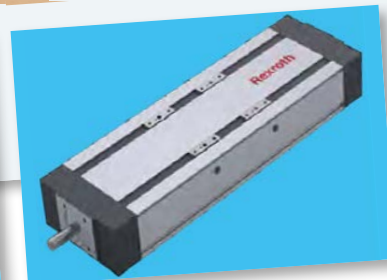
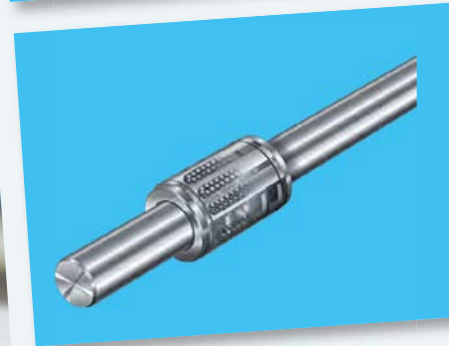
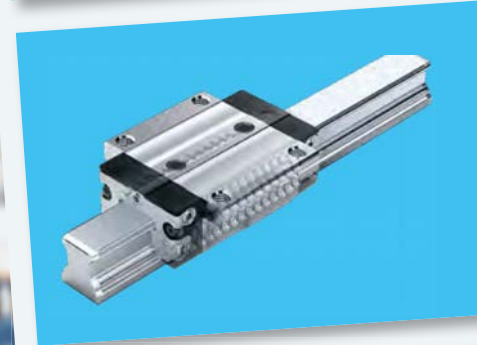
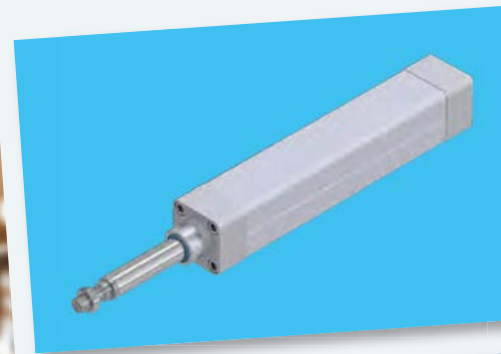


# GoTo Europe Focused Delivery Program

## Product Overview Linear Motion Technology



# The products I need when I need them

In today's global competition every day counts. Fast response times have become an important success factor for machine manufacturers. Reliable, on time delivery of machine components plays a critical role in this regard – especially when talking about individual and custom machine builders. With Rexroth's GoTo Focused Delivery Program you benefit from easy ordering processes and on-time delivery of our high-demand products across our broad range of technologies.

You receive the most common Rexroth products from industrial and mobile hydraulics, electric drives and controls, tightening technology, as well as linear motion and assembly technologies delivered reliably and on time. And that across Europe, taking into account product-dependent maximum order quantities and with unrivaled simplicity. Construct your machines and systems quickly and efficiently – we support you during the process.

The GoTo Focused Delivery Program offers a targeted selection of our high-demand products with preferred service: As a result, you receive your products quickly and reliably, allowing you to respond to your market and customer requirements at any time.

You benefit from simplified access to product information, preferred order processing and reduced delivery times. This allows you to complete your machine or system on schedule.



## Your advantages

- ▶ Reduced inventories and capital commitment through short, reliable delivery times
- ▶ Flexible response to customer and market demands through high availability of many products
- ▶ Simple, fast ordering via e-mail, fax, mail or eCommerce at Bosch Rexroth or its sales partners

◀ Easy ordering processes and on-time delivery with Rexroth's GoTo Focused Delivery Program



# Your product in just three steps

## 1. Select product

Visit the focused delivery program website:  
[www.boschrexroth.com/goto](http://www.boschrexroth.com/goto)

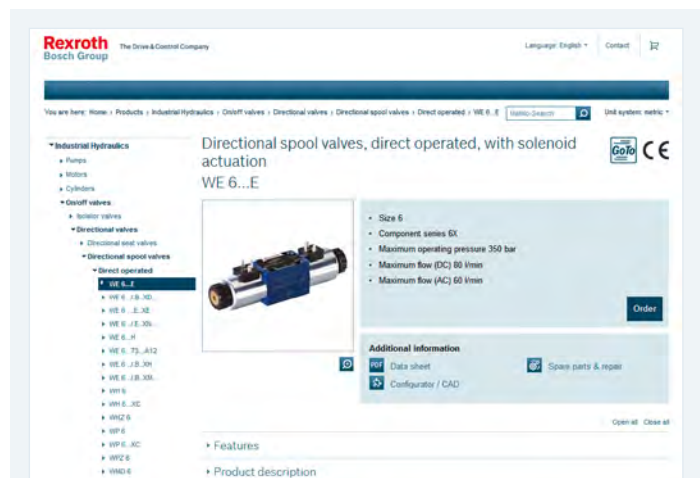
Use the GoTo product overview to find the desired products.

## 2. View product data

The website offers simple access to additional product information, including data sheets, part numbers, specifications, downloads and more.

## 3. Order product

To order, contact Rexroth, your sales partner, or simply order online via our eShop: [www.boschrexroth.com/eshop](http://www.boschrexroth.com/eshop)



### Simply select and view product data

- ▶ Product-specific information
- ▶ Availability
- ▶ Maximum order quantities
- ▶ Delivery times
- ▶ Prices

### Industrial and Mobile Hydraulics



### Electric Drives and Controls, Tightening Technology



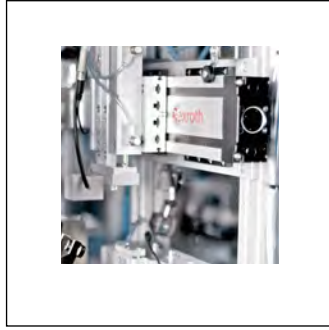
### Linear Motion Technology



### Assembly Technology



# Contents




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| Compact modules CKx             | 8        |
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| <b>Roller rail systems</b> | <b>15</b> |
| Roller runner block        | 16        |
| Roller guide rails         | 20        |

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|                          |           |
|--------------------------|-----------|
| <b>Ball rail systems</b> | <b>23</b> |
| Ball runner block        | 24        |
| Ball guide rails         | 36        |

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|                                    |           |
|------------------------------------|-----------|
| <b>Miniature ball rail systems</b> | <b>47</b> |
| Miniature ball runner block        | 48        |
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|                                 |           |
|---------------------------------|-----------|
| <b>Linear bushing guides</b>    | <b>55</b> |
| Linear bushings and linear sets | 56        |
| Precision steel shafts          | 80        |
| Shaft support blocks            | 82        |



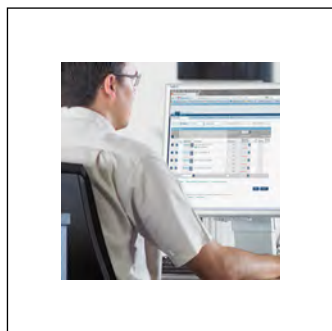

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|                                     |           |
|-------------------------------------|-----------|
| <b>Ball screw assemblies (BASA)</b> | <b>84</b> |
| Complete BASA                       | 86        |
| BASA nut                            | 89        |
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|                            |           |
|----------------------------|-----------|
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|----------------------------|-----------|




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|                             |           |
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|-----------------------------|-----------|

# Linear Systems – compact units for diverse applications

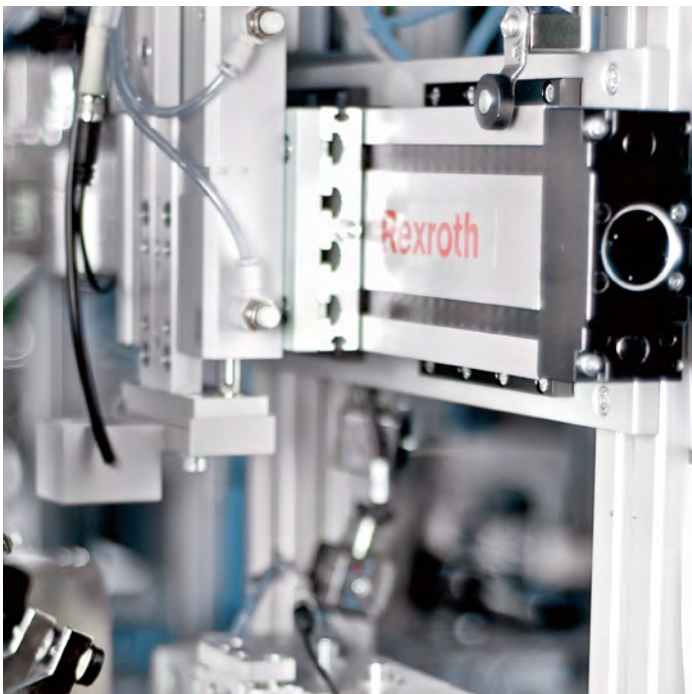


Image: VS Engineering SRL - Ettore Franceschi



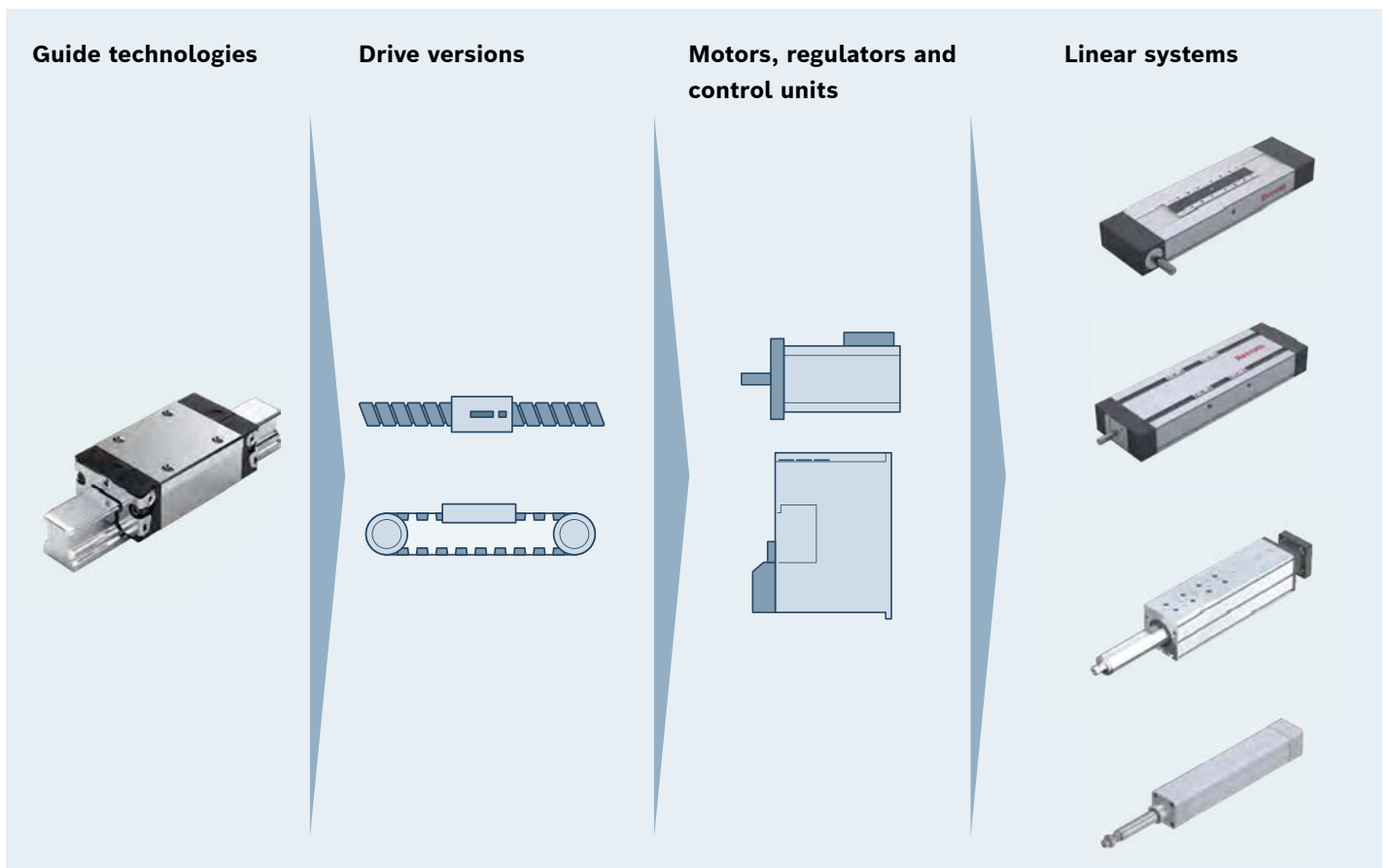
Our Linear Systems range from single axes to sophisticated, pre-configured complete solutions precisely engineered to meet your specific requirements and application needs – compact and ready to install.

They help you to get ahead faster, more easily and much more efficiently. You can benefit especially from our comprehensive, long-standing expertise in the field of management technology and our associated development and manufacturing expertise. That is how, along with our special steel inserts technology and lamp bodies, we are able to keep the dimensions to a minimum. When you compare physical size and performance, our linear axes are unbeatable, not to mention, of course, the high precision and quality when used in clean rooms.

The applicable certifications are available on request. There are many factors that need to be considered, so please get in touch with our specialists.

## Outstanding qualities

- ▶ **Complete product concept** for handling and assembly systems, as standard or customizable version for nearly all sectors
- ▶ **Scalable and customizable linear systems**
- ▶ **High cost efficiency** since the customer does not need to align the power unit with the controller
- ▶ **Reduction** of the design and manufacturing costs due to the high degree of standardization
- ▶ **Full range** of attachments and accessories
- ▶ Together with motor mounting, power amplifiers and control unit, **can be configured into complete systems**
- ▶ **Individual modifications** according to the customer's needs
- ▶ **Excellent service** provided by experienced specialists



**Guide technologies**

In our linear axes we integrate the following types of guide components:

**Ball rail systems**

Highest rigidity, accuracy, and speed

**Drive versions**

The choice of drive determines the characteristics of the linear axes.

**Ball screw assemblies**

High rigidity, high power density and repetitive accuracy.

**Belt drive**

For long travel distances and high dynamics, maintenance-free.

**Motors, regulators and control units**

Motors, regulators and controllers are also available in our product portfolio for the configuration of the linear axes into a linear system. Our many years of know-how ensure a perfect set up for efficient processes.

**Linear systems**

The diversity of our linear systems covers all the requirements of different industries. From solutions with the maximum possible standardization to the implementation of all individual ideas and requirements - we have systems that deliver perfect results.

Further information regarding linear systems can be found at: [www.boschrexroth.com/eshop](http://www.boschrexroth.com/eshop)



## Compact modules CKx

In many applications, the installation spaces are the decisive problem areas. Nevertheless, high performance values with optimal flow, high load capacity, high rigidity and precision are all required. Our compact modules come up with excellent data, including unsurpassed moment capacity.

Our compact modules are the industry leaders - not only in terms of space, but also in economic terms. They are configured to be installed and connected right away. All components are perfectly matched to each other, resulting in a significant reduction in the time needed for assembly. In addition, combining the modules to each other is not only easier, but also more precise and safe thanks to the intelligent Easy-2-Combine interfaces.

### Outstanding qualities

- ▶ **Particularly low profile** thanks to compact design with integrated rail systems and integrated runner block in the table section
- ▶ **Steel reinforcement technology** allows for the use of aluminum table parts to reduce the moving mass
- ▶ **High travel velocity** with high precision and smoothness
- ▶ **High moment capacity** thanks to double track guidance
- ▶ **High power density** relative to load capacity and size
- ▶ **Compact aluminum frame** with excellent rigidity
- ▶ **Minimal maintenance required** thanks to central post-lubrication



### Compact module CKR with belt drive

Extremely compact precision aluminum section with two integrated ball rail systems.

Table section made from aluminum. Idler (non-drive) end enclosure with integrated belt-tensioning system. The belt deflection is equipped with lifetime lubricated ball bearings. High speed operation with high precision and smoothness. The toothed belt is also a split seal with additional lateral support with aluminum strips.



### Compact module CKK with ball screw assembly

Extremely compact precision aluminum frame with two integrated ball rail systems. Precision ball screw assembly according to tolerance class 7 with backlash-free, cylindrical nut system. Revolving gap seal made of PU strip, reinforced with integral steel cables.



