

# 20,000 kilometers without lubrication

## Comparing drive solutions for variable low speed.

**When are ball rail systems and ball screw assemblies maintenance-free? More and more often! Read on to find out how linear motion technology is making machines even more productive and environmentally friendly.**

Every automation specialist, mechanical engineer or plant engineer would like their machines to run reliably, efficiently and with minimal maintenance. The linear guides and screw drives in these machines should run for as long as possible, ideally with no need for relubrication. If the linear motion systems reach the end of their operating lives with their original lubricant, they were effectively maintenance-free.

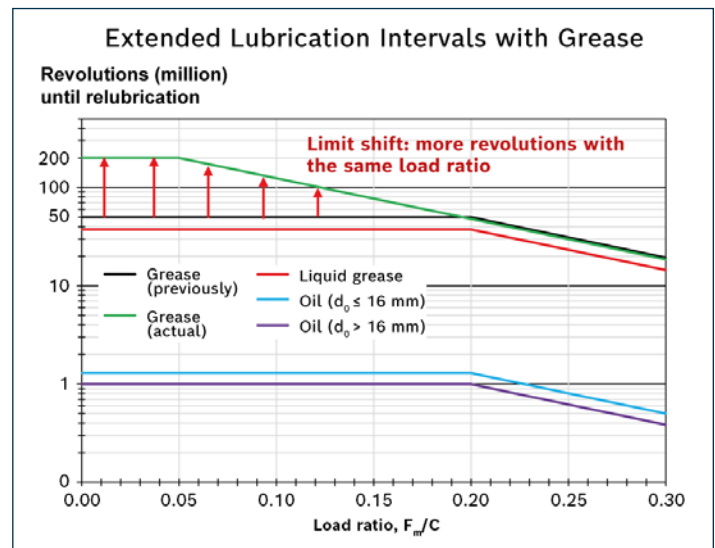
### COMPONENTS NOW RUN EVEN LONGER

Designed for optimum running, the ball bearing-mounted profiled rail systems BSHP and the ball screw assemblies BASA from Bosch Rexroth already have long lubrication intervals. And from now on, they need to be relubricated even less often. After all, the surfaces and tracks get better with each technical further development of the production processes. The linear motion technology experts at Rexroth check at regular intervals the extent to which the range of applications with maintenance-free linear motion technology is growing as a result.

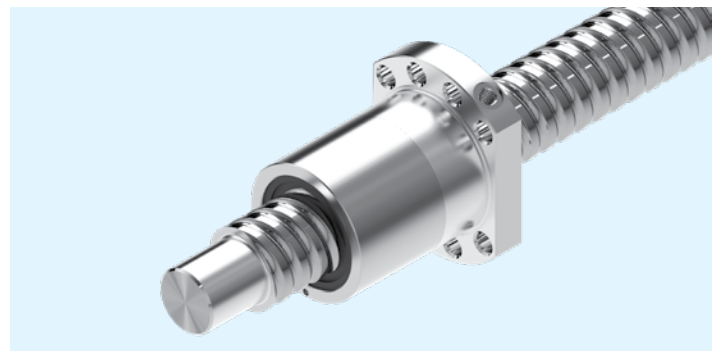
### FOUR TIMES LONGER LUBRICATION INTERVALS

The results of the most recent tests show that the intervals for grease lubrication are now up to four times longer. In many applications with smaller loads, our linear motion technology components are now low-maintenance or even completely maintenance-free. For example, the latest generation of the ball screw assemblies BASA with diameters

of up to 40 mm achieves up to 200 million revolutions—four times more than before—with their basic lubrication ex works. For size 32 with a 64 mm lead, this equates to a distance of around 12,800 km—the same distance as from Germany to Hawaii.



