NSK Rolled Steel Housings Ensure A Safer Design

1. Features

Superior Housing Strength
Consistent Microstructure
Interchangeability

2. Bearing housing material

The bearing housing material is specified as S45C of JIS G 4052 (Rolled Steel for General Structures). The table below lists the allowable loads for bearing housing material:

<table>
<thead>
<tr>
<th>Class code</th>
<th>Steel thickness (mm)</th>
<th>Tensile strength (N/mm²)</th>
<th>Yield strength (N/mm²)</th>
<th>Elongation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS459</td>
<td>Thicker than 80</td>
<td>270 or more</td>
<td>200 or more</td>
<td>4 or more</td>
</tr>
<tr>
<td></td>
<td>80 or more</td>
<td>200 or more</td>
<td>160 or more</td>
<td>4 or more</td>
</tr>
</tbody>
</table>

3. Allowable load for bearing housings

The allowable load for rolled steel housings is approximately 5 times the insert bearing's dynamic capacity. In most applications the load is transmitted through the bearing into the housing. As shown below, the static fracture strength of NSK, rolled steel housings is considerably higher than cast steel or cast iron standard housings.

4. Applications

NSK rolled steel housings provide superior strength to cast steel and cast iron. Their ability to resist impact loads makes them suitable for applications involving heavy loads and vibration. Possible applications for NSK, rolled steel housings include:

- Applications involving heavy loads and vibration. Rolled steel housing dimensions are consistent with cast units, allowing them to be interchange with cast steel housings and other manufacturers' roll stock.

For more detailed information, refer to the NSK Roller Bearing Units Steel Series Catalog Review.
### Housing Tolerances

1. Housing tolerances according to JIS B 1559
2. Ball bearing tolerances according to JIS B 1558

**Note:**
- Stamped steel or cast iron dust covers are also available upon request.
- Refer to catalog E

### Pillow Block Unit: UCPG2 series

**Cylindrical bore with set screw**

<table>
<thead>
<tr>
<th>Part number</th>
<th>Size</th>
<th>Bore (mm)</th>
<th>Insert number</th>
<th>Basic Mass (kg)</th>
<th>Rated Load (kN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCPG201D1</td>
<td>6</td>
<td>175</td>
<td>UCPG201D1</td>
<td>0.0</td>
<td>11.5</td>
</tr>
<tr>
<td>UCPG202D1</td>
<td>7</td>
<td>200</td>
<td>UCPG202D1</td>
<td>0.0</td>
<td>13.0</td>
</tr>
<tr>
<td>UCPG203D1</td>
<td>8</td>
<td>225</td>
<td>UCPG203D1</td>
<td>0.0</td>
<td>14.5</td>
</tr>
<tr>
<td>UCPG204D1</td>
<td>9</td>
<td>250</td>
<td>UCPG204D1</td>
<td>0.0</td>
<td>16.0</td>
</tr>
</tbody>
</table>

### Pillow Block Unit: UCPG3 series

**Cylindrical bore with set screw**

<table>
<thead>
<tr>
<th>Part number</th>
<th>Size</th>
<th>Bore (mm)</th>
<th>Insert number</th>
<th>Basic Mass (kg)</th>
<th>Rated Load (kN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCPG301D1</td>
<td>6</td>
<td>175</td>
<td>UCPG301D1</td>
<td>0.0</td>
<td>11.5</td>
</tr>
<tr>
<td>UCPG302D1</td>
<td>7</td>
<td>200</td>
<td>UCPG302D1</td>
<td>0.0</td>
<td>13.0</td>
</tr>
<tr>
<td>UCPG303D1</td>
<td>8</td>
<td>225</td>
<td>UCPG303D1</td>
<td>0.0</td>
<td>14.5</td>
</tr>
<tr>
<td>UCPG304D1</td>
<td>9</td>
<td>250</td>
<td>UCPG304D1</td>
<td>0.0</td>
<td>16.0</td>
</tr>
</tbody>
</table>

### Square Flange Unit: UCFG2 series

**Cylindrical bore with set screw**

<table>
<thead>
<tr>
<th>Part number</th>
<th>Size</th>
<th>Bore (mm)</th>
<th>Insert number</th>
<th>Basic Mass (kg)</th>
<th>Rated Load (kN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCFG201D1</td>
<td>6</td>
<td>175</td>
<td>UCFG201D1</td>
<td>0.0</td>
<td>11.5</td>
</tr>
<tr>
<td>UCFG202D1</td>
<td>7</td>
<td>200</td>
<td>UCFG202D1</td>
<td>0.0</td>
<td>13.0</td>
</tr>
<tr>
<td>UCFG203D1</td>
<td>8</td>
<td>225</td>
<td>UCFG203D1</td>
<td>0.0</td>
<td>14.5</td>
</tr>
<tr>
<td>UCFG204D1</td>
<td>9</td>
<td>250</td>
<td>UCFG204D1</td>
<td>0.0</td>
<td>16.0</td>
</tr>
</tbody>
</table>