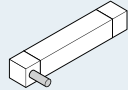
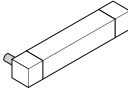
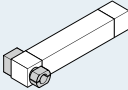
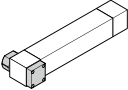
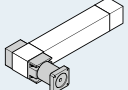
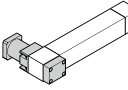
**Detailed information:**

Compact module catalog

**Technical data for CKR**

| Size                    |    | CKR-090-NNG1 | CKR-110-NNG1 | CKR-145-NNG1 | CKR-200-NNG1 |
|-------------------------|----|--------------|--------------|--------------|--------------|
| L <sub>max.</sub>       | mm | 1 000        | 3 000        | 3 000        | 3 000        |
| C                       | N  | 7 505        | 32 035       | 76 025       | 121 185      |
| Motor MSK <sup>1)</sup> |    | 030C         | 030C         | 040C         | 060C         |

<sup>1)</sup> Optionally available**Motor installation**

| Models | MA01  | MA02  | MA05  | MA06   | MG10  | MG11  |
|--------|---|---|---|--|---|---|
|        |  |  |  |  |  |  |

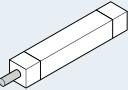
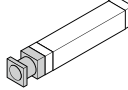
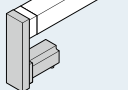
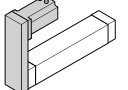
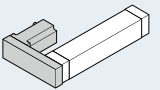
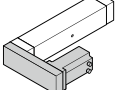
**Detailed information:**

Compact module catalog

**Technical data for CKK**

| Size                    |    | CKK-090-NNG1 |       |        | CKK-110-NNG1 |        |        | CKK-145-NNG1 |        |         | CKK-200-NNG1 |         |         |
|-------------------------|----|--------------|-------|--------|--------------|--------|--------|--------------|--------|---------|--------------|---------|---------|
| BASA d <sub>0</sub> xP  |    | 12x5         | 12x10 | 16x5   | 16x10        | 16x16  | 20x5   | 20x20        | 25x10  | 32x5    | 32x10        | 32x20   | 32x32   |
| BASA C                  | N  | 3 800        | 2 500 | 12 300 | 9 600        | 6 300  | 14 300 | 9 100        | 15 700 | 21 500  | 31 700       | 19 700  | 19 500  |
| L <sub>max.</sub>       | mm | 750          | 750   | 1 500  | 1 500        | 1 500  | 1 800  | 1 800        | 1 800  | 2 000   | 2 000        | 2 000   | 2 000   |
| Guide C                 | N  | 7 505        | 7 505 | 32 035 | 32 035       | 32 035 | 76 025 | 76 025       | 76 025 | 121 185 | 121 185      | 121 185 | 121 185 |
| Motor MSK <sup>1)</sup> |    | 030C         |       |        | 030C, 040C   |        |        | 040C, 050C   |        |         | 060C         |         |         |

<sup>1)</sup> Optionally available**Motor installation**

| Models | OF01  | MF01  | RV01  | RV02   | RV03  | RV04  |
|--------|---|---|---|--|---|---|
|        |  |  |  |  |  |  |

For ordering information for the GoTo products, see page 95

## Feed modules VKK

Rexroth feed modules VKK are precise, ready-to-install linear systems with high performance features in a compact format.

They are particularly suitable for handling tasks that require high precision and simultaneously high demands on force and torque transmission.

Due to the low moving mass, feed modules are ideal for vertical movements by acting as the Z-axis.

### Outstanding qualities

- ▶ **Optimal flow, high load capacity, high rigidity** thanks to the integrated, backlash-free ball rail system
- ▶ Inexpensive maintenance thanks to **central re-lubrication** (grease lubrication) of ball rail system and the ball screw assembly
- ▶ Fully compatible with the **EasyHandling system**
- ▶ Easy assembly of various attachments



### Feed module VKK with ball screw assembly

Compact aluminum section with steel reinforcement technology, in which a combination of aluminum and steel provides excellent performance. Integrated precision ball screw assembly according to tolerance class 7 with backlash-free, cylindrical nut system.

**Detailed information:**

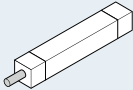
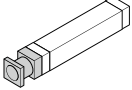
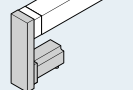
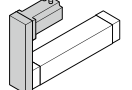
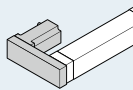
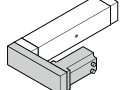
Feed module VKK catalog

**Technical data**

| Size                    |    | VKK-050-NNG1          |                       |                               | VKK-070-NNG1                  |                               |                               | VKK-100-NNG1                  |                               |
|-------------------------|----|-----------------------|-----------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
|                         |    | 12x5                  | 12x10                 | 16x5                          | 16x10                         | 16x16                         | 20x5                          | 20x20                         | 25x10                         |
| BASA C                  | N  | 3 800                 | 2 500                 | 12 300                        | 9 600                         | 6 300                         | 14 300                        | 13 300                        | 15 700                        |
| L <sub>tot.</sub>       | mm | 240, 280,<br>360, 480 | 240, 280,<br>360, 480 | 280, 320,<br>400, 520,<br>600 | 280, 320,<br>400, 520,<br>600 | 280, 320,<br>400, 520,<br>600 | 360, 400,<br>480, 600,<br>680 | 360, 400,<br>480, 600,<br>680 | 360, 400,<br>480, 600,<br>680 |
| Guide C                 | N  | 6 950                 | 6 950                 | 8 120                         | 8 120                         | 8 120                         | 26 000                        | 26 000                        | 26 000                        |
| Motor MSK <sup>1)</sup> |    | 030C                  |                       | 030C, 040C                    |                               |                               | 050C                          |                               |                               |

<sup>1)</sup> Optionally available

**Motor installation**

| Models | OF01  | MF01  | RV01  | RV02   | RV03  | RV04  |
|--------|---|---|---|--|---|---|
|        |  |  |  |  |  |  |

For ordering information for the GoTo products, see page 96

R310EN 2060/ 2021-04, Bosch Rexroth AG

 DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: [comercial@dbrautomation.com](mailto:comercial@dbrautomation.com)

## Electromechanical cylinders EMC

Its high degree of variability is what makes the EMC so interesting for many industries and applications. A low-cost simple basic cylinder can be adapted by means of countless options to meet practically any customer requirement. Hygienic design, with a high degree of chemical resistance, perfect sealing and a high IP protection class. The available options provide for a long service life even when operated in demanding industrial environments. The powerful EMC works extremely efficiently and economically at all times.

### Outstanding qualities

- ▶ **High-precision ball screw assembly:** for high performance with maximum cost-effectiveness
- ▶ **Complete modular system with great variability:** can be adapted to a wide range of applications
- ▶ **A ready to install and turn on system** for low design and installation costs
- ▶ **The smart, freely programmable drive system** allows the realization of complex travel profiles (parameters for force, position and travel speed can be set as required over the complete working travel range).
- ▶ **Optimized lubrication concept:** Optional connection to a central lubrication system reduces downtime.
- ▶ **Soundly sealed** against dirt and water from outside and lubrication leakage from the cylinder by selecting the option IP65.
- ▶ **Hygienic design:** High resistance to chemicals and cleaning agents by selecting the option IP65 + R (resistant)



### Electromechanical cylinders

Available from size 32 to 100 according to ISO 15552 and in any desired length up to a stroke of 1500 mm. Precision ball screw assembly according to tolerance class 7 with backlash-free, cylindrical nut system.

**Detailed information:**

Electromechanical cylinders EMC catalog

**Technical data**

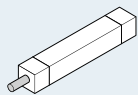
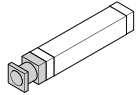
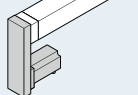
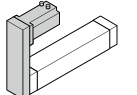
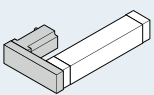
| Size                           |     | EMC-032-NNG2 |         |        | EMC-040-NNG2 |         |        | EMC-050-NNG2 |         |        | EMC-063-NNG2     |         |  |
|--------------------------------|-----|--------------|---------|--------|--------------|---------|--------|--------------|---------|--------|------------------|---------|--|
| BASA d <sub>0</sub> x P        | mm  | 12 x 5       | 12 x 10 | 16 x 5 | 16 x 10      | 16 x 16 | 20 x 5 | 20 x 10      | 20 x 20 | 25 x 5 | 25 x 10          | 25 x 25 |  |
| C                              | N   | 3 800        | 2 500   | 12 300 | 9 600        | 9 600   | 14 300 | 14 100       | 13 300  | 15 900 | 15 700           | 14 700  |  |
| F <sub>max</sub> <sup>1)</sup> | N   | 1 200        | 750     | 4 500  | 3 000        | 2 000   | 7 800  | 5 500        | 3 200   | 15 900 | 14 800           | 8 000   |  |
| M <sub>p</sub> <sup>1)</sup>   | Nm  | 1.1          | 1.3     | 4.0    | 5.3          | 5.7     | 6.9    | 9.7          | 11.3    | 14.1   | 26.2             | 35.4    |  |
| V <sub>max</sub>               | m/s | 0.57         | 1.13    | 0.38   | 0.77         | 1.23    | 0.32   | 0.63         | 1.27    | 0.28   | 0.55             | 1.38    |  |
| minimum travel distance        | mm  | 40           | 40      | 70     | 70           | 70      | 90     | 90           | 90      | 100    | 100              | 100     |  |
| maximum travel distance        | mm  | 750          | 750     | 750    | 750          | 750     | 900    | 900          | 900     | 1 200  | 1 200            | 1 200   |  |
| Motor MSK <sup>2)</sup>        |     | 030C         |         |        | 030C, 040C   |         |        | 040C, 050C   |         |        | 040C, 050C, 060C |         |  |

| Size                           |     | EMC-080-NNG2     |         |         |         | EMC-100-NNG2     |         |         |         |
|--------------------------------|-----|------------------|---------|---------|---------|------------------|---------|---------|---------|
| BASA d <sub>0</sub> x P        | mm  | 32 x 5           | 32 x 10 | 32 x 20 | 32 x 32 | 40 x 5           | 40 x 10 | 40 x 20 | 40 x 40 |
| C                              | N   | 21 600           | 26 000  | 19 700  | 19 500  | 29 100           | 42 100  | 37 900  | 37 000  |
| F <sub>max</sub> <sup>1)</sup> | N   | 21 600           | 22 000  | 15 000  | 10 400  | 29 100           | 29 000  | 29 000  | 22 900  |
| M <sub>p</sub> <sup>1)</sup>   | Nm  | 19.1             | 38.9    | 53.1    | 58.9    | 25.7             | 51.3    | 102.6   | 162.0   |
| V <sub>max</sub>               | m/s | 0.25             | 0.50    | 1.00    | 1.60    | 0.18             | 0.37    | 0.73    | 1.47    |
| minimum travel distance        | mm  | 100              | 100     | 100     | 130     | 100              | 100     | 100     | 150     |
| maximum travel distance        | mm  | 1 500            | 1 500   | 1 500   | 1 500   | 1 500            | 1 500   | 1 500   | 1 500   |
| Motor MSK <sup>2)</sup>        |     | 050C, 060C, 076C |         |         |         | 060C, 076C, 071D |         |         |         |

<sup>1)</sup> The attainable values may vary according to the version, mounting situation and stroke.






<sup>2)</sup> Optionally available

**Motor installation**

| Models | OF01  | MF01  | RV01   | RV02  | RV03  |
|--------|---|---|--|---|---|
|        |  |  |  |  |  |

For ordering information for the GoTo products, see page 97

## Connection elements for linear systems

| Angle connection  | Part no.  | Main section                           | Axis 1  | Axis 2  |         |
|---|---|--|---------|---------|---------|
|    | R039110255  | Bracket, standard                      | CKx 090 | CKx 090 |         |
|   |   |  | CKx 110 | CKx 090 |         |
|   | R039110256  | Bracket, standard                      | CKx 110 | CKx 110 |         |
|   | R039110258  | Bracket, standard                      | CKx 145 | CKx 145 |         |
|   | R039110326  | Bracket, standard                      | CKx 145 | CKx 110 |         |
|   | R039110328  | Bracket, standard                      | CKx 200 | CKx 145 |         |
|    | R039110329  | Bracket, standard                      | CKx 200 | CKx 200 |         |
|   | R039110254  | Bracket, standard                      | CKx 090 | CKx 090 |         |
|   | R039110481  | Bracket, standard (CMS version)        | CKx 110 | CKx 090 |         |
|   | R039110482  | Bracket, standard (CMS version)        | CKx 110 | CKx 110 |         |
|   | R039110483  | Bracket, standard (CMS version)        | CKx 145 | CKx 110 |         |
|   | R039110484  | Bracket, standard (CMS version)        | CKx 145 | CKx 145 |         |
|   | R039110472  | Bracket, long right-side (CMS version) | CKx 145 | CKx 110 |         |
|   | R039110471  | Bracket, long left-side (CMS version)  | CKx 145 | CKx 110 |         |
|   | R039110480  | Bracket, long right-side (CMS version) | CKx 145 | CKx 145 |         |
|   | R039110479  | Bracket, long left-side (CMS version)  | CKx 145 | CKx 145 |         |
|    | R039110475  | Bracket, long right-side (CMS version) | CKx 200 | CKx 145 |         |
|   | R039110474  | Bracket, long left-side (CMS version)  | CKx 200 | CKx 145 |         |
|   | R039110478  | Bracket, long right-side (CMS version) | CKx 110 | CKx 110 |         |
|   | R039110477  | Bracket, long left-side (CMS version)  | CKx 110 | CKx 110 |         |
|   | <b>Direct connection</b>  |  |         |         |         |
|   |  | R039120045                             | direct  | CKx 090 | CKx 090 |
|   |   |  |         | CKx 110 | CKx 090 |
| R039120046  |   | direct                                 | CKx 110 | CKx 110 |         |
| R039120242  |   | direct                                 | CKx 145 | CKx 090 |         |
| R039120047  |   | direct                                 | CKx 145 | CKx 110 |         |
| R039120048  |   | direct                                 | CKx 145 | CKx 145 |         |
| R039120049  |   | direct                                 | CKx 200 | CKx 145 |         |
| R039120145  |   | direct                                 | CKx 200 | CKx 145 |         |
|  | R039120239  | direct                                 | CKx 090 | VKK 050 |         |
|   |   |  | CKx 090 | VKK 110 |         |
|   | R039120046  | direct                                 | CKx 090 | VKK 070 |         |
|   |   |  | CKx 110 | VKK 070 |         |
|   | R039120047  | direct                                 | CKx 145 | VKK 070 |         |
|   | R039120048  | direct                                 | CKx 145 | VKK 100 |         |

For ordering information for the GoTo products, see page 98

Bosch Rexroth AG, R310EN 2060/ 2021-04

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# Roller rail systems

Roller rail systems from Rexroth are designed to meet the highest expectations on precision and rigidity in linear motion. The range offers compact, linear motion guides in various accuracy classes, with rollers as the rolling elements. The runner blocks and guide rails feature extremely high load capacity and rigidity for especially demanding conditions of use. The advantages of the rolling-element design are particularly apparent when it comes to energy efficiency. Here, they can improve the degree of efficiency by up to 90 % relative to sliding guides. This reduces the required energy input and therefore has a direct impact on energy costs.

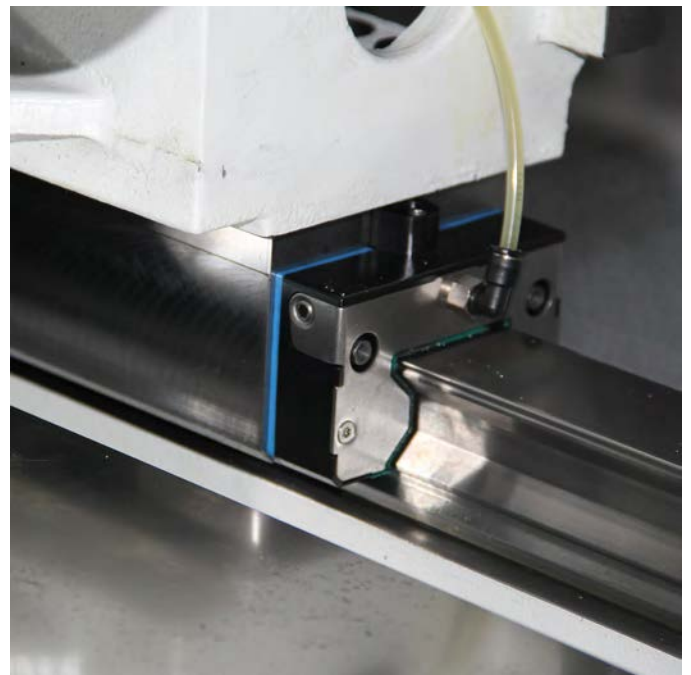
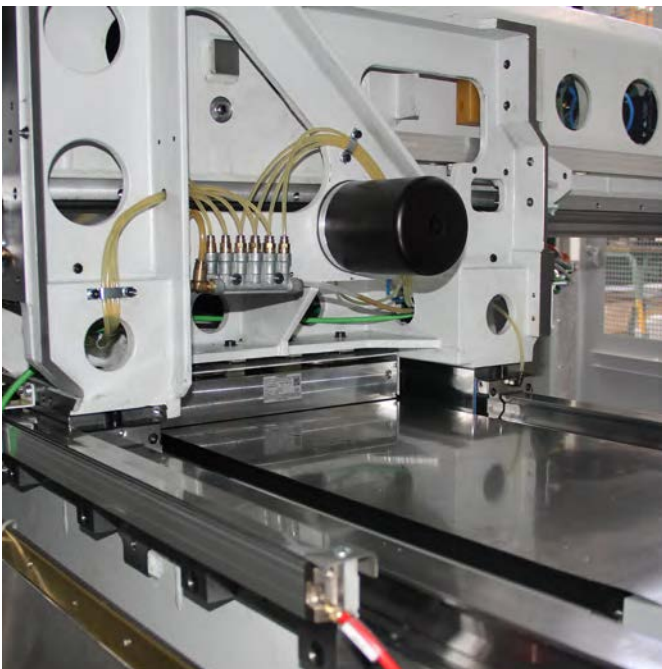
Further positive factors include exceptional precision and travel accuracy, regardless of the travel speed and load.

