refined material processes, resulting in torsional increases of 15% to 50%.
- New Planetgear 7000 sizes are backward interchangeable for maximum adaptability and reduced changeover expense.
- Planetgear 7000 now offers a total of 14 sizes including the newly designed sizes: NeptunePlus, OrionPlus, SaturnPlus, TitanPlus, and JupiterPlus.

- There are two new sizes, Luna (same footprint as Atlas) and Delta (same footprint as Polaris), that provide additional torque intervals to suit your application needs.

Planetgear 7000 Ratings

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</thead>
<tbody>
<tr>
<td>Torque (lb-in)</td>
<td>8,000</td>
<td>18,000</td>
<td>24,000</td>
<td>43,000</td>
<td>51,000</td>
<td>76,000</td>
<td>120,000</td>
<td>154,000</td>
<td>160,000</td>
<td>238,000</td>
<td>316,000</td>
<td>450,000</td>
<td>643,000</td>
<td>905,000</td>
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Shaft Mounted Planetgear
- Torque capacities to 3,000,000 lb-in are available.
- Unique Hydro-Advantage hydraulic removal system. Hydraulic fluid is pumped behind the shaft applying a separating force to the reducer allowing for easy removal under the toughest environmental conditions.

Planetgear SMP Ratings

<table>
<thead>
<tr>
<th>Series</th>
<th>Orion</th>
<th>Titan</th>
<th>Jupiter</th>
<th>Gemini</th>
<th>Hercules</th>
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</thead>
<tbody>
<tr>
<td>Torque (lb-in)</td>
<td>280,000</td>
<td>480,000</td>
<td>830,000</td>
<td>1,760,000</td>
<td>3,000,000</td>
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</table>
Features and Benefits

**Fast Delivery**
All parts in stock. Only an assembly operation is required, thus 48 hour delivery is available.

**Reliable Operation**
Self-aligning planet carrier floats radially and axially to provide perfect alignment of drive train. At least six teeth share the load at each reduction to distribute the load.

**Simplified Installation**
Output and input shafts rotate in the same direction regardless of the number of reductions.

**Durable, Rugged**
State-of-the-art heat treating techniques provide hardened, wear-resistant gearing. Self-aligning gear train insures equal load distribution among the planet gears. Spline connection between input/output shafts and gearing isolates gears from external forces.

**Double Seal Protection**
Taconite duty-rated seal design is standard. Two seals on each shaft provide a grease purgeable cavity to keep out dirt and moisture.

**Extended Bearing Life**
Tapered roller bearings on both input and output shafts provide high overhung and thrust load capacity. Shaft bearings are subject to external forces only — not internally generated gear forces.

**Efficient**
Efficiency in excess of 97.5% per reduction provides energy saving operations.

**Easy to Service**
No special tools required to assemble or disassemble. No shims required to set the bearing clearances.

**Saves Time**
Lightweight. Safe, easy mounting and handling is achieved with up to 50% weight reduction when compared to conventional drive units.

**Application Flexibility**
Complete line of accessories are available to accommodate any application. Even vertical service is available with only slight modifications to units.

**Fast, Easy Ratio Changes**
The drive consists of standardized sub-assemblies which allow fast gear ratio changes in the field: Ratios can quickly be changed since there are no internal walls to work around, and no bearing adjustments are required.
Proven, Reliable Gear Performance

With Planetgear™ 7000 reducers, self-aligning planet carriers float radially and axially to provide perfect alignment of the gear train.

Unlike “traditional gears” which have only one point of contact per reduction, Planetgear 7000 transmits the torque through three points of contact between sun gears and planet gears. The floating gear train ensures equal loading among the three points.

State of the art heat-treating techniques provide hardened, wear-resistant gearing.

Reduction of inventory

Planetgear reducers allow user to reduce in-plant inventory. No longer do you have to stock complete reducers for each critical application in your plant. With Plantegear’s unique modular design, only a handful of gears may be required. Consider the following three Earth examples.

Why stock three spares – simply stock the triple reduction and the two input gears and any of the ratios can be build in minutes.
**Superior Seal Protection**

How many reducer failures are attributed to bearing contamination?

Planetgear 7000 reducers are designed with TWO seals on both the input and output shafts. Our successful seal layout can be seen in the schematic shown below.

**SMP Hydraulic Removal System (Hydro-Advantage)**

Planetgear SMP has a unique “Hydro-Advantage” removal feature that allows worry-free removal in the harshest conditions. Hydraulic fluid is channeled behind the driven shaft generating a large separating force allowing easy separation from the reducer.

\[
F = P \times a
\]

- **F** = force
- **P** = pressure
- **a** = area

**Example**

Applying 4,500 psi to the Titan shaft generates 90,000 pounds of separating force.

Fluid is pumped behind the shaft filling this section. The force is at the best possible location – between driven shaft and reducer shaft.
Accessories & Application Photos

- Scoop Mounts
- Fans and Shrouds
- Top Motor Mounts
- Vertical Mounting
- C-Flange Motor Mounts
- Baseplates
- Backstops
- Torque Arms
- Belt Guards
- AirMax Breathers
**Dimensions – Inches**

**Planetgear 7000 – Single, Double, & Triple Reductions**

**Planetgear SMP**

<table>
<thead>
<tr>
<th>Series</th>
<th>Output Torque (lb-in)</th>
<th>Hollow Shaft Bore</th>
<th>C</th>
<th>D</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>O₁</th>
<th>O₂</th>
<th>SD</th>
<th>W</th>
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<tbody>
<tr>
<td>Orion</td>
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<td>4.94</td>
<td>14.63</td>
<td>5.00</td>
<td>2.00</td>
<td>1.25</td>
<td>1.25</td>
<td>2.00</td>
<td>1.25</td>
<td>6.00</td>
<td>1.25</td>
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<td>Titan</td>
<td>488,000</td>
<td>6.44</td>
<td>11.86</td>
<td>3.75</td>
<td>2.75</td>
<td>2.50</td>
<td>2.50</td>
<td>3.75</td>
<td>2.75</td>
<td>7.00</td>
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<tr>
<td>Jupiter</td>
<td>830,000</td>
<td>11.66</td>
<td>22.00</td>
<td>4.00</td>
<td>3.00</td>
<td>3.00</td>
<td>3.00</td>
<td>4.00</td>
<td>3.00</td>
<td>6.00</td>
<td>3.00</td>
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<tr>
<td>Gemini</td>
<td>1,700,000</td>
<td>16.56</td>
<td>34.00</td>
<td>5.00</td>
<td>4.00</td>
<td>4.00</td>
<td>4.00</td>
<td>5.00</td>
<td>4.00</td>
<td>8.00</td>
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<tr>
<td>Hercules</td>
<td>2,900,000</td>
<td>22.06</td>
<td>50.00</td>
<td>6.00</td>
<td>5.00</td>
<td>5.00</td>
<td>5.00</td>
<td>6.00</td>
<td>5.00</td>
<td>10.00</td>
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* For Mercury and Mars with backstop add 0.66".
World Class Customer Service

For more than 100 years, the dedicated people of Rexnord have delivered excellence in quality and service to our customers around the globe. Rexnord is a trusted name when it comes to providing skillfully engineered products that improve productivity and efficiency for industrial applications worldwide. We are committed to exceeding customer expectations in every area of our business: product design, application engineering, operations, and customer service.

Because of our customer focus, we are able to thoroughly understand the needs of your business and have the resources available to work closely with you to reduce maintenance costs, eliminate redundant inventories and prevent equipment down time.

Rexnord represents the most comprehensive portfolio of power transmission and conveying components in the world with the brands you know and trust.

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