perma lubrication systems for
Gypsum, Lime, Cement

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The Expert in Lubrication Solutions
There are hundreds of rotating machine parts in gypsum, lime and cement plants. All of this equipment must function reliably under the most difficult operating conditions. 80% of the equipment fails due to mechanical wear caused by dust and dirt. perma Automatic lubrication systems ensure optimum lubrication and sealing to prevent the ingress of dirt.

**Lubrication points**

<table>
<thead>
<tr>
<th>Raw material processing</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Crushing</td>
<td>Crusher</td>
<td>✓</td>
</tr>
<tr>
<td>Transport</td>
<td>Conveyor systems</td>
<td>✓</td>
</tr>
<tr>
<td>Drying and grinding</td>
<td>Raw mill</td>
<td>✓</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Processing to final product</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating</td>
<td>Rotary kiln</td>
<td>✓</td>
</tr>
<tr>
<td>Fine grinding</td>
<td>Cement mill, fine screen</td>
<td>✓</td>
</tr>
<tr>
<td>Cleaning</td>
<td>Dust removal equipment</td>
<td>✓</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Storage and packing</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage</td>
<td>Conveyor systems</td>
<td>✓</td>
</tr>
<tr>
<td>Packing</td>
<td>Palletizer</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Challenges**

- Dust, dirt, vibration
- High energy costs
- High maintenance costs, staff shortage, spread out equipment and lubrication points
- Hard-to-reach lubrication points
- High temperatures
- Safety hazards
Advantages of automatic lubrication

- Continuous relubrication at short intervals reduces wear and seals lubrication points to prevent contamination from dust and dirt.
- Scheduled exchanges of lubrication systems while machines are running reduces staff and material costs and increases economic efficiency.
- Automatic lubrication away from dangerous areas increases workplace safety.
- Individual lubrication reduces energy costs by up to 10%.

Solutions

Direct mounting on lubrication point: e.g. perma CLASSIC / FUTURA / FLEX / NOVA

- Easy, quick mounting
- For lube-points with little vibration / shocks
- For easy-to-access and safe lubrication points

Remote mounting to lubrication point: e.g. perma STAR VARIO

- For lube-points with strong vibration / shocks (isolation of lubrication system)
- When workers’ safety is at risk: Mounting in safe areas
- For hard-to-access lubrication points

Would you like more information on perma products?

- Detailed product information in our perma catalog
- Visit our website www.permausa.com
### Applications

| Lubrication of motor on a vibrating screen | Lubrication of pillow block bearing on a fan shaft | Lubrication of pillow block bearing on a rotary dryer |
| Lubrication of bearing unit on a fan | Lubrication of track roller | Lubrication on mixer shaft |
| Lubrication of shaft bearing on a conveyor belt drum | Lubrication of drive shaft on a blower | Lubrication of roller bearing on a mixer |

### Individual solutions

- **perma Product portfolio**
  - Solutions for all types of applications

- **perma Lubricants**
  - Large selection of high quality lubricants to meet the requirements of your equipment

- **perma Accessories**
  - Extensive range of accessories and connecting parts for your equipment

- **perma SERVICE**
  - Project planning, installation and maintenance

- **perma SOFTWARE**
  - Calculation of lubricant amount: perma SELECT
  - Maintenance Lubrication Program: perma MLP