## Roller runner blocks

Rexroth roller runner blocks have top rigidity in all load directions for best precision and high travel accuracy.

## Roller guide rails

Precision ground reference edges on both sides of the Roller Guide Rails facilitate installation. The cover strip made of corrosion-resistant spring steel as per DIN EN 10088 provides one single cover for all guide rail mounting holes. It is easy to use, secure, and a great time-saver compared to individual mounting hole plugs.



## Standard roller runner blocks, steel, FNS, type R1851



- ▶ For mounting from above and below
- ▶ High load-bearing capacity
- ▶ High rigidity
- ▶ High travel speed of up to 4 m/s

### Features

- ▶ Unrestricted interchangeability
- ▶ Minimal friction losses
- ▶ Integrated all-around sealing as standard
- ▶ High torque load capability

### Product description

Roller runner blocks are characterized by their exceptional rigidity and extremely high load-bearing capacity. Further design types and sizes can be found in the “Roller rail systems” catalog. In the high-precision version, RSHP, the running accuracy is increased enormously thanks to the optimized entry-zone geometry of the rollers, especially while changing direction.

### Detailed information:

Roller rail systems RSHP catalog

### Technical data

| Size      |         | 25     | 35     | 45      |
|-----------|---------|--------|--------|---------|
| C         | N       | 26 900 | 61 000 | 106 600 |
| $M_t$     | Nm      | 348    | 1 210  | 2 640   |
| $M_L$     | Nm      | 260    | 760    | 1 650   |
| $v_{max}$ | m/s     | 4      | 4      | 4       |
| $a_{max}$ | $m/s^2$ | 150    | 150    | 150     |
| A         | mm      | 70     | 100    | 120     |
| B         | mm      | 97     | 118    | 147     |
| $H_1$     | mm      | 30     | 41     | 51      |
| m         | kg      | 0.73   | 2.15   | 4.05    |

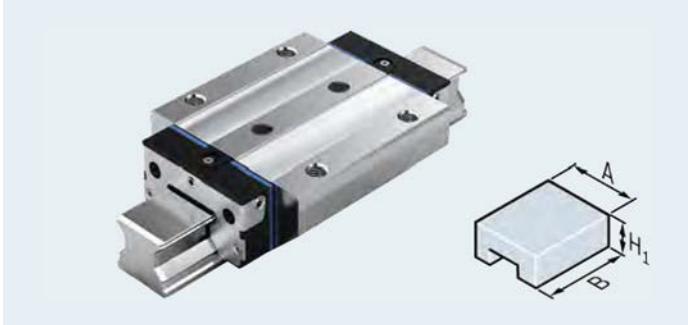
For ordering information for the GoTo products, see page 98

Bosch Rexroth AG, R310EN 2060/ 2021-04

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# Standard roller runner blocks, steel, FLS, type R1853



- ▶ For mounting from above and below
- ▶ High load-bearing capacity
- ▶ High rigidity
- ▶ High travel speed of up to 4 m/s

## Features

- ▶ Unrestricted interchangeability
- ▶ Minimal friction losses
- ▶ Integrated all-around sealing as standard
- ▶ High torque load capability
- ▶ Long version for even higher load capacity and rigidity

## Product description

Roller runner blocks are characterized by their exceptional rigidity and extremely high load-bearing capacity. Further design types and sizes can be found in the “Roller rail systems” catalog. In the high-precision version, RSHP, the running accuracy is increased enormously thanks to the optimized entry-zone geometry of the rollers, especially while changing direction.

### Detailed information:

Roller rail systems RSHP catalog

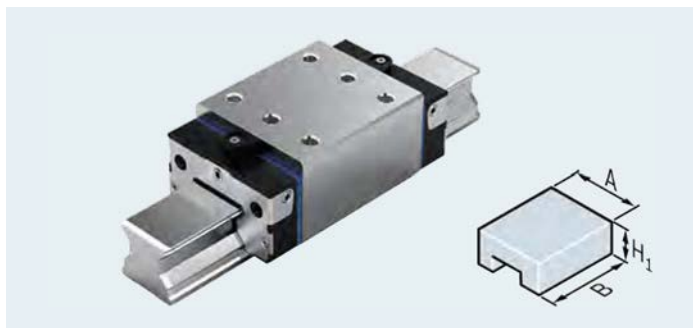
## Technical data

| Size      |                  | 25     | 35     | 45      |
|-----------|------------------|--------|--------|---------|
| C         | N                | 33 300 | 74 900 | 132 300 |
| $M_t$     | Nm               | 432    | 1 490  | 3 270   |
| $M_L$     | Nm               | 420    | 1 220  | 2 690   |
| $v_{max}$ | m/s              | 3      | 4      | 4       |
| $a_{max}$ | m/s <sup>2</sup> | 150    | 150    | 150     |
| A         | mm               | 70     | 100    | 120     |
| B         | mm               | 115    | 142    | 179.5   |
| $H_1$     | mm               | 30     | 41     | 51      |
| m         | kg               | 0,93   | 2.70   | 5.15    |

For ordering information for the GoTo products, see page 99

R310EN 2060/ 2021-04, Bosch Rexroth AG

## Standard roller runner blocks, steel, SNH, type R1821



- ▶ For mounting from above
- ▶ High load-bearing capacity
- ▶ High rigidity
- ▶ High travel speed of up to 4 m/s

### Features

- ▶ Unrestricted interchangeability
- ▶ Minimal friction losses
- ▶ Integrated all-around sealing as standard
- ▶ High torque load capability

### Product description

Roller runner blocks are characterized by their exceptional rigidity and extremely high load-bearing capacity. Further design types and sizes can be found in the “Roller rail systems” catalog. In the high-precision version, RSHP, the running accuracy is increased enormously thanks to the optimized entry-zone geometry of the rollers, especially while changing direction.

### Detailed information:

Roller rail systems RSHP catalog

### Technical data

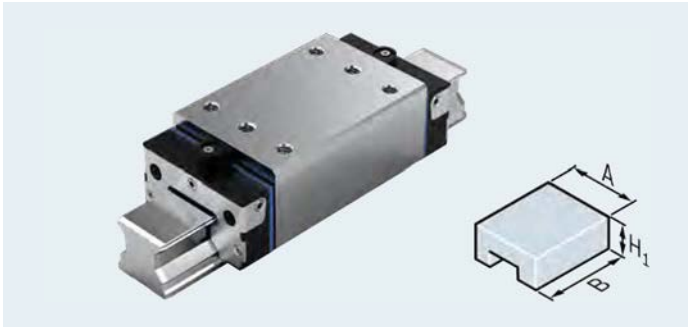
| Size      |         | 25     | 35     | 45      |
|-----------|---------|--------|--------|---------|
| C         | N       | 26 900 | 61 000 | 106 600 |
| $M_t$     | Nm      | 348    | 1 210  | 2 640   |
| $M_L$     | Nm      | 260    | 760    | 1 650   |
| $v_{max}$ | m/s     | 4      | 4      | 4       |
| $a_{max}$ | $m/s^2$ | 150    | 150    | 150     |
| A         | mm      | 48     | 70     | 86      |
| B         | mm      | 97     | 118    | 147     |
| $H_1$     | mm      | 34     | 48     | 61      |
| m         | kg      | 0.63   | 1.85   | 3.35    |

For ordering information for the GoTo products, see page 99

Bosch Rexroth AG, R310EN 2060/ 2021-04

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# Standard roller runner blocks, steel, SLH, type R1824



- ▶ For mounting from above
- ▶ High load-bearing capacity
- ▶ High rigidity
- ▶ High travel speed of up to 4 m/s

## Features

- ▶ Unrestricted interchangeability
- ▶ Minimal friction losses
- ▶ Integrated all-around sealing as standard
- ▶ High torque load capability
- ▶ Long version for even higher load capacity and rigidity

## Product description

Roller runner blocks are characterized by their exceptional rigidity and extremely high load-bearing capacity. Further design types and sizes can be found in the “Roller rail systems” catalog. In the high-precision version, RSHP, the running accuracy is increased enormously thanks to the optimized entry-zone geometry of the rollers, especially while changing direction.

### Detailed information:

Roller rail systems RSHP catalog

## Technical data

| Size      |                  | 25     | 35     | 45      |
|-----------|------------------|--------|--------|---------|
| C         | N                | 33 300 | 74 900 | 132 300 |
| $M_t$     | Nm               | 432    | 1 490  | 3 270   |
| $M_L$     | Nm               | 420    | 1 220  | 2 690   |
| $v_{max}$ | m/s              | 4      | 4      | 4       |
| $a_{max}$ | m/s <sup>2</sup> | 150    | 150    | 150     |
| A         | mm               | 48     | 70     | 86      |
| B         | mm               | 115    | 142    | 179     |
| $H_1$     | mm               | 34     | 48     | 61      |
| m         | kg               | 0.8    | 2.35   | 4.45    |

For ordering information for the GoTo products, see page 99

R310EN 2060/ 2021-04, **Bosch Rexroth AG**

## Standard roller guide rails, steel, SNS, type R1805, with cover strip and protective end caps



- ▶ For mounting from above
- ▶ Accuracy class P
- ▶ With cover strip made of corrosion-resistant spring steel as per DIN EN 10088

### Features

- ▶ One-piece version
- ▶ Screw-down plastic protective end caps

### Product description

The highly accurate precision-ground roller guide rails have reference edges on both sides. The optimally shaped chamfers around the edges of the end faces make it easier to push on the runner blocks and protect the seals from being damaged during this process. Further design types and sizes can be found in the “Roller rail systems” catalog.

### Detailed information:

Roller rail systems RSHP catalog

### Technical data

| Size      |      | 25    | 35    | 45    |
|-----------|------|-------|-------|-------|
| $L_{max}$ | mm   | 3 986 | 3 996 | 3 986 |
| $H_2$     | mm   | 23.6  | 31.1  | 39.1  |
| m         | kg/m | 3.1   | 6.3   | 10.3  |

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Bosch Rexroth AG, R310EN 2060/ 2021-04

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## Standard roller guide rails, steel, SNS, type R1807, for mounting from below



- ▶ For mounting from below
- ▶ Accuracy class P

### Features

- ▶ One-piece version

### Product description

The highly accurate precision-ground roller guide rails have reference edges on both sides. The optimally shaped chamfers around the edges of the end faces make it easier to push on the runner blocks and protect the seals from being damaged during this process. Further design types and sizes can be found in the “Roller rail systems” catalog.

### Detailed information:

Roller rail systems RSHP catalog

### Technical data

| Size             |      | 25    | 35    | 45    |
|------------------|------|-------|-------|-------|
| L <sub>max</sub> | mm   | 3 986 | 3 996 | 3 986 |
| H <sub>2</sub>   | mm   | 23.4  | 30.8  | 38.8  |
| m                | kg/m | 3.1   | 6.3   | 10.3  |

For ordering information for the GoTo products, see page 99

R310EN 2060/ 2021-04, Bosch Rexroth AG

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# Ball rail systems

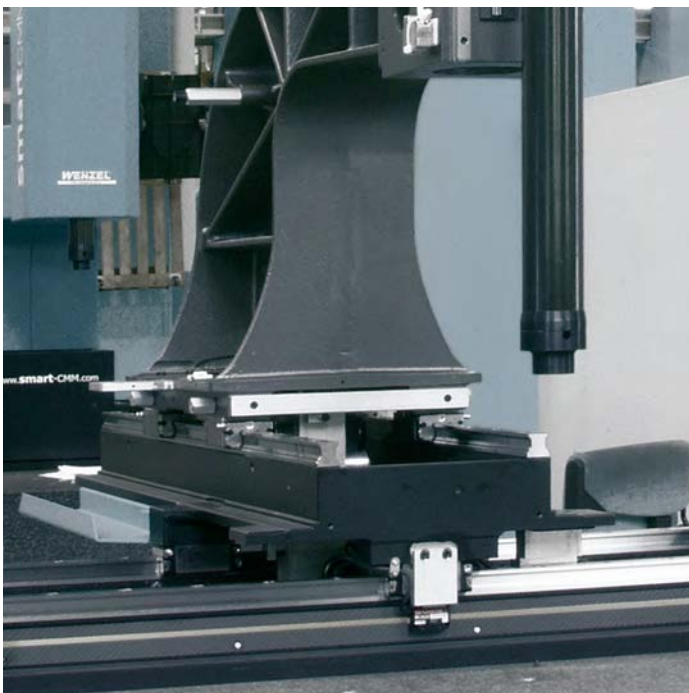
Rexroth ball rail systems offer outstanding characteristics and are designed primarily for use in general machine construction and machine tools. Especially notable are their high performance and long life. The high-quality long-term lubrication concept and minimal-quantity lubrication systems combined with the wear-resistance typical of rolling-element guides assure a high level of operational reliability and consistent precision throughout the service life of these components. A unique feature of these systems is their unrestricted interchangeability. The ball guide rails and ball runner blocks are manufactured with such high precision that each individual component element within one accuracy class can be replaced by another at any time.

## Ball runner block

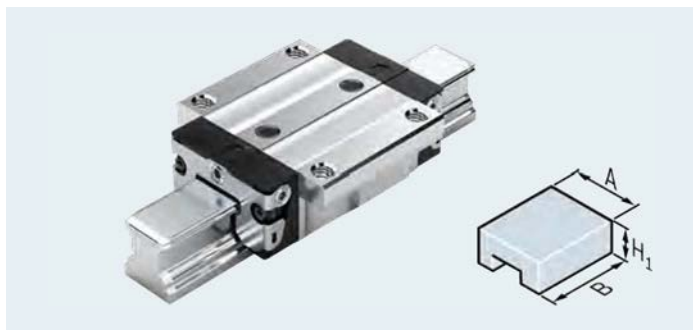
Ball runner blocks are available in many different sizes, design styles and versions, also including self-aligning models.

## Ball guide rails

Precision ground reference edges on both sides of the ball guide rails facilitate installation. The cover strip made of corrosion-resistant spring steel as per DIN EN 10088 provides one single easy-to-use and secure cover for all guide rail mounting holes.



## Standard ball runner blocks, steel, FNS, type R1651



- ▶ High load-bearing capacity
- ▶ High rigidity
- ▶ For mounting from above and below
- ▶ Travel speed:  $v_{\max} = 5 \text{ m/s}$
- ▶ Acceleration:  $a_{\max} = 500 \text{ m/s}^2$

### Features

- ▶ Now with improved performance data
- ▶ Unrestricted interchangeability
- ▶ Integrated all-around sealing as standard
- ▶ Same load capacity in all four directions of loading
- ▶ Can be used on all SNS ball guide rails

### Product description

High rigidity in all load directions – permits applications with just one runner block per rail. Unrestricted interchangeability means that all Rexroth ball runner blocks and ball guide rails within one accuracy class can be combined at will. Rexroth ball runner blocks can optionally be equipped with a ball chain to optimize noise levels.

