

## **BEARINX<sup>®</sup> -online Easy Linear System**

Convenient calculation for  
multi-axis positioning systems

## High-performance calculation software ...

Along with developing and manufacturing top-quality precision parts, great service is an important tradition at Schaeffler. We offer you the support you need as early as the development phase, so you can put our products into operation with confidence, because for us, service means a partnership with the customer from the first design idea right up to supplying the products.

Rolling bearing design is one of the focal points of our design support. We want to give you a competitive edge by supplying you with perfectly designed products. We have already been using calculation programs successfully for 40 years to meet these requirements.

### BEARINX® – a leading program

BEARINX® enables users to calculate, display, and document specific bearing loads in detail while taking operating and environmental conditions into consideration – even for complex machine

systems. The contact pressure on every single rolling element is considered in the calculation.

### Dedicated module for linear calculation

There is a dedicated module for linear technology, which can be used to precisely calculate even extensive linear guidance systems. Amongst others, BEARINX® considers the following factors:

- The non-linear elastic deflection behavior of the rolling elements
- The elasticity of the carriage and guide-way in recirculating guidance systems
- The load-related contact angle displacements in linear roller bearings
- The actual contact pressure, taking skewing and profiling of the rolling elements into consideration.

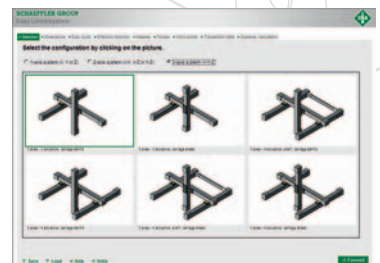
### New for BEARINX®-online customers

The well-known “Linear Easy Solution” online software for monorail guidance

systems is now joined by the new BEARINX®-online module “Easy Linear System” in our range of proven linear calculation programs.

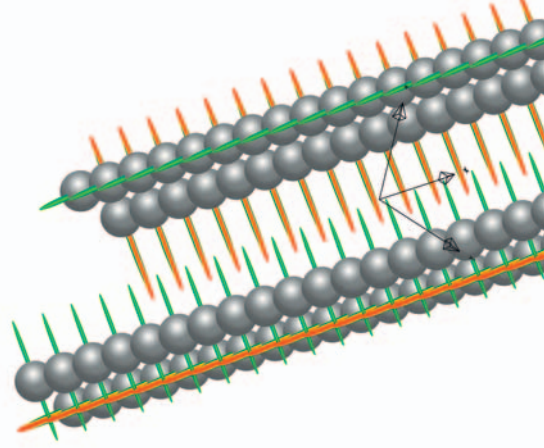
With “Easy Linear System”, it is now possible to calculate the nominal life and static load safety of multi-axis positioning systems with driven INA linear actuators. Influencing factors that are typical for the product take effect here:

- All axes are connected in order to create a complete linear system calculation
- Acceleration of table and machine bed masses is taken into consideration, even via several axes
- Working points are set in order to calculate possible deformations of the linear system.



① – ③ Selection of preconfigured 1, 2, or 3-axis positioning systems

## ...with self-explanatory menu navigation



### Intuitive user interface

The self-explanatory menu navigation enables users to enter data quickly and easily. Using practical, preconfigured 1, 2, or 3-axis positioning systems and free arrangement of the drives as a starting point, the required linear system can quickly be found and completed using the necessary parameters (Figure 1 – 4).

All required operating data can be entered individually for each axis, using the convenient menu navigation:

- Geometrical data
- Load cycles
- Acting directions
- Masses
- Forces
- Working points

The benefits offered by the new online program are clearly shown by the load

cycle input dialog, in which the speed, acceleration, time, and traverse distances for each axis can be entered. The corresponding motion diagram is then created automatically (Figure 5).

Users can select from a comprehensive range of available INA linear actuators and drives before carrying out the calculation (Figure 6).

### Data exchange with Schaeffler

All input data can be saved. This enables any relevant changes to an existing design to be made quickly without having to enter the data twice. Furthermore, any saved files can be exchanged with Schaeffler's Engineering Service in order to produce an optimum bearing design.

### Calculation and documentation

Calculations are carried out on Schaeffler's powerful calculation servers. Once the calculation has been com-

pleted successfully, you will receive an e-mail containing a summary of the most important results and with the input file and a PDF results document attached.

### Automatic quotation request

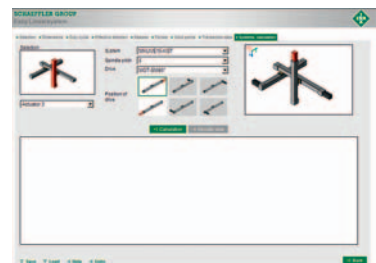
This e-mail also contains a link that enables you to generate a quotation request. This contains an automatically generated parts list for the linear system you have generated, as well as a free text field in which you can specify further details of your request. This makes it possible for our specialists to quickly put together an individual quotation for you.



④ Design data input



⑤ Load cycle input



⑥ Selection of products, drives, and results



## Registration: BEARINX<sup>®</sup>-online Easy Linear System



The calculation program BEARINX<sup>®</sup>-online Easy Linear System is only available on the Internet and can be used free of charge. After initial registration, which takes very little time, you can start your calculation immediately.

<http://bearinx-online-easy-linearsystem.schaeffler.com>



## Additional features: BEARINX<sup>®</sup>-online Linear Calculation



For individual requirements in calculating linear systems, we offer our customers and sales partners the more comprehensive BEARINX<sup>®</sup>-online Linear Calculation system.

[http://www.ina.de/content.ina.de/en/services/calculating/bearinx\\_online\\_linear/bearinx\\_online\\_linear\\_calculation.jsp](http://www.ina.de/content.ina.de/en/services/calculating/bearinx_online_linear/bearinx_online_linear_calculation.jsp)

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