Mounting instructions and specifications for ball transfer units

Ball transfer units allow bulky goods to be easily transported, rotated and directed. They have long proven their worth in conveyor systems, feeder systems, machining centres and packaging plants.

Applications:
Conveyor technology
- ball pallets, rotary tables and sorting and distribution switch points
- crossing points in permanent conveyance systems
- Airport luggage sorting plants
- Steel pipe transport
- Lifting platforms
General machine shops
- Feed tables for sheetmetal handling machines
- Fixtures for bending machines
- Conveyors for machining centres
- Motor driven assembly aids in heavy engineering
Other applications
- Custom machine construction
- Aerospace technology
- Beverage production and stone cutting

Ball transfer units have a steel housing with a hardened ball cup. This serves as the track for a number of small bearing balls. These bearing balls roll in the cup with the rotation of the load ball. Ball transfer units are designed so that precise rolling and load carrying is guaranteed in all positions. Ball transfer units are low maintenance and almost all types have an oil soaked felt seal to protect from dirt.

Calculating the ball transfer unit loading
To calculate the loading for a ball transfer units divide the weight of the transported goods by 3. With good coordination of the load ball surface and, depending on the properties of the goods transported the number of load bearing ball transfer units can also be calculated.

Example:
Weight of the transported goods = 300 kg
Ball transfer unit loading:
\[ F = \frac{300 \text{ kg}}{3} = 100 \text{ kg} \]

Calculating the lifespan
\[ L = \left( \frac{C}{F} \right)^3 \cdot 10^6 \text{ revs} \]
\[ L = \text{lifespan} \]
\[ C = \text{load rating (N)} \]
\[ F = \text{loading (N)} \]

Attention:
Use high temperature lubricant!
Follow manufacturer’s instructions!
It is possible that the existing lubrication oil may have to be washed out.

<table>
<thead>
<tr>
<th>Temperature load ball</th>
<th>Temperature factor ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>steel °C</td>
<td>polyamid °C</td>
</tr>
<tr>
<td>125</td>
<td>40</td>
</tr>
<tr>
<td>150</td>
<td>50</td>
</tr>
<tr>
<td>175</td>
<td>60</td>
</tr>
<tr>
<td>-</td>
<td>70</td>
</tr>
<tr>
<td>200</td>
<td>80</td>
</tr>
</tbody>
</table>

Temperature resistance
For ball transfer units with a felt seal the temperature resistance is 100 °C by constant temperature.

Only non-galvanised ball transfer units with a steel ball and no felt seal can be used at temperatures in excess of 100 °C. Note the load rating reduction! Multiply the load rating by the temperature factor (table).

Calculating the loading by undersprung ball transfer units.
For these types the determining factor is the value given in the „Pre-tension“ column of the table. The weight of the transported goods is divided by the number of supporting ball transfer units.