### Detailed information:

Ball rail systems catalog

### Technical data

| Size                     |    | 15    | 20     | 25     | 30     | 35     | 45     |
|--------------------------|----|-------|--------|--------|--------|--------|--------|
| C without ball chain     | N  | 9 860 | 23 400 | 28 600 | 36 500 | 51 800 | 86 400 |
| C with ball chain        | N  | 8 850 | 22 200 | 26 700 | 34 800 | 49 400 | 82 400 |
| $M_t$ without ball chain | Nm | 95    | 300    | 410    | 630    | 1 110  | 2 330  |
| $M_t$ with ball chain    | Nm | 85    | 280    | 380    | 600    | 1 060  | 2 220  |
| $M_L$ without ball chain | Nm | 68    | 200    | 290    | 440    | 720    | 1 540  |
| $M_L$ with ball chain    | Nm | 62    | 190    | 270    | 420    | 700    | 1 480  |
| A                        | mm | 47    | 63     | 70     | 90     | 100    | 120    |
| B                        | mm | 58.2  | 75     | 86.2   | 97.7   | 110.5  | 137.6  |
| $H_1$                    | mm | 19.9  | 25.35  | 29.9   | 35.35  | 40.4   | 50.3   |
| m                        | kg | 0.2   | 0.45   | 0.65   | 1.1    | 1.6    | 3.0    |

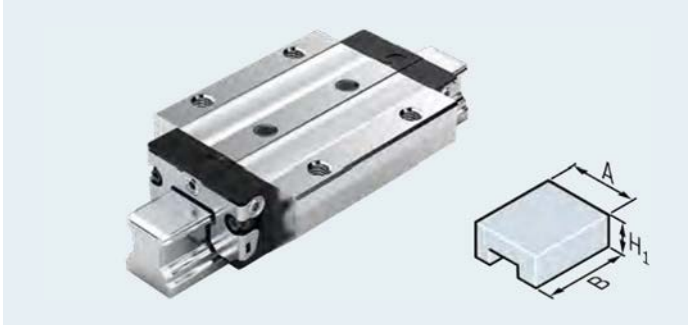
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Bosch Rexroth AG, R310EN 2060/ 2021-04

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## Standard ball runner blocks, steel, FLS, type R1653



- ▶ Long version for even higher load capacity and rigidity
- ▶ For mounting from above and below
- ▶ Travel speed:  $v_{\max} = 5 \text{ m/s}$
- ▶ Acceleration:  $a_{\max} = 500 \text{ m/s}^2$

### Features

- ▶ Now with improved performance data
- ▶ Unrestricted interchangeability
- ▶ Integrated all-around sealing as standard
- ▶ Same load capacity in all four directions of loading
- ▶ Can be used on all SNS ball guide rails

### Product description

High rigidity in all load directions – permits applications with just one runner block per rail. Unrestricted interchangeability means that all Rexroth ball runner blocks and ball guide rails within one accuracy class can be combined at will.

### Detailed information:

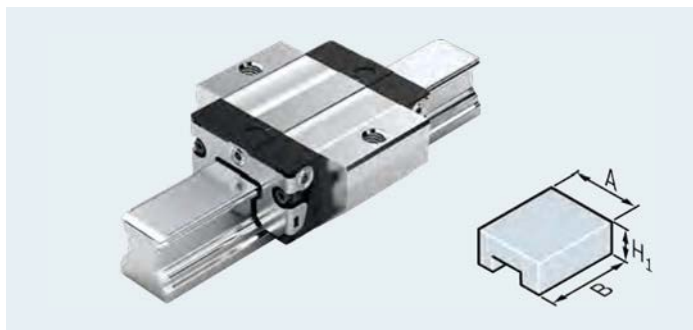
Ball rail systems catalog

### Technical data

| Size       |    | 15     | 20     | 25     | 30     | 35     | 45      |
|------------|----|--------|--------|--------|--------|--------|---------|
| $C^{1)}$   | N  | 12 800 | 29 600 | 37 300 | 46 000 | 66 700 | 111 000 |
| $M_t^{1)}$ | Nm | 120    | 380    | 530    | 800    | 1 440  | 3 010   |
| $M_L^{1)}$ | Nm | 120    | 340    | 530    | 740    | 1 290  | 2 730   |
| A          | mm | 47     | 63     | 70     | 90     | 100    | 120     |
| B          | mm | 72.6   | 91.0   | 107.9  | 119.7  | 139    | 174.1   |
| $H_1$      | mm | 19.9   | 35.35  | 29.9   | 35.35  | 40.4   | 50.3    |
| m          | kg | 0.3    | 0.55   | 0.9    | 1.5    | 2.25   | 4.3     |

<sup>1)</sup> The load capacities (N) and moments (Nm) apply to ball runner blocks without ball chain.

## Standard ball runner blocks, steel, FKS, ttype R1665



- ▶ For restricted space in the longitudinal direction
- ▶ For mounting from above and below
- ▶ Medium load-bearing capacity
- ▶ Travel speed:  $v_{\max} = 5 \text{ m/s}$
- ▶ Acceleration:  $a_{\max} = 500 \text{ m/s}^2$

### Features

- ▶ Now with improved performance data
- ▶ Unrestricted interchangeability
- ▶ Integrated all-around sealing as standard
- ▶ Same load capacity in all four directions of loading
- ▶ Can be used on all SNS ball guide rails

### Product description

Optimal rigidity for standard applications. Short version of the standard runner block.

#### Detailed information:

Ball rail systems catalog

### Technical data

| Size                         |    | 15    | 20     | 25     | 30     | 35     |
|------------------------------|----|-------|--------|--------|--------|--------|
| C <sup>1)</sup>              | N  | 6 720 | 15 400 | 19 800 | 25 600 | 36 600 |
| M <sub>t</sub> <sup>1)</sup> | Nm | 65    | 200    | 280    | 440    | 790    |
| M <sub>L</sub> <sup>1)</sup> | Nm | 29    | 83     | 130    | 200    | 340    |
| A                            | mm | 47    | 63     | 70     | 90     | 100    |
| B                            | mm | 44.7  | 57.3   | 67     | 75.3   | 84.9   |
| H <sub>1</sub>               | mm | 19.9  | 25.35  | 29.9   | 35.35  | 40.4   |
| m                            | kg | 0.15  | 0.3    | 0.5    | 0.8    | 1.2    |

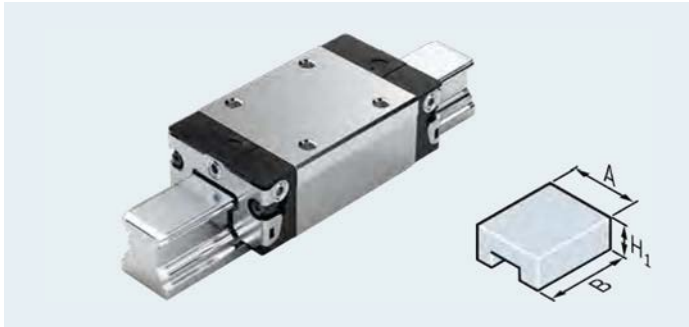
<sup>1)</sup> The load capacities (N) and moments (Nm) apply to ball runner blocks without ball chain.

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Bosch Rexroth AG, R310EN 2060/ 2021-04

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## Standard ball runner blocks, steel, SNS, type R1622



- ▶ High load-bearing capacity
- ▶ For restricted space in the transverse direction
- ▶ For mounting from above
- ▶ Travel speed:  $v_{\max} = 5 \text{ m/s}$
- ▶ Acceleration:  $a_{\max} = 500 \text{ m/s}^2$

### Features

- ▶ Now with improved performance data
- ▶ Unrestricted interchangeability
- ▶ Integrated all-around sealing as standard
- ▶ Same load capacity in all four directions of loading
- ▶ Can be used on all SNS ball guide rails

### Product description

High rigidity in all load directions – permits applications with just one runner block per rail. Unrestricted interchangeability means that all Rexroth ball runner blocks and ball guide rails within one accuracy class can be combined at will. Rexroth ball runner blocks can optionally be equipped with a ball chain to optimize noise levels.

### Detailed information:

Ball rail systems catalog

### Technical data

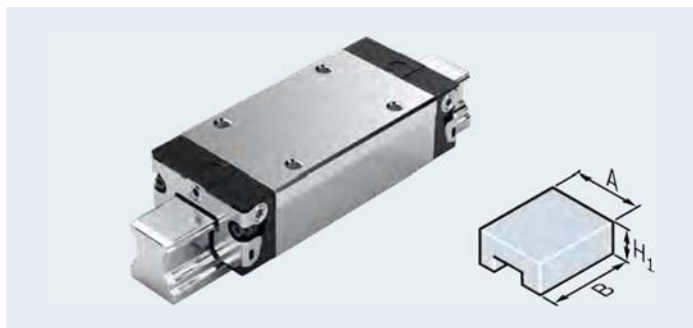
| Size                     |    | 15    | 20     | 25     | 30     | 35     | 45     |
|--------------------------|----|-------|--------|--------|--------|--------|--------|
| C without ball chain     | N  | 9 860 | 23 400 | 28 600 | 36 500 | 51 800 | 86 400 |
| C with ball chain        | N  | 8 850 | 22 200 | 26 700 | 34 800 | 49 400 | 82 400 |
| $M_t$ without ball chain | Nm | 95    | 300    | 410    | 630    | 1 110  | 2 330  |
| $M_t$ with ball chain    | Nm | 85    | 280    | 380    | 600    | 1 060  | 2 220  |
| $M_L$ without ball chain | Nm | 68    | 200    | 290    | 440    | 720    | 1 540  |
| $M_L$ with ball chain    | Nm | 62    | 190    | 270    | 420    | 700    | 1 480  |
| A                        | mm | 34    | 44     | 48     | 60     | 70     | 86     |
| B                        | mm | 58.2  | 75.0   | 86.2   | 97.7   | 110.5  | 137.6  |
| $H_1$                    | mm | 19.9  | 25.35  | 29.9   | 35.35  | 40.4   | 50.3   |
| m                        | kg | 0.15  | 0.35   | 0.5    | 0.85   | 1.25   | 2.4    |

For ordering information for the GoTo products, see page 101

R310EN 2060/ 2021-04, Bosch Rexroth AG

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## Standard ball runner blocks, steel, SLS, type R1623



- ▶ Long version for even higher load capacity and rigidity
- ▶ For mounting from above
- ▶ Travel speed:  $v_{\max} = 5 \text{ m/s}$
- ▶ Acceleration:  $a_{\max} = 500 \text{ m/s}^2$

### Features

- ▶ Now with improved performance data
- ▶ Unrestricted interchangeability
- ▶ Integrated all-around sealing as standard
- ▶ Same load capacity in all four directions of loading
- ▶ Can be used on all SNS ball guide rails

### Product description

High rigidity in all load directions – permits applications with just one runner block per rail. Unrestricted interchangeability means that all Rexroth ball runner blocks and ball guide rails within one accuracy class can be combined at will.

### Detailed information:

Ball rail systems catalog

### Technical data

| Size                         |    | 15     | 20     | 25     | 30     | 35     | 45      |
|------------------------------|----|--------|--------|--------|--------|--------|---------|
| C <sup>1)</sup>              | N  | 12 800 | 29 600 | 37 300 | 46 000 | 66 700 | 111 000 |
| M <sub>t</sub> <sup>1)</sup> | Nm | 120    | 380    | 530    | 800    | 1 440  | 3 010   |
| M <sub>L</sub> <sup>1)</sup> | Nm | 120    | 340    | 530    | 740    | 1 290  | 2 730   |
| A                            | mm | 34     | 44     | 48     | 60     | 70     | 86      |
| B                            | mm | 72.6   | 91.0   | 107.9  | 119.7  | 139.0  | 174.1   |
| H <sub>1</sub>               | mm | 19.9   | 25.35  | 29.9   | 35.35  | 40.4   | 50.3    |
| m                            | kg | 0.2    | 0.45   | 0.65   | 1.1    | 1.7    | 3.2     |

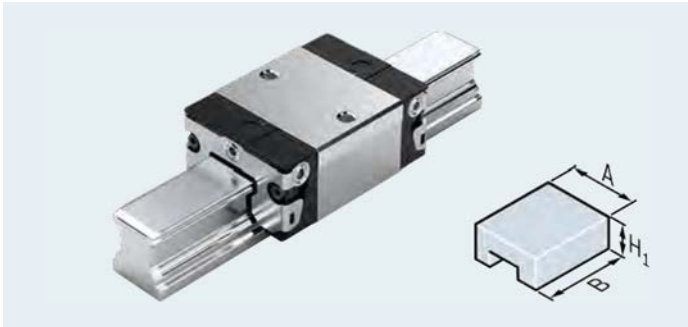
<sup>1)</sup> The load capacities (N) and moments (Nm) apply to ball runner blocks without ball chain.

For ordering information for the GoTo products, see page 102

Bosch Rexroth AG, R310EN 2060/ 2021-04

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

## Standard ball runner blocks, steel, SKS, type R1666



- ▶ For restricted space in the longitudinal and transverse direction
- ▶ For mounting from above
- ▶ Travel speed:  $v_{\max} = 5 \text{ m/s}$
- ▶ Acceleration:  $a_{\max} = 500 \text{ m/s}^2$
- ▶ Medium load-bearing capacity

### Features

- ▶ Now with improved performance data
- ▶ Unrestricted interchangeability
- ▶ Integrated all-around sealing as standard
- ▶ Same load capacity in all four directions of loading
- ▶ Can be used on all SNS ball guide rails

### Product description

Optimal rigidity for standard applications. Short version of the standard runner block.

### Detailed information:

Ball rail systems catalog

### Technical data

| Size                         |    | 15    | 20     | 25     | 30     | 35     |
|------------------------------|----|-------|--------|--------|--------|--------|
| C <sup>1)</sup>              | N  | 6 720 | 15 400 | 19 800 | 25 600 | 36 600 |
| M <sub>t</sub> <sup>1)</sup> | Nm | 65    | 200    | 280    | 440    | 790    |
| M <sub>L</sub> <sup>1)</sup> | Nm | 29    | 83     | 130    | 200    | 340    |
| A                            | mm | 34    | 44     | 48     | 60     | 70     |
| B                            | mm | 44.7  | 57.3   | 67     | 75.3   | 84.9   |
| H <sub>1</sub>               | mm | 19.9  | 25.35  | 29.9   | 35.35  | 40.4   |
| m                            | kg | 0.1   | 0.25   | 0.35   | 0.6    | 0.9    |

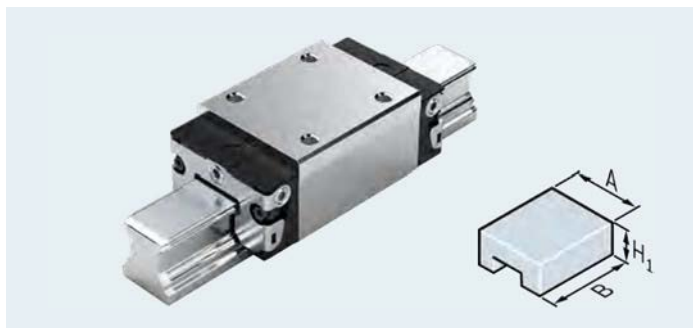
<sup>1)</sup> The load capacities (N) and moments (Nm) apply to ball runner blocks without ball chain.

For ordering information for the GoTo products, see page 103

R310EN 2060/ 2021-04, Bosch Rexroth AG

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

## Standard ball runner blocks, steel, SNH, type R1621



- ▶ High load-bearing capacity
- ▶ High rigidity
- ▶ For restricted space in the transverse direction
- ▶ Travel speed:  $v_{\max} = 5 \text{ m/s}$
- ▶ Acceleration:  $a_{\max} = 500 \text{ m/s}^2$

### Features

- ▶ Now with improved performance data
- ▶ Unrestricted interchangeability
- ▶ Integrated all-around sealing as standard
- ▶ Same load capacity in all four directions of loading
- ▶ Can be used on all SNS ball guide rails

### Product description

High rigidity in all load directions – permits applications with just one runner block per rail. Unrestricted interchangeability means that all Rexroth ball runner blocks and ball guide rails within one accuracy class can be combined at will.

### Detailed information:

Ball rail systems catalog

### Technical data

| Size                         |    | 15    | 25     | 30     | 35     | 45     |
|------------------------------|----|-------|--------|--------|--------|--------|
| C <sup>1)</sup>              | N  | 9 860 | 28 600 | 36 500 | 51 800 | 86 400 |
| M <sub>t</sub> <sup>1)</sup> | Nm | 95    | 410    | 630    | 1 110  | 2 330  |
| M <sub>L</sub> <sup>1)</sup> | Nm | 68    | 290    | 440    | 720    | 1 540  |
| A                            | mm | 34    | 48     | 60     | 70     | 86     |
| B                            | mm | 58.2  | 86.2   | 97.7   | 110.5  | 137.6  |
| H <sub>1</sub>               | mm | 23.9  | 33.9   | 38.35  | 47.4   | 60.3   |
| m                            | kg | 0.2   | 0.6    | 0.95   | 1.55   | 3      |

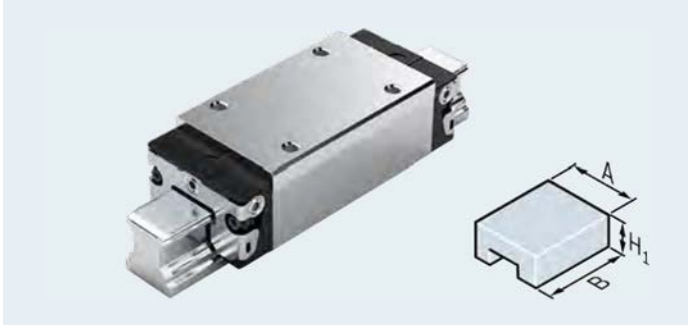
<sup>1)</sup> The load capacities (N) and moments (Nm) apply to ball runner blocks without ball chain.

