perma Lubrication systems for

ELECTRIC MOTORS

The Expert in Lubrication Solutions

perma

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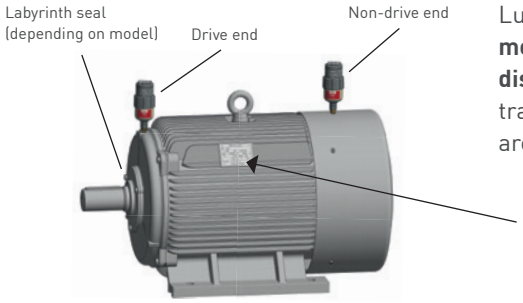
Electric motors

Efficient lubrication and maintenance of electric motor bearings are essential for reliable operation. However, many electric motors are lubricated at irregular intervals because they are located in areas which are difficult or dangerous to reach. Failure to adhere to manufacturer specifications frequently leads to damage and breakdowns caused by bearing over-lubrication or lubrication starvation.

- → Cement, Gypsum, Lime
- → Quarrying industry
- → Power generation
- → Food & Beverage
- → Recycling
- → Mining & Minerals processing

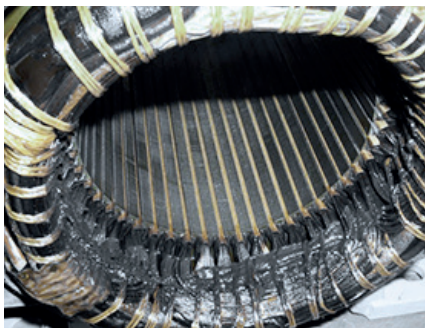
Lubrication points



Lubrication points are located on the **drive** and **non-drive end of electric motors**. When relubricating, you must ensure that **excess grease is discharged** through the discharge openings, grease relief ports or grease traps. Bearings will overheat if grease cannot escape and / or if grease traps are filled up with used grease.

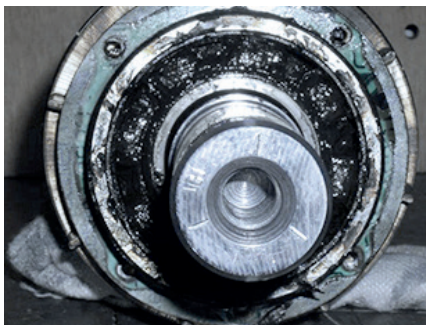
The correct lubricant
Information about fitted roller bearings, lubricant and lubricant amount is found on the motor nameplate.

Challenges



During manual lubrication, a large **quantity of lubricant is introduced at one time**. This can lead to a temporary **over-lubrication of bearings**. Ignoring the recommended relubrication intervals leads to **lubrication starvation**.

- → **Bearing heating** and **possible fire hazard** since it takes hours to distribute excess grease
- → Possible **shut-off** with temperature monitoring
- → Bearing damage due to lubrication starvation results in unscheduled **machine downtimes** and higher production costs
- → **Increasing maintenance costs** caused by premature wear



Relubrication during **running operations** (manufacturer recommendations) jeopardises maintenance staff. The risk of accidents increases when people spend time in **dangerous** or **hard-to-reach areas**.

- → **High accident risk**
- → **Motor shut-down** when entering secured areas

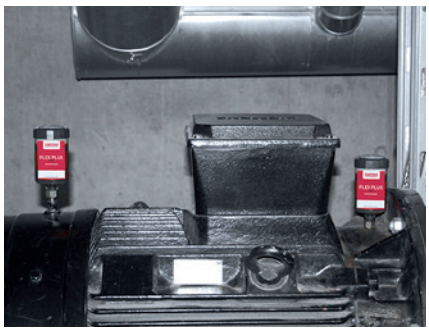
Advantages of automatic lubrication

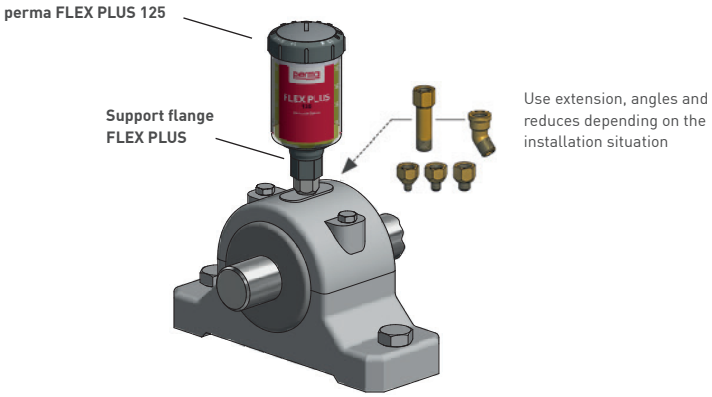
- → **Relubrication during running operation** minimises overheating of bearings
- → **Predictable exchange intervals** with reduced material and personnel expenditure
- → **Increased workplace safety** due to automatic lubrication of hard-to-reach lubrication points
- → Precise lubricant discharge **lowers** lubricant consumption and thereby **environmental impact**

Solutions

Direct mounting on the lubrication point: e.g. with perma FLEX PLUS

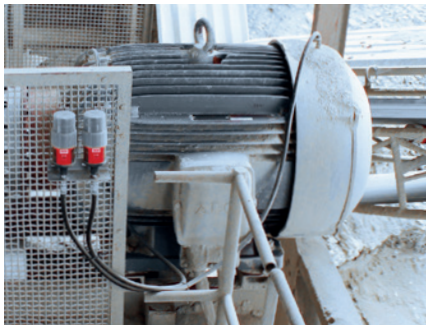
- → Easy, quick mounting
- → For lubrication points with little vibration / shocks
- → For easy-to-reach, safe lubrication points

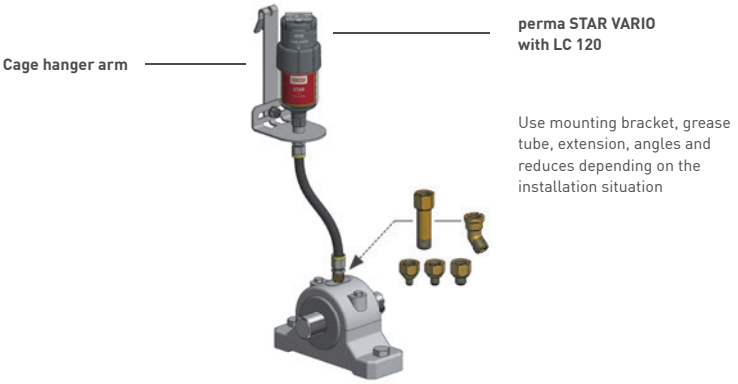




Remote mounting at lubrication point: e.g. with perma STAR VARIO

- → For lubrication points with strong vibration / shocks (isolation of lubrication system)
- → For lubrication points which are unsafe to access: Mounting in safe areas
- → For hard-to-reach lubrication points





APPLICATIONS

→ perma FLEX PLUS
→ Direct mount

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→ Direct mount

→ perma STAR VARIO
→ Direct mount

→ perma STAR VARIO
→ Direct mount

→ perma STAR VARIO
→ Direct mount (with purge valve)

→ perma STAR VARIO
→ Remote mount (with purge valve)

→ perma STAR VARIO
→ Remote mount (with purge valve)

→ perma STAR CONTROL
→ Remote mount (with purge valve)

→ perma STAR CONTROL
→ Direct mount

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