**Note:**
- Square Flange Unit; UCFG2 series
- Pillow Block Unit; UCPG2 series
- Pillow Block Unit; UCPG3 series
- UCPG201D1, UCPG202D1, UCPG203D1, UCPG204D1
- UCPG301D1, UCPG302D1, UCPG303D1, UCPG304D1
- UCFG201D1, UCFG202D1, UCFG203D1, UCFG204D1

**Boundary Dimensions (mm):**

- Bore
- Nominal
- Housing
- Housing
- Insert
- Bore
- Nominal
- Housing
- Housing
- Insert
- Bore
- Nominal
- Housing
- Housing
- Insert

**Rated Load (kN):**

- Static
- Dynamic

**Part Number:**

- UCPG201D1
- UCPG202D1
- UCPG203D1
- UCPG204D1

**Catalog Review of Rolled Steel Housing**

- Cylindrical bore with set screw

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1. Square Flange Unit; UCFG2 series
2. Pillow Block Unit; UCPG2 series
3. Pillow Block Unit; UCPG3 series
4. UCPG201D1, UCPG202D1, UCPG203D1, UCPG204D1
5. UCPG301D1, UCPG302D1, UCPG303D1, UCPG304D1
6. UCFG201D1, UCFG202D1, UCFG203D1, UCFG204D1

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*Note:* Refer to catalogs for detailed specifications.
### Housing Tolerances According to JIS B 1559

1. Stamped steel or cast iron dust covers are also available upon request.
2. Refer to catalog E 1154.

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### 3. Ball Bearing Tolerances According to JIS B 1558

- Note(s):

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### 4. Boundary Dimensions mm

#### Pillow Block Unit: UCPG2 Series
- Cylindrical bore with set screw

#### Pillow Block Unit: UCPG3 Series
- Cylindrical bore with set screw

#### Square Flange Unit: UCPG2 Series
- Cylindrical bore with set screw

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### Catalog Review of Rolled Steel Housings

- Note(s):
  1. Spanned steel or cast-iron bushings are available upon request.
  2. Notice: Designing is free.
  3. Housing with intermediate housing according to JIS B 3185.
  4. Housing with bolted housing according to JIS B 3185.
  5. Housing with flanged housing according to JIS B 3185.
  6. Housing with bolted housing according to JIS B 3185.
3. Ball bearing tolerances according to JIS B 1159.

4. Housing tolerances according to JIS B 1158.

Note)

1. Stamped steel or cast iron dust covers are also available upon request.
2. Refer to catalog E 1154.

Catalog Review of Rolled Steel Housings

<table>
<thead>
<tr>
<th>Part number</th>
<th>Boundary dimensions (mm)</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCPS206D1</td>
<td>19</td>
<td></td>
</tr>
</tbody>
</table>
1. Features

Superior Housing Strength
Consistent Microstructure
Interchangeability

2. Bearing housing material

The allowable load for rolled steel housings is approximately 5 times the usual bearing's dynamic capacity. In most applications the load is transmitted through the bearing into the housing. As shown in the table, the static load for a ball bearing housing is considerably higher than the bearing's dynamic load.

3. Allowable load for bearing housings

A comparison of rolled steel and cast steel housings shows that rolled steel housings offer superior strength in cast steel units. Rolled steel housing dimensions are consistent with cast units, allowing them to be interchangeably used in applications involving many types of units. Rolled steel microstructure is more consistent than cast iron or cast steel, characteristics when compared to cast iron or cast steel housings. The rolled steel microstructure is more consistent than cast iron or cast steel, offering more uniform characteristics when compared to cast iron or cast steel housings.

4. Applications

NSK rolled steel housing provide superior strength in cast steel and cast iron. They are ideal in most industrial and commercial applications involving many types of units. Rolled steel housing dimensions are consistent with cast units, allowing them to be interchangeably used in applications involving many types of units. Rolled steel microstructure is more consistent than cast iron or cast steel, characteristics when compared to cast iron or cast steel housings. The rolled steel microstructure is more consistent than cast iron or cast steel, offering more uniform characteristics when compared to cast iron or cast steel housings.