For ordering information for the GoTo products, see page 104

Bosch Rexroth AG, R310EN 2060/ 2021-04

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

## Standard ball runner blocks, steel, SLH, type R1624



- ▶ Long version for even higher load capacity and rigidity
- ▶ For restricted space in the transverse direction
- ▶ Travel speed:  $v_{\max} = 5 \text{ m/s}$
- ▶ Acceleration:  $a_{\max} = 500 \text{ m/s}^2$

### Features

- ▶ Now with improved performance data
- ▶ Unrestricted interchangeability
- ▶ Integrated all-around sealing as standard
- ▶ Same load capacity in all four directions of loading
- ▶ Can be used on all SNS ball guide rails

### Product description

High rigidity in all load directions – permits applications with just one runner block per rail. Unrestricted interchangeability means that all Rexroth ball runner blocks and ball guide rails within one accuracy class can be combined at will.

### Detailed information:

Ball rail systems catalog

### Technical data

| Size                         |    | 25     | 30     | 35     | 45      |
|------------------------------|----|--------|--------|--------|---------|
| C <sup>1)</sup>              | N  | 37 300 | 46 000 | 66 700 | 111 000 |
| M <sub>t</sub> <sup>1)</sup> | Nm | 530    | 800    | 1 440  | 3 010   |
| M <sub>L</sub> <sup>1)</sup> | Nm | 530    | 740    | 1 290  | 2 730   |
| A                            | mm | 48     | 60     | 70     | 86      |
| B                            | mm | 107.9  | 119.7  | 139    | 174.1   |
| H <sub>1</sub>               | mm | 33.9   | 38.35  | 47.4   | 60.3    |
| m                            | kg | 0.8    | 1.2    | 2.1    | 4.1     |

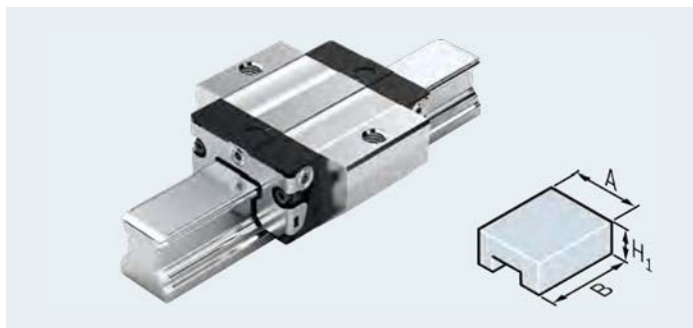
<sup>1)</sup> The load capacities (N) and moments (Nm) apply to ball runner blocks without ball chain.

For ordering information for the GoTo products, see page 104

R310EN 2060/ 2021-04, Bosch Rexroth AG

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

## Super ball runner blocks, steel, FKS, type R1661



- ▶ Self-aligning
- ▶ Extra-compact design
- ▶ Travel speed:  $v_{\max} = 5 \text{ m/s}$
- ▶ Acceleration:  $a_{\max} = 500 \text{ m/s}^2$
- ▶ Low noise

### Features

- ▶ Unrestricted interchangeability
- ▶ Excellent dynamic characteristics
- ▶ Integrated all-around sealing as standard
- ▶ Same load capacity in all four directions of loading
- ▶ Can be used on all SNS ball guide rails

### Product description

At least two ball runner blocks required per rail.

The self-aligning feature assures, even in less accurately aligned configurations, that the balls enter the load-bearing zone smoothly and that the load is distributed evenly across the entire row of balls.

The result: Extra-smooth running and considerably longer service life.

### Detailed information:

Ball rail systems catalog

### Technical data

| Size                             |    | 15    | 20     | 25     | 30     | 35     |
|----------------------------------|----|-------|--------|--------|--------|--------|
| C <sup>1)</sup>                  | N  | 3 900 | 10 100 | 11 400 | 15 800 | 21 100 |
| F <sub>max</sub> <sup>1)</sup>   | N  | 1 500 | 3 900  | 4 400  | 6 100  | 8 100  |
| M <sub>t</sub> <sup>1)</sup>     | Nm | 39    | 130    | 170    | 270    | 450    |
| M <sub>t max</sub> <sup>1)</sup> | Nm | 15    | 50     | 65     | 105    | 175    |
| A                                | mm | 47    | 63     | 70     | 90     | 100    |
| B                                | mm | 44.7  | 57.3   | 67.0   | 75.3   | 84.9   |
| H <sub>1</sub>                   | mm | 19.9  | 25.35  | 29.9   | 35.35  | 40.4   |
| m                                | kg | 0.15  | 0.3    | 0.5    | 0.8    | 1.2    |

<sup>1)</sup> The load capacities (N) and moments (Nm) apply to ball runner blocks without ball chain.

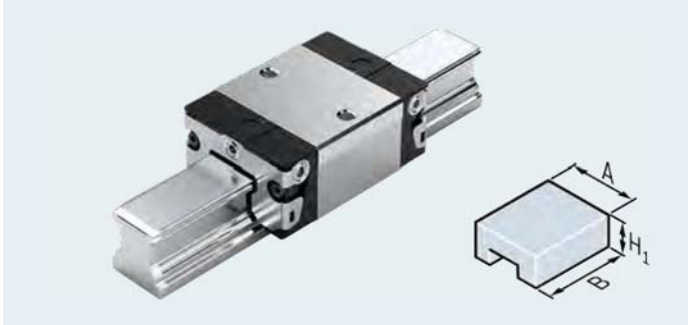
For ordering information for the GoTo products, see page 105

Bosch Rexroth AG, R310EN 2060/ 2021-04

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com



## Super ball runner blocks, steel, SKS, type R1662



- ▶ Self-aligning
- ▶ Extra-compact design
- ▶ Travel speed:  $v_{\max} = 5 \text{ m/s}$
- ▶ Acceleration:  $a_{\max} = 500 \text{ m/s}^2$
- ▶ Low noise

### Features

- ▶ Unrestricted interchangeability
- ▶ Excellent dynamic characteristics
- ▶ Integrated all-around sealing as standard
- ▶ Same load capacity in all four directions of loading
- ▶ Can be used on all SNS ball guide rails

### Product description

At least two ball runner Bblocks required per rail. The self-aligning feature assures, even in less accurately aligned configurations, that the balls enter the load-bearing zone smoothly and that the load is distributed evenly across the entire row of balls.

The result: Extra-smooth running and considerably longer service life.

### Detailed information:

Ball rail systems catalog

### Technical data

| Size                             |    | 15    | 20     | 25     | 30     | 35     |
|----------------------------------|----|-------|--------|--------|--------|--------|
| C <sup>1)</sup>                  | N  | 3 900 | 10 100 | 11 400 | 15 800 | 21 100 |
| F <sub>max</sub> <sup>1)</sup>   | N  | 1 500 | 3 900  | 4 400  | 6 100  | 8 100  |
| M <sub>t</sub> <sup>1)</sup>     | Nm | 39    | 130    | 170    | 270    | 450    |
| M <sub>t max</sub> <sup>1)</sup> | Nm | 15    | 50     | 65     | 105    | 175    |
| A                                | mm | 34    | 44     | 48     | 60     | 70     |
| B                                | mm | 44.7  | 57.3   | 67.0   | 75.3   | 84.9   |
| H <sub>1</sub>                   | mm | 19.9  | 25.35  | 29.9   | 35.35  | 40.4   |
| m                                | kg | 0.1   | 0.25   | 0.35   | 0.6    | 0.9    |

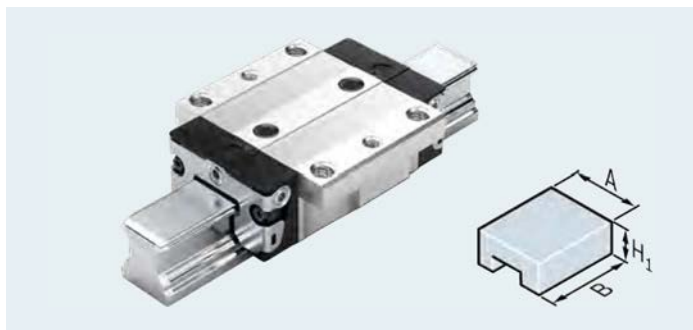
<sup>1)</sup> The load capacities (N) and moments (Nm) apply to ball runner blocks without ball chain.

For ordering information for the GoTo products, see page 105

R310EN 2060/ 2021-04, Bosch Rexroth AG

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

## Standard ball runner blocks, aluminum, FNS, type R1631



- ▶ High load-bearing capacity
- ▶ High torque load capacity
- ▶ For mounting from above and below
- ▶ Travel speed:  $v_{\max} = 5 \text{ m/s}$
- ▶ Acceleration:  $a_{\max} = 500 \text{ m/s}^2$

### Features

- ▶ Now with improved performance data
- ▶ Unrestricted interchangeability
- ▶ Integrated all-around sealing as standard
- ▶ Same load capacity in all four directions of loading
- ▶ Can be used on all SNS ball guide rails

### Product description

Up to 60 % weight saving with high load-bearing capacity. The steel insert technology assures the same load capacities as the steel version up to the maximum load-bearing capability of the aluminum body.

### Detailed information:

Ball rail systems catalog

### Technical data

| Size                             |    | 15    | 20     | 25     | 30     | 35     |
|----------------------------------|----|-------|--------|--------|--------|--------|
| C <sup>1)</sup>                  | N  | 9 860 | 23 400 | 28 600 | 36 500 | 51 800 |
| F <sub>max</sub> <sup>1)</sup>   | N  | 3 000 | 7 200  | 8 800  | 12 200 | 16 200 |
| M <sub>t</sub> <sup>1)</sup>     | Nm | 95    | 300    | 410    | 630    | 1 110  |
| M <sub>t max</sub> <sup>1)</sup> | Nm | 29    | 92     | 125    | 210    | 345    |
| M <sub>L</sub> <sup>1)</sup>     | Nm | 68    | 200    | 290    | 440    | 720    |
| M <sub>L max</sub> <sup>1)</sup> | Nm | 16    | 50     | 70     | 110    | 170    |
| A                                | mm | 47    | 63     | 70     | 90     | 100    |
| B                                | mm | 58.2  | 75     | 86.2   | 97.7   | 110.5  |
| H <sub>1</sub>                   | mm | 19.9  | 25.35  | 29.9   | 35.35  | 40.4   |
| m                                | kg | 0.1   | 0.24   | 0.3    | 0.5    | 0.75   |

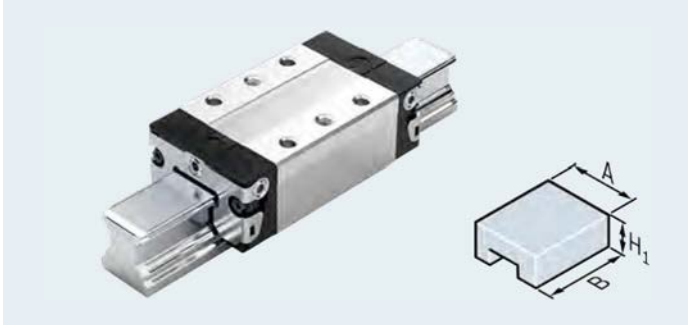
<sup>1)</sup> The load capacities (N) and moments (Nm) apply to ball runner blocks without ball chain.

For ordering information for the GoTo products, see page 106

Bosch Rexroth AG, R310EN 2060/ 2021-04

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

## Standard ball runner blocks, aluminum, SNS, type R1632



- ▶ High load-bearing capacity
- ▶ High torque load capacity
- ▶ For mounting from above
- ▶ Travel speed:  $v_{\max} = 5 \text{ m/s}$
- ▶ Acceleration:  $a_{\max} = 500 \text{ m/s}^2$

### Features

- ▶ Now with improved performance data
- ▶ Unrestricted interchangeability
- ▶ Integrated all-around sealing as standard
- ▶ Same load capacity in all four directions of loading
- ▶ Can be used on all SNS ball guide rails

### Product description

Up to 60 % weight saving with high load-bearing capacity. The steel insert technology assures the same load capacities as the steel version up to the maximum load-bearing capability of the aluminum body.

### Detailed information:

Ball rail systems catalog

### Technical data

| Size              |    | 15    | 20     | 25     | 30     | 35     |
|-------------------|----|-------|--------|--------|--------|--------|
| $C^{1)}$          | N  | 9 860 | 23 400 | 28 600 | 36 500 | 51 800 |
| $F_{\max}^{1)}$   | N  | 3 000 | 7 200  | 8 800  | 12 200 | 16 200 |
| $M_t^{1)}$        | Nm | 95    | 300    | 410    | 630    | 1 110  |
| $M_{t \max}^{1)}$ | Nm | 29    | 92     | 125    | 210    | 345    |
| $M_L^{1)}$        | Nm | 68    | 200    | 290    | 440    | 720    |
| $M_{L \max}^{1)}$ | Nm | 16    | 50     | 70     | 110    | 170    |
| A                 | mm | 34    | 44     | 48     | 60     | 70     |
| B                 | mm | 58.2  | 75     | 86.2   | 97.7   | 110.5  |
| $H_1$             | mm | 19.9  | 25.35  | 29.9   | 35.35  | 40.4   |
| m                 | kg | 0.1   | 0.2    | 0.35   | 0.45   | 0.65   |

<sup>1)</sup> The load capacities (N) and moments (Nm) apply to ball runner blocks without ball chain.

For ordering information for the GoTo products, see page 106

R310EN 2060/ 2021-04, Bosch Rexroth AG

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

## Standard ball guide rails, steel, SNS, type R1605 .0, with plastic mounting hole plugs



- ▶ For mounting from above
- ▶ No extra space needed at rail ends
- ▶ Available in accuracy classes N, H, P

### Features

- ▶ Top rigidity in all load directions
- ▶ High torque load capacity
- ▶ One-piece version

### Product description

The highly accurate precision-ground ball guide rails have reference edges on both sides. The optimally shaped chamfers around the edges of the end faces make it easier to push on the runner blocks and protect the seals from being damaged during this process.

### Detailed information:

Ball rail systems catalog

### Technical data

| Size      |      | 15    | 20    | 25    | 30    | 35    | 45    |
|-----------|------|-------|-------|-------|-------|-------|-------|
| $L_{max}$ | mm   | 3 836 | 3 836 | 3 836 | 3 836 | 3 836 | 3 776 |
| $H_2$     | mm   | 16.2  | 20.55 | 24.25 | 28.35 | 31.85 | 39.85 |
| m         | kg/m | 1.4   | 2.4   | 3.2   | 5     | 6.8   | 10.5  |

For ordering information for the GoTo products, see page 106

Bosch Rexroth AG, R310EN 2060/ 2021-04

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

## Standard ball guide rails, steel, SNS, type R1605 .6, with cover strip and protective end caps



- ▶ For mounting from above
- ▶ Cover strip made of corrosion-resistant spring steel
- ▶ With threaded holes at the end faces
- ▶ Screw-down plastic protective end caps
- ▶ Available in accuracy classes N, H, P

### Features

- ▶ Top rigidity in all load directions
- ▶ High torque load capacity
- ▶ For harsh environments
- ▶ Compact cover strip fastening
- ▶ A single cover for all holes
- ▶ One-piece version

### Product description

The highly accurate precision-ground ball guide rails have reference edges on both sides. The optimally shaped chamfers around the edges of the end faces make it easier to push on the runner blocks and protect the seals from being damaged during this process.

Cover strip made of corrosion-resistant spring steel per DIN EN 10088.

### Detailed information:

Ball rail systems catalog

### Technical data

| Size             |      | 15    | 20    | 25    | 30    | 35    | 45    |
|------------------|------|-------|-------|-------|-------|-------|-------|
| L <sub>max</sub> | mm   | 3 836 | 3 836 | 3 836 | 3 836 | 3 836 | 3 776 |
| H <sub>2</sub>   | mm   | 16.3  | 20.75 | 24.45 | 28.55 | 32.15 | 40.15 |
| m                | kg/m | 1.4   | 2.4   | 3.2   | 5     | 6.8   | 10.5  |

For ordering information for the GoTo products, see page 106

R310EN 2060/ 2021-04, Bosch Rexroth AG

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

## Standard ball guide rails, steel, SNS, type R1607, for mounting from below



- ▶ For mounting from below
- ▶ Greater side loads permitted
- ▶ No extra space needed at rail ends
- ▶ Easy access to mounting base underside
- ▶ Available in accuracy classes N, H, P

### Features

- ▶ Top rigidity in all load directions
- ▶ High torque load capacity
- ▶ One-piece version
- ▶ Best sealing performance of end seals

### Product description

The highly accurate precision-ground ball guide rails have reference edges on both sides. The optimally shaped chamfers around the edges of the end faces make it easier to push on the runner blocks and protect the seals from being damaged during this process.

