



**perma Lubrication Systems in
Power Plants**

The World of Automatic Lubrication

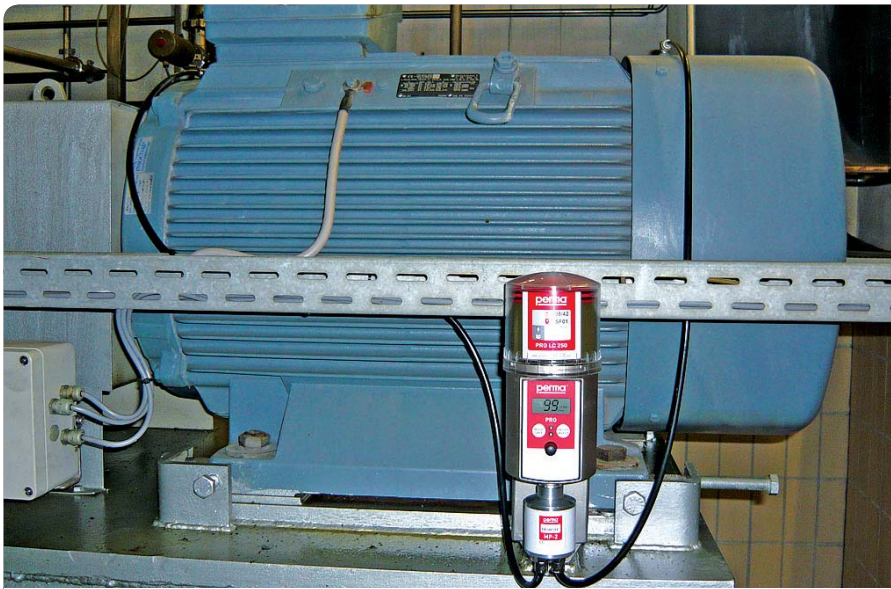
perma[®]



Trouble-free operation with automatic lubrication systems from perma

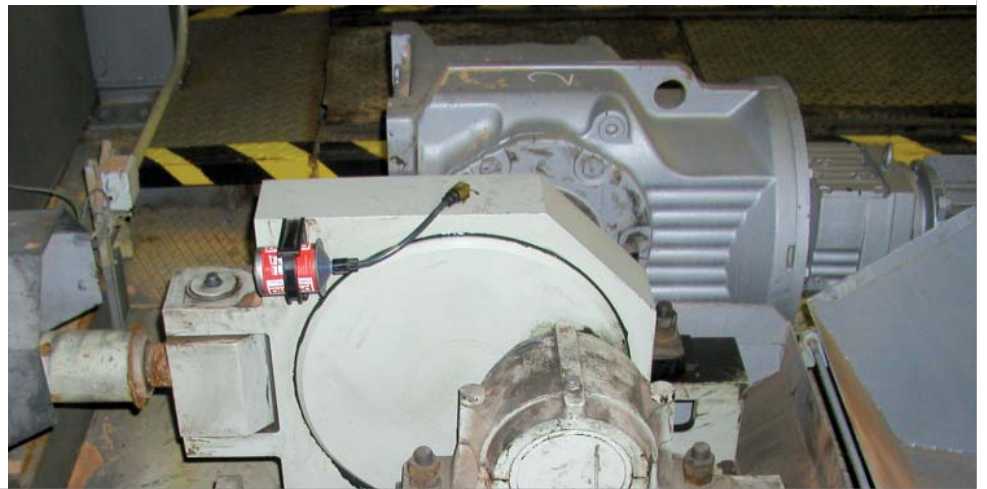
Productivity, equipment reliability and work place safety are directly linked to key performance indicators of power plants. This makes efficient maintenance of machines and equipment extremely important to power plant operators. Different types of equipment with numerous grease points must be lubricated regularly at short intervals. It is common for some equipment to receive inadequate lubrication due to difficulties associated with access or safety during operation. This results in lubrication starvation, contamination entry and accelerated wear. Extreme operating conditions and limited labour resources call for reliable and tough lubrication equipment in order to prevent costly machine downtime.

Automatic lubrication systems from perma are successfully being used in power plants worldwide. They are economical, meet technical demands and improve work place safety.



(above left and below left) **Fan motors**
 With perma lubrication systems electric motors can be greased while in operation. Change-outs can take place during regular shutdowns.

(below right) **Eccentric lubrication at ash grate**
 An idle eccentric causes a great production loss. Automatic lubrication systems from perma extend the maintenance periods of eccentrics by reducing wear and minimize repair costs.



→ perma – for **economical** reasons

Lubrication without the need to stop production reduces downtime and therefore increases productivity. Automatic lubrication systems from perma allow maintenance personnel to achieve a better lubrication result in less time. The time it takes to do the change-outs of automatic lubrication systems per year is considerably less than the time required to manually grease.

