

# LINEAR GUIDES

perma lubrication systems in operation



Linear guides are machine elements that enable the movement of machines or components in linear direction. They are available in the form of roller bearing guides (e.g. linear ball bearings, linear roller bearings or profile rails) or as sliding guides (e.g. dovetail guides or linear sliding guides). Linear guide drives are mainly screw drives, lifting gears or a combination of both.

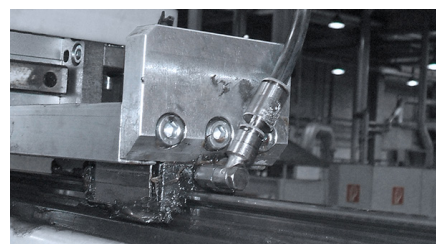
## Challenges

On account of the special design and varied use of linear guide systems, lubrication points in these systems present a challenge for efficient and preventive maintenance. Lubrication points can often only be accessed with assistive equipment. The consequences are neglected or insufficient lubrication of the components.

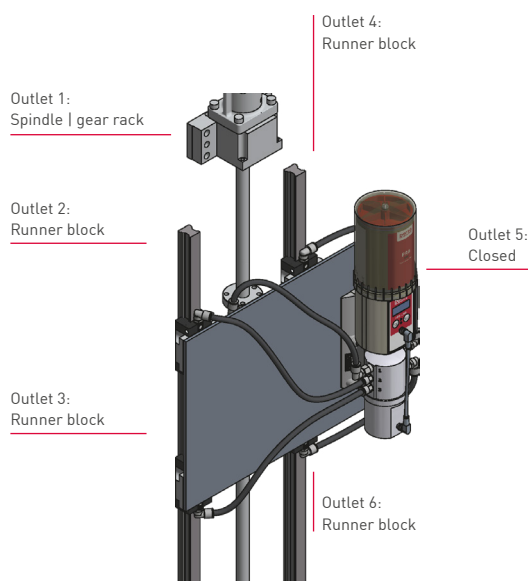
- Prevent equipment downtimes through relubrication
- Workplace safety must be ensured

Many lubrication points must be lubricated exactly according to manufacturer specifications while the equipment is in operation. Different lubrication points require different lubricant amounts. Improper lubrication can cause equipment component failures and reduces productivity and cost effectiveness.

- Recirculating ball | Roller guides: Even lubricant distribution within a runner block requires an increased lubricant volume flow
- Counter pressure of a new runner block is 6-10 bar as standard, but may increase up to 15 bar during operation
- Exceeding the maximum permissible pressure at the runner block (30 bar) may result in damage to the plastic end piece
- The drive (spindle or gear rack) often requires more lubricant than the runner blocks
- Lubricant specifications for drive and runner blocks may be different



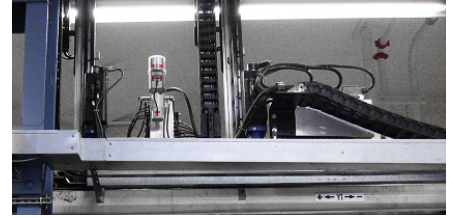
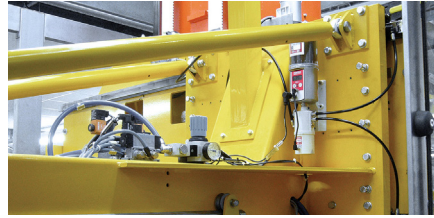
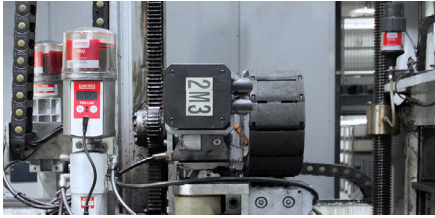
## Lubrication points



Linear guides, like any roller bearing, require adequate lubricant supply. Grease lubrication is the most commonly used relubrication method. Start-stop operations, mounting position, shock loads, high speeds, and load ratings are challenges for runner blocks and their drives.

Continuous relubrication reduces wear, dampens noise, prevents corrosion and extends service life.

Due to their construction, linear guides place special demands on lubricant supply.



## Industries



Automotive



Machine tools



Packaging industry



Food & Beverage

## Solutions

The development of perfect lubrication solutions requires the consideration of various factors, such as application type, speed and load of the machine as well as ambient temperature.

perma has risen to this challenge, focusing on the development and production of automatic lubrication systems for use across a variety of industries. These solutions have been created in close cooperation with maintenance professionals from various global sectors, addressing the unique demands of each application. In adherence to the highest quality standards, premium-grade raw materials and lubricants are used in the manufacturing process. This ensures that perma products consistently deliver reliable lubrication across all applications, thereby increasing the equipment service life while at the same time minimising costs and operational effort.

### Lubrication system for drive | e.g. with perma STAR CONTROL

- Lubrication systems available in varying sizes
- Simple mounting at the drive lubrication point, either directly or remotely
- Lubricant can be selected in accordance with the drive specifications
- Optimal relubrication during drive motion

### Special system for linear guides and drive | e.g. with perma PRO LINE

- Different discharge amount can be set for each outlet: Number of pump strokes per discharge
- Number of activated outlets can be selected freely: 1–6
- Flexible setting of time between discharges: Setting of pauses in days (24 h) possible
- Maximum pressure build-up 25 bar
- Operating pressure range 15 - 20 bar, ensuring a long system service life

perma STAR CONTROL



#### INSTALLATION KIT STAR Standard Duty

1-point  
65 mm beam clamp mount  
incl. 3 m hose

Linear guide outlet assignment, e.g.:



Outlet 1: Spindle | gear rack (= larger discharge quantity)  
 Outlet 2: Closed  
 Outlet 3: Runner block 1  
 Outlet 4: Runner block 2  
 Outlet 5: Runner block 3  
 Outlet 6: Runner block 4

Reference

**rexroth**  
A Bosch Company