#### Detailed information:

Ball rail systems catalog

### Technical data

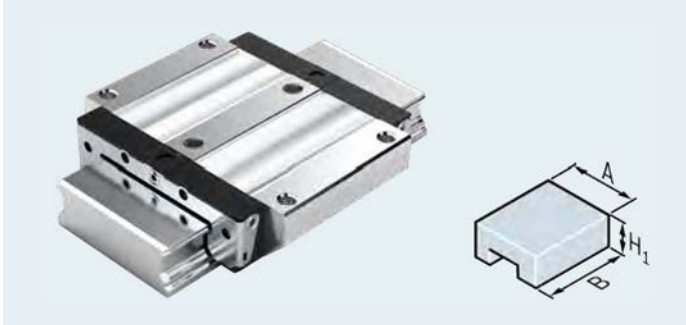
| Size      |      | 15    | 20    | 25    | 30    | 35    | 45    |
|-----------|------|-------|-------|-------|-------|-------|-------|
| $L_{max}$ | mm   | 3 836 | 3 836 | 3 836 | 3 836 | 3 836 | 3 776 |
| $H_2$     | mm   | 16.2  | 20.55 | 24.25 | 28.35 | 31.85 | 39.85 |
| m         | kg/m | 1.4   | 2.4   | 3.2   | 5     | 6.8   | 10.5  |

For ordering information for the GoTo products, see page 107

Bosch Rexroth AG, R310EN 2060/ 2021-04

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

## Wide runner blocks, steel, BNS, type R1671



- ▶ Excellent dynamic characteristics
- ▶ Very high torsional moment load capacity
- ▶ Very high load capacity
- ▶ High torque load capacity

### Features

- ▶ Now with improved performance data
- ▶ Unrestricted interchangeability
- ▶ For mounting from above and below
- ▶ Same high load capacity in all four directions of loading

### Product description

High rigidity in all load directions – permits applications with just one runner block per rail. Unrestricted interchangeability means that all Rexroth ball runner blocks and ball guide rails within one accuracy class can be combined at will.

### Detailed information:

Ball rail systems catalog

### Technical data

| Size                         |                  | 20/40  | 25/70  | 35/90  |
|------------------------------|------------------|--------|--------|--------|
| C <sup>1)</sup>              | N                | 14 900 | 36 200 | 70 700 |
| M <sub>t</sub> <sup>1)</sup> | Nm               | 340    | 1 350  | 3 500  |
| M <sub>L</sub> <sup>1)</sup> | Nm               | 140    | 490    | 1 470  |
| A                            | mm               | 80     | 120    | 162    |
| B                            | mm               | 73     | 105    | 142    |
| H <sub>1</sub>               | mm               | 22.50  | 29.75  | 42.50  |
| m                            | kg               | 0.4    | 1.2    | 3.7    |
| v <sub>max</sub>             | m/s              | 5      | 5      | 3      |
| a <sub>max</sub>             | m/s <sup>2</sup> | 500    | 500    | 250    |

<sup>1)</sup> The load capacities (N) and moments (Nm) apply to ball runner blocks without ball chain.

For ordering information for the GoTo products, see page 107

R310EN 2060/ 2021-04, Bosch Rexroth AG

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

## Wide ball guide rails, steel, BNS, type R1675 .0, with plastic mounting hole plugs



- ▶ Top rigidity in all load directions
- ▶ High torque load capacity
- ▶ For mounting from above

### Features

- ▶ Available in accuracy classes N and H
- ▶ With two-row hole pattern

### Product description

The highly accurate precision-ground ball guide rails have reference edges on both sides. The optimally shaped chamfers around the edges of the end faces make it easier to push on the runner blocks and protect the seals from being damaged during this process.

**Detailed information:**  
Ball rail systems catalog

### Technical data

| Size             |      | 20/40 | 25/70 | 35/90 |
|------------------|------|-------|-------|-------|
| L <sub>max</sub> | mm   | 3 836 | 3 836 | 3 836 |
| H <sub>2</sub>   | mm   | 18.30 | 23.55 | 31.85 |
| m                | kg/m | 5.30  | 11.60 | 21.00 |

For ordering information for the GoTo products, see page 107

Bosch Rexroth AG, R310EN 2060/ 2021-04

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com



## Standard ball runner blocks NCFG, steel, FNS, type R2001



- ▶ High load-bearing capacity
- ▶ Excellent dynamic characteristics
- ▶ Same high load capacity in all four directions of loading
- ▶ Also suitable for use at a relative humidity over 70 % and temperatures exceeding 30 °C.

### Features

- ▶ Now with improved performance data
- ▶ All metal parts are stainless steel as per EN10088-1
- ▶ All plastic parts made of certified material according to directives 2002/72/EC and FDA21CFR
- ▶ Integrated all-around sealing
- ▶ No additional corrosion protection is required

### Product description

Corrosion resistant ball runner blocks with special equipment FG (Food Graded) for use in the packaging industry and various sectors of the food industry.

### Detailed information:

Ball rail systems NCFG catalog

### Technical data

| Size                         |    | 15    | 20     | 25     | 30     | 35     |
|------------------------------|----|-------|--------|--------|--------|--------|
| C <sup>1)</sup>              | N  | 5 100 | 12 300 | 15 000 | 20 800 | 27 600 |
| M <sub>t</sub> <sup>1)</sup> | Nm | 63    | 205    | 270    | 460    | 760    |
| M <sub>L</sub> <sup>1)</sup> | Nm | 34    | 110    | 150    | 245    | 375    |
| A                            | mm | 47    | 63     | 70     | 90     | 100    |
| B                            | mm | 58.2  | 75.0   | 86.2   | 97.7   | 110.5  |
| H <sub>1</sub>               | mm | 19.90 | 25.35  | 29.90  | 35.35  | 40.40  |
| m                            | kg | 0.20  | 0.45   | 0.65   | 1.10   | 1.60   |

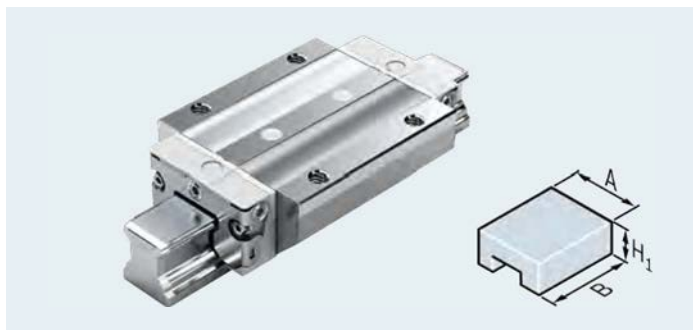
<sup>1)</sup> The load capacities (N) and moments (Nm) apply to ball runner blocks without ball chain.

For ordering information for the GoTo products, see page 108

R310EN 2060/ 2021-04, Bosch Rexroth AG

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

## Standard ball runner blocks NRFG, steel, FLS, type R2002



- ▶ Very high load capacity
- ▶ Excellent dynamic characteristics
- ▶ Also suitable for use at a relative humidity over 70 % and temperatures exceeding 30 °C.
- ▶ No additional corrosion protection is required

### Features

- ▶ Now with improved performance data
- ▶ All metal parts are stainless steel as per EN10088-1
- ▶ All plastic parts made of certified material according to directives 2002/72/EC and FDA21CFR
- ▶ Integrated all-around sealing

### Product description

Corrosion resistant ball runner blocks with special equipment FG (Food Graded) for use in the packaging industry and various sectors of the food industry.

### Detailed information:

Ball rail systems NRFG catalog

### Technical data

| Size                         |    | 15    | 20     | 25     | 30     | 35     |
|------------------------------|----|-------|--------|--------|--------|--------|
| C <sup>1)</sup>              | N  | 8 500 | 16 000 | 20 000 | 26 300 | 36 500 |
| M <sub>t</sub> <sup>1)</sup> | Nm | 82    | 265    | 365    | 590    | 1 025  |
| M <sub>L</sub> <sup>1)</sup> | Nm | 64    | 190    | 290    | 420    | 710    |
| A                            | mm | 47    | 63     | 70     | 90     | 100    |
| B                            | mm | 72.6  | 91.0   | 107.9  | 119.7  | 139.0  |
| H <sub>1</sub>               | mm | 19.90 | 25.35  | 29.90  | 35.35  | 40.40  |
| m                            | kg | 0.30  | 0.55   | 0.90   | 1.50   | 2.25   |

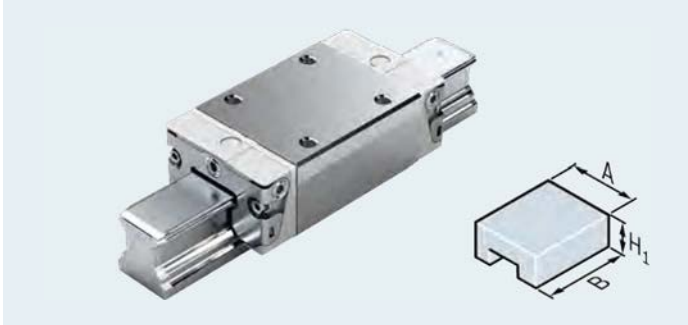
<sup>1)</sup> The load capacities (N) and moments (Nm) apply to ball runner blocks without ball chain.

For ordering information for the GoTo products, see page 108

Bosch Rexroth AG, R310EN 2060/ 2021-04

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

# Standard ball runner blocks NCFG, steel, SNS, type R2011



- ▶ For restricted space in the transverse direction
- ▶ Excellent dynamic characteristics
- ▶ Same high load capacity in all four directions of loading
- ▶ Also suitable for use at a relative humidity over 70 % and temperatures exceeding 30 °C.

## Features

- ▶ Now with improved performance data
- ▶ All metal parts are stainless steel as per EN10088-1
- ▶ All plastic parts made of certified material according to directives 2002/72/EC and FDA21CFR
- ▶ Integrated all-around sealing
- ▶ No additional corrosion protection is required

## Product description

Corrosion resistant ball runner block with special equipment FG (Food Graded) for use in the packaging industry and various sectors of the food industry.

### Detailed information:

Ball rail systems NCFG catalog

## Technical data

| Size                         |    | 15    | 20     | 25     | 30     | 35     |
|------------------------------|----|-------|--------|--------|--------|--------|
| C <sup>1)</sup>              | N  | 5 100 | 12 300 | 15 000 | 20 800 | 27 600 |
| M <sub>t</sub> <sup>1)</sup> | Nm | 63    | 205    | 270    | 460    | 760    |
| M <sub>L</sub> <sup>1)</sup> | Nm | 34    | 110    | 150    | 245    | 375    |
| A                            | mm | 34    | 44     | 48     | 60     | 70     |
| B                            | mm | 58.2  | 75.0   | 86.2   | 97.7   | 110.5  |
| H <sub>1</sub>               | mm | 19.90 | 25.35  | 29.90  | 35.35  | 40.40  |
| m                            | kg | 0.15  | 0.35   | 0.50   | 0.85   | 1.25   |

<sup>1)</sup> The load capacities (N) and moments (Nm) apply to ball runner blocks without ball chain.

For ordering information for the GoTo products, see page 108

R310EN 2060/ 2021-04, Bosch Rexroth AG

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

## Standard ball runner blocks NRFG, steel, SLS, type R2012



- ▶ Very high load capacity
- ▶ For restricted space in the transverse direction
- ▶ Excellent dynamic characteristics
- ▶ Also suitable for use at a relative humidity over 70 % and temperatures exceeding 30 °C.

### Features

- ▶ Now with improved performance data
- ▶ All metal parts are stainless steel as per EN10088-1
- ▶ All plastic parts made of certified material according to directives 2002/72/EC and FDA21CFR
- ▶ Integrated all-around sealing
- ▶ No additional corrosion protection is required

### Product description

Corrosion resistant ball runner blocks with special equipment FG (Food Graded) for use in the packaging industry and various sectors of the food industry.

### Detailed information:

Ball rail systems NRFG catalog

### Technical data

| Size                         |    | 15    | 20     | 25     | 30     | 35     |
|------------------------------|----|-------|--------|--------|--------|--------|
| C <sup>1)</sup>              | N  | 8 500 | 16 000 | 20 000 | 26 300 | 36 500 |
| M <sub>t</sub> <sup>1)</sup> | Nm | 82    | 265    | 365    | 590    | 1 025  |
| M <sub>L</sub> <sup>1)</sup> | Nm | 64    | 190    | 290    | 420    | 710    |
| A                            | mm | 34    | 44     | 48     | 60     | 70     |
| B                            | mm | 72.6  | 91.0   | 107.9  | 119.7  | 139.0  |
| H <sub>1</sub>               | mm | 19.90 | 25.35  | 29.90  | 35.35  | 40.40  |
| m                            | kg | 0.20  | 0.45   | 0.65   | 1.10   | 1.70   |

<sup>1)</sup> The load capacities (N) and moments (Nm) apply to ball runner blocks without ball chain.

For ordering information for the GoTo products, see page 108

Bosch Rexroth AG, R310EN 2060/ 2021-04

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

## Ball guide rails, Resist NR II, SNS, type R2045 .0, with plastic mounting hole plugs



- ▶ For mounting from above
- ▶ Top rigidity in all load directions
- ▶ High torque load capacity
- ▶ Made of corrosion-resistant steel as per DIN EN 10088.

### Features

- ▶ Also suitable for use at a relative humidity over 70 % and temperatures exceeding 30 °C.
- ▶ All plastic parts made of certified material according to directives 2002/72/EC and FDA21CFR
- ▶ No additional corrosion protection is required

### Product description

The highly accurate precision-ground ball guide rails have reference edges on both sides. The optimally shaped chamfers around the edges of the end faces make it easier to push on the runner blocks and protect the seals from being damaged during this process. Resist NR II ball guide rails are especially suited for use in wet environments.

### Detailed information:

Ball rail systems NRRG catalog

### Technical data

| Size             |      | 15    | 20    | 25    | 30    | 35    |
|------------------|------|-------|-------|-------|-------|-------|
| L <sub>max</sub> | mm   | 1 856 | 3 836 | 3 836 | 3 836 | 3 836 |
| H <sub>2</sub>   | mm   | 16.20 | 20.55 | 24.25 | 28.35 | 31.85 |
| m                | kg/m | 1.4   | 2.4   | 3.2   | 5.0   | 6.8   |

For ordering information for the GoTo products, see page 108

R310EN 2060/ 2021-04, Bosch Rexroth AG



# Miniature ball rail systems

The miniature versions of the ball rail systems were developed specifically for compact applications in medical and automation technology and for the electrical industry. These industries in particular often require rolling-element linear guides with extremely small dimensions but high load capacities. Rexroth products in these small sizes deliver outstanding performance. Having the same high load capacities in all four main directions of loading, these ball guide units provide optimal solutions to meet the very special requirements of these manufacturing segments. Cleanroom applications can also be served, and appropriate certifications have been obtained.

## Miniature ball runner block

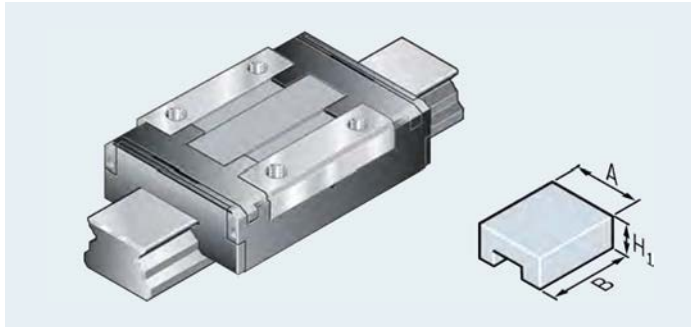
High load capacities in all load directions, including moments about all axes, due to the use of largest possible ball sizes.

## Miniature ball guide rails

Utmost precision thanks to highly accurate machining.



## Miniature ball runner bblock, standard, type R0442



- ▶ Extremely compact dimensions
- ▶ High load-bearing capacity

### Features

- ▶ Unrestricted interchangeability within the same accuracy class
- ▶ All steel parts made of rust and acid resistant material
- ▶ Same load capacity in all four main directions of loading
- ▶ Easy mounting and replacement without loss of balls due to special ball retention feature

### Product description

Miniature ball rail systems are rolling-element linear guides in extremely compact dimensions with high load-bearing capability.

### Detailed information:

Miniature ball rail systems catalog

### Technical data

| Size  |    | <b>7</b> | <b>9</b> | <b>12</b> | <b>15</b> | <b>20</b> |
|-------|----|----------|----------|-----------|-----------|-----------|
| C     | N  | 860      | 1 180    | 2 310     | 4 200     | 7 900     |
| $M_t$ | Nm | 3.1      | 5.4      | 13.7      | 31.2      | 81.4      |
| $M_L$ | Nm | 1.9      | 3.6      | 7.9       | 18.3      | 51.7      |
| A     | mm | 17       | 20       | 27        | 32        | 46        |
| B     | mm | 24       | 31       | 34.8      | 43        | 66        |
| $H_1$ | mm | 8        | 10       | 13        | 16        | 25        |
| m     | g  | 9        | 16       | 33        | 47        | 177       |

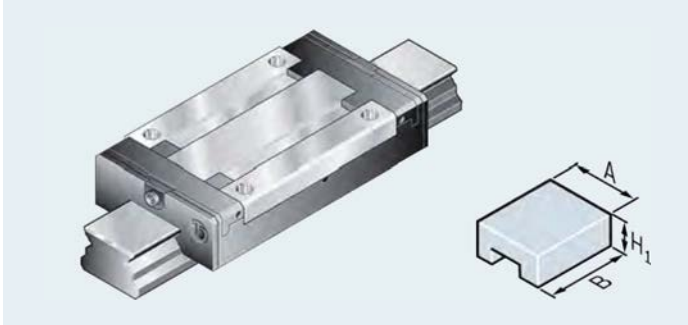
For ordering information for the GoTo products, see page 108

Bosch Rexroth AG, R310EN 2060/ 2021-04

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com



## Miniature ball runner block, long, type R0444



- ▶ Extremely compact dimensions
- ▶ High load-bearing capacity
- ▶ Long version

### Features

- ▶ Unrestricted interchangeability within the same accuracy class
- ▶ All steel parts made of rust and acid resistant material
- ▶ Same load capacity in all four main directions of loading
- ▶ Easy mounting and replacement without loss of balls due to special ball retention feature

### Product description

Miniature ball rail systems are rolling-element linear guides in extremely compact dimensions with high load-bearing capability.