Do more with less: Instead of manually lubricating 100 lubrication points on your conveyor equipment once every two weeks, you only need to do ONE easy exchange every six months with automatic lubrication systems – without any tools. This exchange can take place during scheduled shutdowns

→ perma – for **technical** reasons

Automatic lubrication systems ensure an uninterrupted supply of sufficient, fresh lubricant to all lubrication points. In addition, they effectively seal lubrication points and bearing seals to prevent the entry of water, dirt and dust. Even hard to access, moving, or hidden lubrication points that are often neglected are permanently lubricated without interrupting production.

Another advantage: The time saved with automatic lubrication systems from perma can be invested in other value-adding maintenance tasks, including regular inspections of equipment and lubrication systems, basic condition monitoring, oil sampling and filtration.

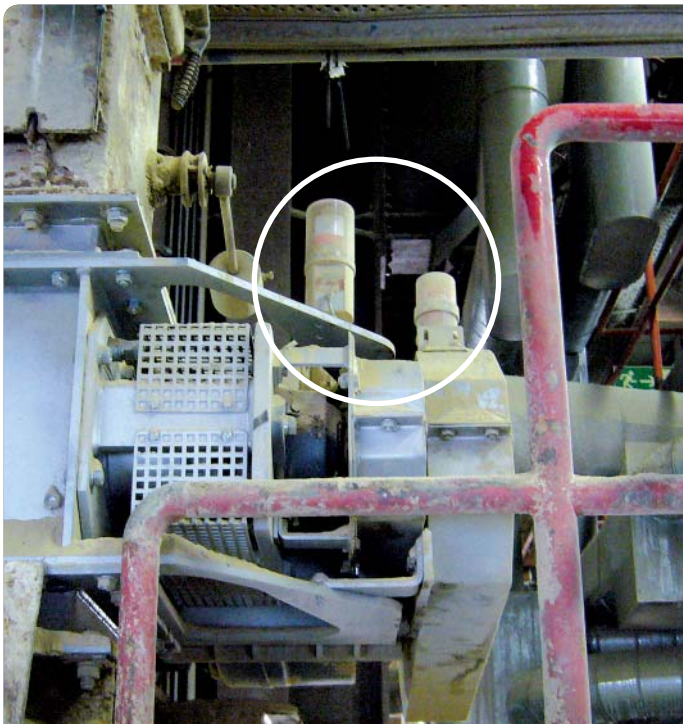


(above) Coal crusher

Crushers have to work under extreme conditions. perma automatic lubrication systems protect bearings against aggressive dust generated during crushing and effectively seal against contamination.

(left) Water purification / Threaded spindle lubrication

Automatic lubricators, filled with a biodegradable grease, ensure precise and reliable lubrication in line with environmental requirements.



(above left) Roller crusher

Hard to access grease points can be dangerous to manually lubricate and require particular care. Automatic lubrication systems from perma can be installed away from grease points. This reduces the time that employees have to spend in dangerous areas and increases operational safety.

(above right) Conveyor belts

Operating conveyor systems present a safety hazard and therefore require safety guards. Automatic lubrication systems from perma ensure continuous lubrication and can be installed outside of guards and cages therefore reducing safety related risk.

(below left) Fans

Automatic lubrication systems from perma reduce the exposure of maintenance personnel to the dust, heat and noise around fans.

→ perma – for **safety** reasons

Maintenance employees in power plants are regularly confronted by safety hazards: extreme temperatures, aggressive dust and environmental conditions, plus the usual dangers experienced when working around rotating equipment.

Automatic lubrication systems and remote mounting, away from potential hazards, minimize the time that employees spend around operating equipment. And planned exchange intervals make it easier to observe the required safety precautions via proper planning and job risk analysis.

perma lubrication systems in power plants

perma products have been used successfully in power plants worldwide for many decades. Reliable automatic lubrication ensures troublefree operation for machinery and equipment in all areas of the plant - from crushing of rough coal to the transport of by-products.

perma automatic lubrication systems – we meet your needs:

- 24 hour operation
- Simple installation
- Easy tool-free exchange
- Compact, requiring minimal mounting space
- Tough systems – no power needed
- Regular injections of small quantities of fresh grease to prevent bearing contamination

perma is the most trusted partner worldwide for all industries:

- Global leader
- Largest product range
- Many well-known satisfied customers
- Field-tested accessories for every lubrication system
- Product training, expert advice and consultation (check local supplier)

Automatic lubrication systems from perma are being used in the following areas:

Coal crushers

Ash extractors

Pumps

Water purification

Flue gas desulfurization

Gypsification

Eccentric

Conveyors

Fans

Motors

For more information, please visit our website or contact your local supplier.

We will gladly send you our extensive product catalog for more detailed information.

www.perma-tec.com



perma-tec GmbH & Co. KG
Hammelburger Straße 21
97717 EUERDORF
GERMANY

info@perma-tec.de
www.perma-tec.com