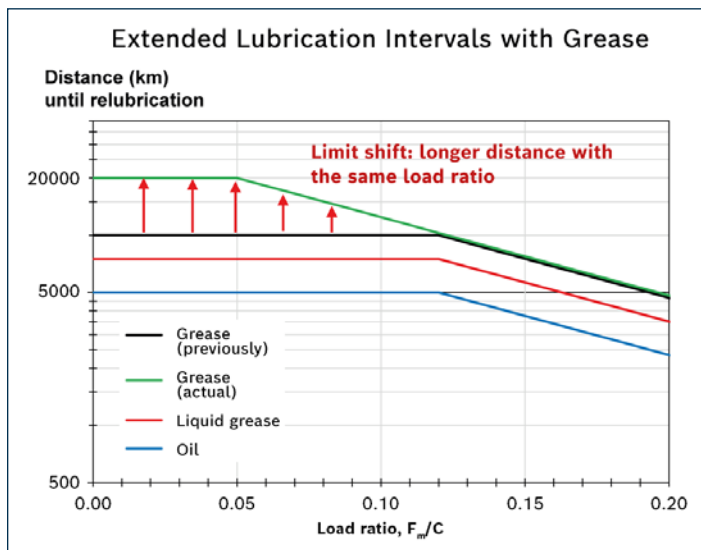
**Fig. 1:** Thanks to optimized production processes, the lubrication intervals for ball screw assemblies BASA in size 40 or smaller are up to four times longer.



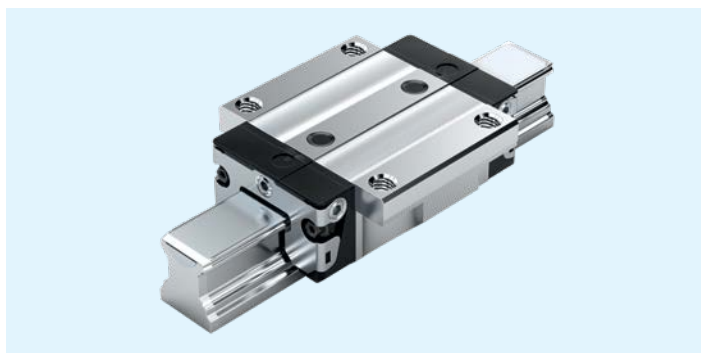
**Fig. 2:** With extra rolling elements and a preloaded single nut, ball screw assemblies BASA achieve higher load ratings in spite of their short design.

## 20,000 KM WITHOUT RELUBRICATION

Until its first “pit stop,” a runner block in the latest ball rail systems BSHP in the sizes 15 to 45 covers a distance twice what was previously assumed: 20,000 km is possible, the same distance as from Germany to New Zealand. Naturally, the actual performance in individual cases depends on the operating and environmental conditions. Thanks to the lubrication intervals which are now up to four times as long, our linear motion technology can now be used in many more applications with no need for relubrication.



**Fig. 3:** The result of continual improvements: Ball rail systems BSHP in the sizes 25 to 45 with grease lubrication can run twice as long as they could before requiring relubrication.



**Fig. 4:** Ball rail systems BSHP achieve a high level of precision, lower friction forces and quieter running under load.

## GO EASY ON YOUR BUDGET AND THE ENVIRONMENT

This is likely to appeal to machine operators too. After all, the lower the maintenance requirements of the linear motion technology, the lower the operating costs. The reduced lubricant consumption is also good for the environment. The linear motion technology from Bosch Rexroth is one step ahead when it comes to the engineering too: thanks to the online configurator, a component designed using the Linear Motion Designer can be configured ready for installation in just a few minutes and then ordered from the e-shop. CAD data are generated and provided automatically.

### TIP FOR DESIGN ENGINEERS:

Would you like to know the applications where our linear motion technology can now be used maintenance-free? Our software tool will tell you. Download the Linear Motion Designer now and design systems requiring less maintenance.

**Link:** [www.boschrexroth.com/lmd](http://www.boschrexroth.com/lmd)

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