### Detailed information:

Miniature ball rail systems catalog

### Technical data

| Size  |    | 7     | 9     | 12    | 15    |
|-------|----|-------|-------|-------|-------|
| C     | N  | 1 220 | 1 570 | 3 240 | 5 940 |
| $M_t$ | Nm | 4.5   | 7.2   | 19.3  | 44.0  |
| $M_L$ | Nm | 4.3   | 7.0   | 16.8  | 39.2  |
| A     | mm | 17    | 20    | 27    | 32    |
| B     | mm | 33    | 41.4  | 47.5  | 60.8  |
| $H_1$ | mm | 8     | 10    | 13    | 16    |
| m     | g  | 14    | 26    | 51    | 94    |

For ordering information for the GoTo products, see page 109

R310EN 2060/ 2021-04, Bosch Rexroth AG

## Miniature ball guide rails, standard, without cover strip, type R0445



► For mounting from above

### Features

► For standard and long miniature ball runner blocks

### Product description

Miniature ball guide rails are made of rust and acid resistant material similar to ISO 683-17/EN 10088.

### Detailed information:

Miniature ball rail systems catalog

### Technical data

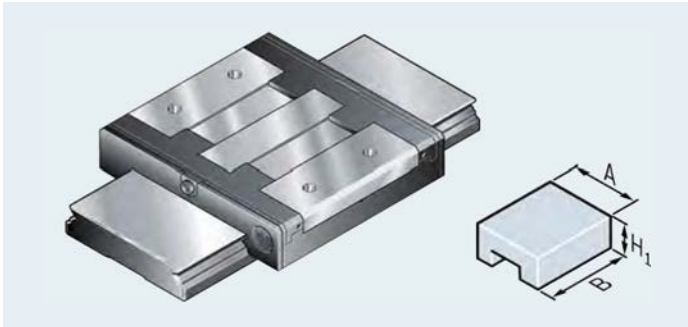
| Size             |          | 7     | 9     | 12    | 15    | 20    |
|------------------|----------|-------|-------|-------|-------|-------|
| L <sub>max</sub> | mm       | 1 000 | 1 000 | 1 000 | 1 000 | 1 000 |
| H <sub>2</sub>   | mm       | 4.7   | 5.5   | 7.8   | 9.5   | 15    |
| m                | g/100 mm | 22    | 33    | 61    | 97    | 211   |

For ordering information for the GoTo products, see page 109

Bosch Rexroth AG, R310EN 2060/ 2021-04

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

## Miniature ball runner block, wide, type R0443



- ▶ Extremely compact dimensions
- ▶ High load-bearing capacity
- ▶ Wide version
- ▶ High torque load capacity
- ▶ Suitable for one-rail applications

### Features

- ▶ Unrestricted interchangeability within the same accuracy class
- ▶ All steel parts made of rust and acid resistant material
- ▶ Same load capacity in all four main directions of loading
- ▶ Easy mounting and replacement without loss of balls due to special ball retention feature

### Product description

Miniature ball rail systems are rolling-element linear guides in extremely compact dimensions with high load-bearing capability.

### Detailed information:

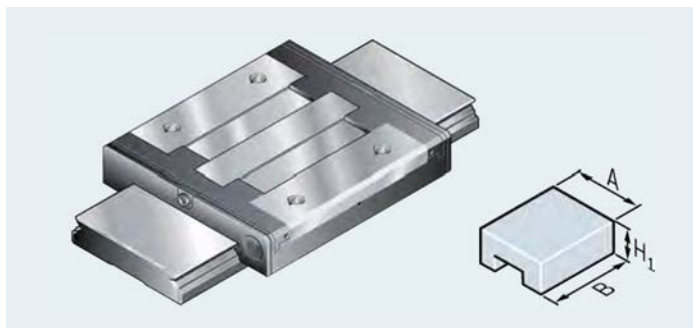
Miniature ball rail systems catalog

### Technical data

| Size  |    | 9     | 12    | 15    |
|-------|----|-------|-------|-------|
| C     | N  | 1 920 | 3 200 | 5 285 |
| $M_t$ | Nm | 15.9  | 37.9  | 107.0 |
| $M_L$ | Nm | 7.4   | 14.3  | 30.0  |
| A     | mm | 30    | 40    | 60    |
| B     | mm | 39    | 44.5  | 55.5  |
| $H_1$ | mm | 12    | 14    | 16    |
| m     | g  | 26    | 51    | 110   |

For ordering information for the GoTo products, see page 109

## Miniature ball runner block, wide, long, type R0441



- ▶ Extremely compact dimensions
- ▶ High load-bearing capacity
- ▶ Wide and long version
- ▶ High torque load capacity
- ▶ Suitable for one-rail applications

### Features

- ▶ Unrestricted interchangeability within the same accuracy class
- ▶ All steel parts made of rust and acid resistant material
- ▶ Same load capacity in all four main directions of loading
- ▶ Easy mounting and replacement without loss of balls due to special ball retention feature

### Product description

Miniature ball rail systems are rolling-element linear guides in extremely compact dimensions with high load-bearing capability.

### Detailed information:

Miniature ball rail systems catalog

### Technical data

| Size  |    | 9     | 12    | 15    |
|-------|----|-------|-------|-------|
| C     | N  | 2 825 | 4 340 | 7 460 |
| $M_t$ | Nm | 23.5  | 51.4  | 151.0 |
| $M_L$ | Nm | 15.8  | 28.7  | 66.1  |
| A     | mm | 30    | 40    | 60    |
| B     | mm | 51    | 59.5  | 74.5  |
| $H_1$ | mm | 12    | 14    | 16    |
| m     | g  | 41    | 76    | 170   |

For ordering information for the GoTo products, see page 110

## Miniature ball guide rails, wide, without cover strip, type R0455



- ▶ For mounting from above
- ▶ Size 15 with two rows of mounting holes
- ▶ High torque load capacity
- ▶ Suitable for one-rail applications

### Features

- ▶ For wide and wide, long miniature ball runner blocks

### Product description

Miniature ball guide rails are made of rust and acid resistant material similar to ISO 683-17/EN 10088.

### Detailed information:

Miniature ball rail systems catalog

### Technical data

| Size             |          | 9     | 12    | 15    |
|------------------|----------|-------|-------|-------|
| L <sub>max</sub> | mm       | 1 000 | 1 000 | 1 000 |
| H <sub>2</sub>   | mm       | 7.5   | 8.5   | 9.5   |
| m                | g/100 mm | 92    | 145   | 286   |

For ordering information for the GoTo products, see page 110

R310EN 2060/ 2021-04, Bosch Rexroth AG



# Linear bushings and shafts

Linear bushing and shafts from Rexroth have proved their worth over many decades. Their uses are practically unlimited. The great diversity of sizes, designs and versions opens up applications beyond the classic areas of general and special-purpose machinery, jigs and fixtures, enabling powerful solutions for tasks in, for example, the food, semiconductor and medical technology industries. Linear bushings show impressive performance in environmental conditions involving heavy contamination or high thermal loads. They are also renowned for their long life, accuracy and high degree of efficiency.

## Linear bushings

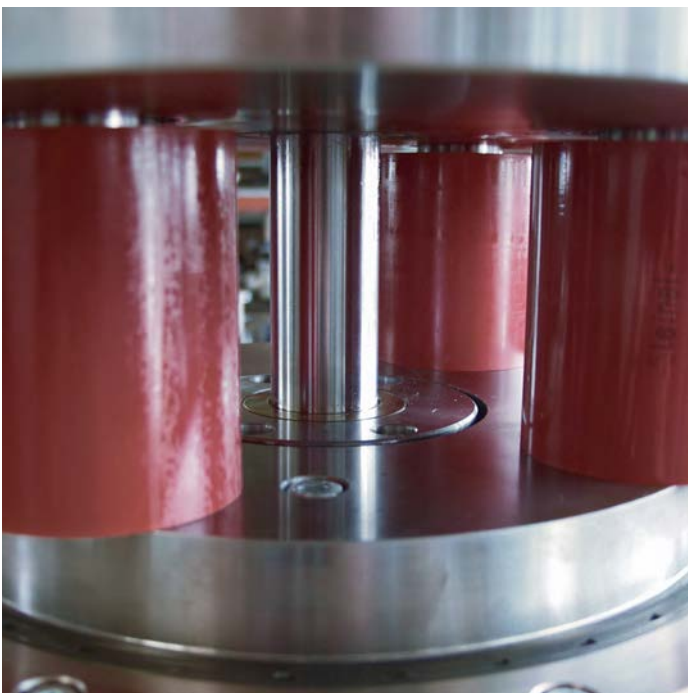
For short-stroke applications, self-supporting guides with closed-type linear bushings are the best choice. A wide range of linear bushings is now available in the GoTo program - from the compact and segmental linear bushing to all versions of the super linear bushing to the robust standard linear bushing.

## Linear sets

Utmost precision thanks to highly accurate machining. Ready-to-mount units for cost-effective implementation.

## Precision steel shafts

Broad range of applications for precision shafts in various tolerances made of heat-treated steel and corrosion resistant steel, as well as hard chrome plated.



## Compact linear bushings, closed, type R0658, shaft diameter 8 to 10



- ▶ Small outside dimensions
- ▶ High travel speed (5 m/s)
- ▶ With two integrated wiper seals
- ▶ Closed-type construction form for self-supporting shafts
- ▶ POM ball retainer

### Features

- ▶ Also available in corrosion-resistant steels as per ISO 683-17/EN 10088

### Product description

Space-saving linear bushings with small outside dimensions for especially compact constructions. High load capacities and long service life due to hardened segmental steel plates with ball conformity in the running track. Many pockets acting as lubricant reservoirs for extended lubrication intervals or lubrication for life. Pockets also whisk away any dirt that may have worked its way in and so prevent jamming of the linear bushing.

**Detailed information:**  
Linear bushings catalog

### Technical data

| Shaft diameter d                 | mm               | 8     | 10    |
|----------------------------------|------------------|-------|-------|
| $C_{max}$                        | N                | 580   | 720   |
| $C_{max}$ corrosion-resistant    | N                | 410   | 500   |
| $C_{0\ max}$                     | N                | 500   | 600   |
| $C_{0\ max}$ corrosion-resistant | N                | 400   | 480   |
| $v_{max}$                        | m/s              | 5     | 5     |
| $a_{max}$                        | m/s <sup>2</sup> | 150   | 150   |
| D                                | mm               | 15    | 17    |
| Length C                         | mm               | 24    | 26    |
| m                                | kg               | 0.011 | 0.014 |

For ordering information for the GoTo products, see page 110

Bosch Rexroth AG, R310EN 2060/ 2021-04

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## Compact linear bushings, closed, type R0658, shaft diameter 12 to 50



- ▶ Small outside dimensions
- ▶ High travel speed (5 m/s)
- ▶ With two integrated wiper seals
- ▶ Closed-type construction form for self-supporting shafts
- ▶ Integrated metal retaining rings

### Features

- ▶ Also available in corrosion-resistant steels as per ISO 683-17/EN 10088
- ▶ Easy press-fit mounting – no additional retention necessary

### Product description

Space-saving linear bushings with small outside dimensions for especially compact constructions. High load capacities and long service life due to hardened segmental steel plates with ball conformity in the running track. Many pockets acting as lubricant reservoirs for extended lubrication intervals or lubrication for life. Pockets also whisk away any dirt that may have worked its way in and so prevent jamming of the linear bushing.

**Detailed information:**  
Linear bushings catalog

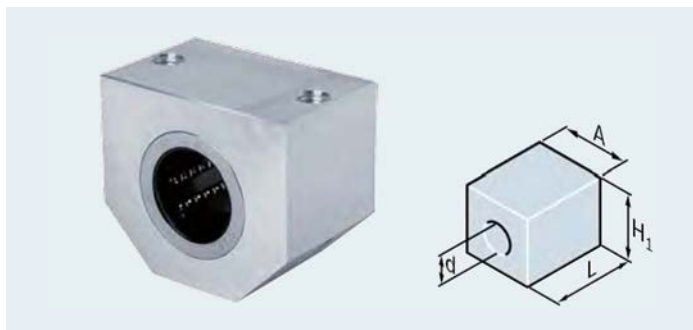
### Technical data

| Shaft diameter d                 | mm               | 12    | 16    | 20    | 25    | 30    | 40    | 50    |
|----------------------------------|------------------|-------|-------|-------|-------|-------|-------|-------|
| $C_{max}$                        | N                | 870   | 1 120 | 1 410 | 2 930 | 3 250 | 6 380 | 7 180 |
| $C_{max}$ corrosion-resistant    | N                | 610   | 780   | 990   | 2 050 | 2 700 | 4 470 | 5 030 |
| $C_{0\ max}$                     | N                | 620   | 730   | 900   | 1 950 | 2 790 | 4 650 | 5 350 |
| $C_{0\ max}$ corrosion-resistant | N                | 500   | 580   | 720   | 1 560 | 2 230 | 3 720 | 4 280 |
| $v_{max}$                        | m/s              | 5     | 5     | 5     | 5     | 5     | 5     | 5     |
| $a_{max}$                        | m/s <sup>2</sup> | 150   | 150   | 150   | 150   | 150   | 150   | 150   |
| D                                | mm               | 19    | 24    | 28    | 35    | 40    | 52    | 62    |
| Length C                         | mm               | 28    | 30    | 30    | 40    | 50    | 60    | 70    |
| m                                | kg               | 0.016 | 0.025 | 0.028 | 0.058 | 0.080 | 0.140 | 0.170 |

For ordering information for the GoTo products, page 110

R310EN 2060/ 2021-04, Bosch Rexroth AG

## Linear sets with compact linear bushings, closed, normal or corrosion-resistant, type R1027



- ▶ Precision, lightweight housing (aluminum)
- ▶ With integrated wiper seals
- ▶ With normal radial clearance

### Features

- ▶ Pre-lubricated
- ▶ Also available in corrosion-resistant version (per ISO 683-17/EN 10088)

### Product description

Linear sets are complete bearing units consisting of a housing with a Rexroth linear bushing. They are available in many different configurations. Because of their rationalized construction and fabrication, they offer users significant cost advantages over customer-built designs.

### Detailed information:

Linear bushings catalog

### Technical data

| Shaft diameter d                                 | mm | 12   | 16    | 20    | 25    | 30    | 40    | 50    |
|--|----|------|-------|-------|-------|-------|-------|-------|
| C <sup>1)</sup>                                  | N  | 810  | 1 050 | 1 410 | 2 930 | 3 850 | 6 830 | 7 180 |
| C <sup>1)</sup> corrosion-resistant              | N  | 570  | 730   | 990   | 2 050 | 2 700 | 4 470 | 5 030 |
| C <sub>0</sub> <sup>1)</sup>                     | N  | 490  | 570   | 900   | 1 950 | 2 790 | 4 650 | 5 350 |
| C <sub>0</sub> <sup>1)</sup> corrosion-resistant | N  | 390  | 460   | 720   | 1 560 | 2 230 | 3 720 | 4 280 |
| H <sub>1</sub>                                   | mm | 33   | 38    | 45    | 54    | 60    | 76    | 92    |
| L  | mm | 28   | 30    | 30    | 40    | 50    | 60    | 70    |
| A  | mm | 40   | 45    | 53    | 62    | 67    | 87    | 103   |
| m  | kg | 0.08 | 0.11  | 0.15  | 0.27  | 0.40  | 0.75  | 1.20  |

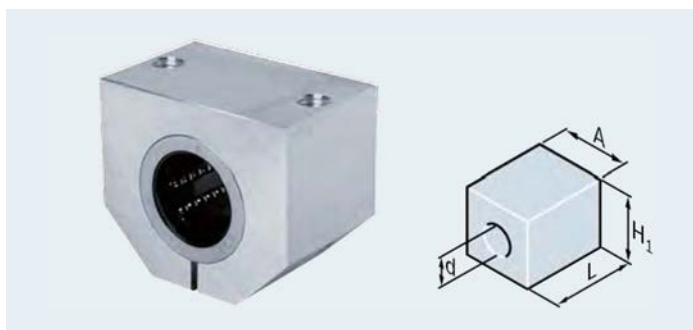
<sup>1)</sup> The load capacities apply for the main direction of loading.

For ordering information for the GoTo products, see page 110

Bosch Rexroth AG, R310EN 2060/ 2021-04

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

## Linear sets with compact linear bushings, adjustable, type R1028



- ▶ Precision, lightweight housing (aluminum)
- ▶ With integrated wiper seals
- ▶ Radial clearance adjustable

### Features

- ▶ Pre-lubricated

### Product description

Linear sets are complete bearing units consisting of a housing with a Rexroth linear bushing. They are available in many different configurations. Because of their rationalized construction and fabrication, they offer users significant cost advantages over custom-built designs

### Detailed information:

Linear bushings catalog

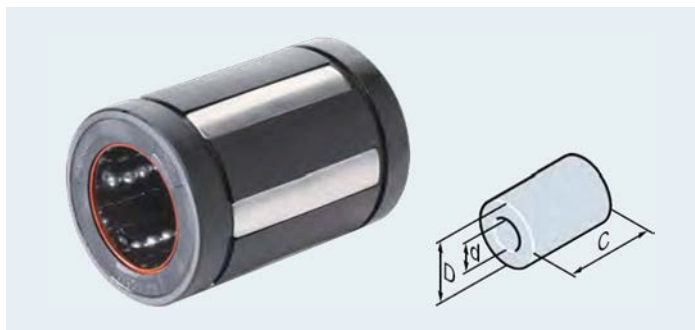
### Technical data

| Shaft diameter d             | mm | 12   | 16    | 20    | 25    | 30    | 40    | 50    |
|------------------------------|----|------|-------|-------|-------|-------|-------|-------|
| C <sup>1)</sup>              | N  | 810  | 1 050 | 1 410 | 2 930 | 3 850 | 6 830 | 7 180 |
| C <sub>0</sub> <sup>1)</sup> | N  | 490  | 570   | 900   | 1 950 | 2 790 | 4 650 | 5 350 |
| H <sub>1</sub>               | mm | 33   | 38    | 45    | 54    | 60    | 76    | 92    |
| L                            | mm | 28   | 30    | 30    | 40    | 50    | 60    | 70    |
| A                            | mm | 40   | 45    | 53    | 62    | 67    | 87    | 103   |
| m                            | kg | 0.08 | 0.11  | 0.15  | 0.27  | 0.40  | 0.75  | 1.20  |

<sup>1)</sup> The load capacities apply for the main direction of loading.

For ordering information for the GoTo products, see page 111

## Super linear bushings **A**, closed, type R0670



- ▶ High load-bearing capacity
- ▶ Unsurpassed, smooth ball circulation
- ▶ Compensation of misalignments
- ▶ Long service life
- ▶ High travel speed of up to 3 m/s

### Features

- ▶ Hardened steel segmental load bearing plates with ground ball tracks
- ▶ Ball retainer and outer sleeve made of POM
- ▶ Balls made of anti-friction bearing steel
- ▶ With or without two integrated wiper seals

### Product description

The super linear bushings have a built-in self-alignment capability. This compensates for angular alignment errors of up to 0.5 degrees without any reduction in load capacity. As a result, the super linear bushings offer unparalleled smooth motion, a very high load-carrying capacity, and an extremely long service life.

### Detailed information:

Linear bushings catalog

### Technical data

| Shaft diameter d | mm               | 10    | 12    | 16    | 20    | 25    | 30    | 40     | 50     |
|------------------|------------------|-------|-------|-------|-------|-------|-------|--------|--------|
| $C_{max}$        | N                | 820   | 1 140 | 1 400 | 2 470 | 4 820 | 5 860 | 10 070 | 14 730 |
| $C_{0\ max}$     | N                | 480   | 620   | 780   | 1 340 | 2 790 | 3 570 | 5 570  | 8 280  |
| $v_{max}^{1)}$   | m/s              | 3     | 3     | 3     | 3     | 3     | 3     | 3      | 3      |
| $a_{max}$        | m/s <sup>2</sup> | 150   | 150   | 150   | 150   | 150   | 150   | 150    | 150    |
| D                | mm               | 19    | 22    | 26    | 32    | 40    | 47    | 62     | 75     |
| Length C         | mm               | 29    | 32    | 36    | 45    | 58    | 68    | 80     | 100    |
| m                | kg               | 0.017 | 0.023 | 0.028 | 0.061 | 0.122 | 0.185 | 0.360  | 0.580  |

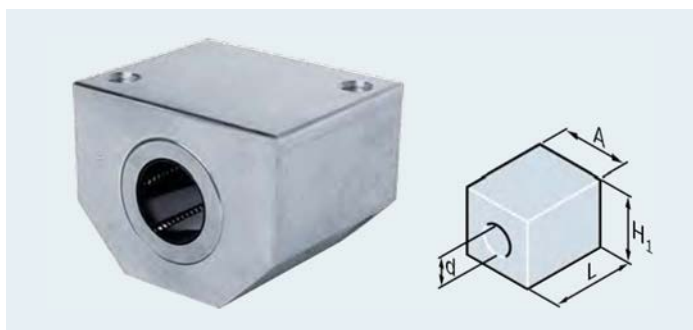
<sup>1)</sup> Up to 5 m/s possible (increased wear on the plastic parts).

For ordering information for the GoTo products, see page 111

Bosch Rexroth AG, R310EN 2060/ 2021-04

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## Linear sets with super linear bushings **A**, closed, type R1035



- ▶ Precision, lightweight housing (aluminum)
- ▶ Super linear bushing with self-alignment feature
- ▶ With two external seals

### Features

- ▶ Fully sealed

### Product description

Linear sets are complete bearing units consisting of a housing with a Rexroth linear bushing. They are available in many different configurations. Because of their rationalized construction and fabrication, they offer users significant cost advantages over customer-built designs.

### Detailed information:

Linear bushings catalog

### Technical data

| Shaft diameter d             | mm | 12    | 16    | 20    | 25    | 30    | 40     | 50     |
|------------------------------|----|-------|-------|-------|-------|-------|--------|--------|
| C <sup>1)</sup>              | N  | 1 020 | 1 250 | 2 470 | 4 820 | 5 860 | 10 070 | 14 730 |
| C <sub>0</sub> <sup>1)</sup> | N  | 490   | 620   | 1 340 | 2 790 | 3 570 | 5 570  | 8 280  |
| H <sub>1</sub>               | mm | 35    | 42    | 50    | 60    | 70    | 90     | 105    |
| L                            | mm | 39    | 43    | 54    | 67    | 79    | 91     | 113    |
| A                            | mm | 42    | 53    | 60    | 78    | 87    | 108    | 132    |
| m                            | kg | 0.13  | 0.20  | 0.34  | 0.65  | 0.97  | 1.80   | 3.00   |

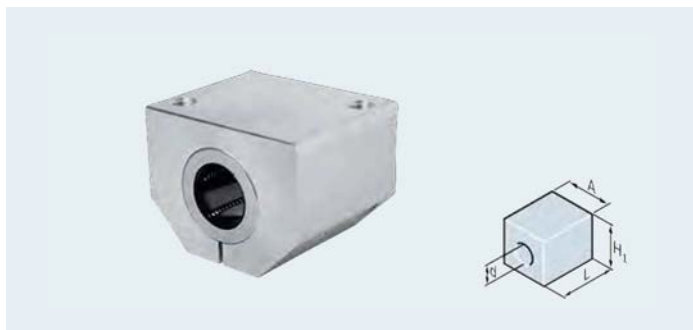
<sup>1)</sup> The load capacities apply for the main direction of loading.

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## Linear sets with super linear bushings **A**, adjustable, type R1036



- ▶ Precision, lightweight housing (aluminum)
- ▶ Super linear bushing with self-alignment feature
- ▶ With two external seals
- ▶ Radial clearance adjustable

### Features

- ▶ Fully sealed

### Product description

Linear sets are complete bearing units consisting of a housing with a Rexroth linear bushing. They are available in many different configurations. Because of their rationalized construction and fabrication, they offer users significant cost advantages over customer-built designs.

### Detailed information:

Linear bushings catalog

### Technical data

| Shaft diameter d             | mm | 12    | 16    | 20    | 25    | 30    | 40     | 50     |
|------------------------------|----|-------|-------|-------|-------|-------|--------|--------|
| C <sup>1)</sup>              | N  | 1 020 | 1 250 | 2 470 | 4 820 | 5 860 | 10 070 | 14 730 |
| C <sub>0</sub> <sup>1)</sup> | N  | 490   | 620   | 1 340 | 2 790 | 3 570 | 5 570  | 8 280  |
| H <sub>1</sub>               | mm | 35    | 42    | 50    | 60    | 70    | 90     | 105    |
| L                            | mm | 39    | 43    | 54    | 67    | 79    | 91     | 113    |
| A                            | mm | 42    | 53    | 60    | 78    | 87    | 108    | 132    |
| m                            | kg | 0.13  | 0.20  | 0.34  | 0.65  | 0.97  | 1.80   | 3.00   |

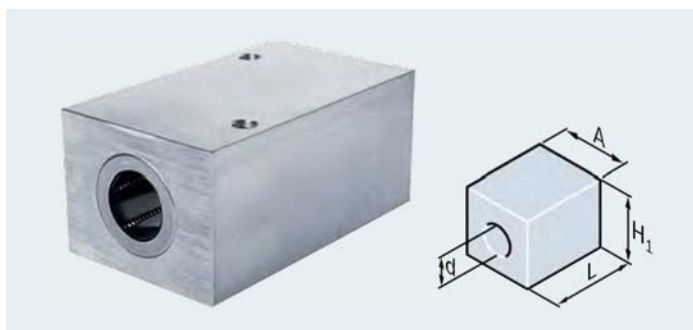
<sup>1)</sup> The load capacities apply for the main direction of loading.

For ordering information for the GoTo products, see page 112

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## Linear sets with super linear bushings **A**, closed, tandem, type R1085



- ▶ Precision tandem housing, lightweight series (aluminum)
- ▶ Two super linear bushings with self-alignment feature
- ▶ With two external seals

### Features

- ▶ Fully sealed

### Product description

Linear sets are complete bearing units consisting of a housing with two Rexroth linear bushings. They are available in many different configurations. Because of their rationalized construction and fabrication, they offer users significant cost advantages over customer-built designs.

### Detailed information:

Linear bushings catalog

### Technical data

| Shaft diameter d             | mm | 12    | 16    | 20    | 25    | 30    | 40     | 50     |
|------------------------------|----|-------|-------|-------|-------|-------|--------|--------|
| C <sup>1)</sup>              | N  | 1 660 | 2 030 | 4 010 | 7 830 | 9 520 | 16 360 | 23 930 |
| C <sub>0</sub> <sup>1)</sup> | N  | 980   | 1 240 | 2 680 | 5 580 | 7 140 | 11 140 | 16 560 |
| M <sub>L</sub>               | Nm | 26    | 35    | 84    | 205   | 289   | 576    | 1 097  |
| M <sub>L0</sub>              | Nm | 16    | 22    | 54    | 140   | 206   | 374    | 725    |
| H <sub>1</sub>               | mm | 35    | 42    | 50    | 60    | 70    | 90     | 105    |
| L                            | mm | 76    | 84    | 104   | 130   | 152   | 176    | 224    |
| A                            | mm | 42    | 50    | 60    | 74    | 84    | 108    | 130    |
| m                            | kg | 0.27  | 0.41  | 0.72  | 1.35  | 2.01  | 3.67   | 6.30   |

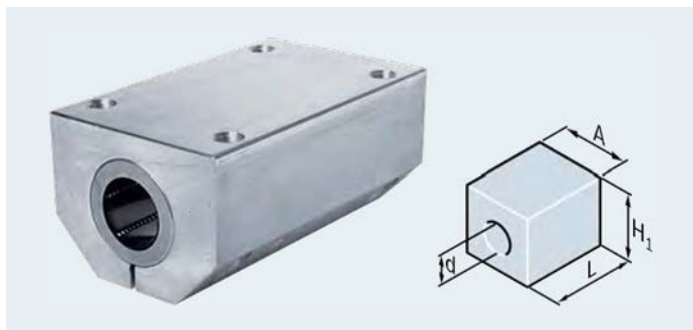
<sup>1)</sup> Load capacity when both linear bushings are equally loaded. The load capacities apply for the main direction of loading.

For ordering information for the GoTo products, see page 112

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## Linear sets with super linear bushings **A**, adjustable, tandem, type R1032



- ▶ Precision tandem housing, lightweight series (aluminum)
- ▶ Two super linear bushings with self-alignment feature
- ▶ Radial clearance adjustable
- ▶ With reference edge

### Features

- ▶ With two external seals
- ▶ Fully sealed

### Product description

Linear sets are complete bearing units consisting of a housing with two Rexroth linear bushings. They are available in many different configurations. Because of their rationalized construction and fabrication, they offer users significant cost advantages over customer-built designs.

### Detailed information:

Linear bushings catalog

### Technical data

| Shaft diameter d             | mm | 12    | 16    | 20    | 25    | 30    | 40     | 50     |
|------------------------------|----|-------|-------|-------|-------|-------|--------|--------|
| C <sup>1)</sup>              | N  | 1 660 | 2 030 | 4 010 | 7 830 | 9 520 | 16 360 | 23 930 |
| C <sub>0</sub> <sup>1)</sup> | N  | 980   | 1 240 | 2 680 | 5 580 | 7 140 | 11 140 | 16 560 |
| M <sub>L</sub>               | Nm | 26    | 35    | 84    | 205   | 289   | 576    | 1 097  |
| M <sub>L0</sub>              | Nm | 16    | 22    | 54    | 140   | 206   | 374    | 725    |
| H <sub>1</sub>               | mm | 35    | 42    | 50    | 60    | 70    | 90     | 105    |
| L                            | mm | 76    | 84    | 104   | 130   | 152   | 176    | 224    |
| A                            | mm | 43    | 53    | 60    | 78    | 87    | 108    | 132    |
| m                            | kg | 0.27  | 0.41  | 0.72  | 1.35  | 2.01  | 3.67   | 6.30   |

<sup>1)</sup> Load capacity when both linear bushings are equally loaded. The load capacities apply for the main direction of loading.

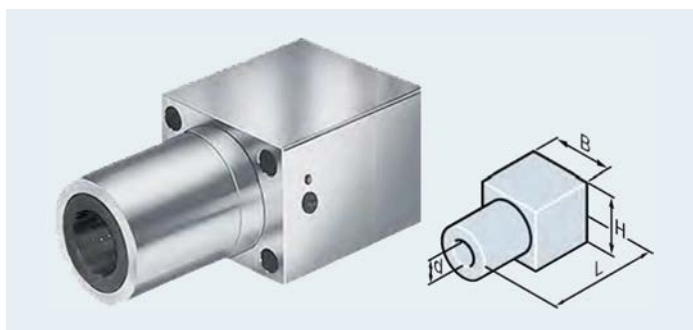
For ordering information for the GoTo products, see page 112

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## Linear sets with super linear bushings a, closed, tandem, flanged, type R1083



- ▶ Precision flanged housing, lightweight series (aluminum)
- ▶ Two Super Linear Bushings with self-alignment feature
- ▶ With two external seals
- ▶ With centering collar

### Features

- ▶ Fully sealed

### Product description

Linear sets are complete bearing units consisting of a housing with two Rexroth linear bushings. They are available in many different configurations. Because of their rationalized construction and fabrication, they offer users significant cost advantages over customer-built designs.

### Detailed information:

Linear bushings catalog

### Technical data

| Shaft diameter d             | mm | 12    | 16    | 20    | 25    | 30    |
|------------------------------|----|-------|-------|-------|-------|-------|
| C <sup>1)</sup>              | N  | 1 350 | 1 660 | 3 280 | 6 420 | 7 800 |
| C <sub>0</sub> <sup>1)</sup> | N  | 840   | 1 060 | 2 100 | 4 360 | 5 580 |
| M <sub>L</sub>               | Nm | 26    | 35    | 84    | 205   | 289   |
| M <sub>L0</sub>              | Nm | 16    | 22    | 54    | 140   | 206   |
| H                            | mm | 34    | 40    | 50    | 60    | 70    |
| L                            | mm | 76    | 84    | 104   | 130   | 152   |
| B                            | mm | 42    | 50    | 60    | 74    | 84    |
| m                            | kg | 0.20  | 0.32  | 0.55  | 1.00  | 1.50  |

<sup>1)</sup> Load capacity when both linear bushings are equally loaded.

For ordering information for the GoTo products, see page 112

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## Linear sets with super linear bushings **A**, adjustable, cast iron housing, type R1066



- ▶ Precision housing made of lamellar graphite cast iron
- ▶ Super linear bushing with self-alignment feature
- ▶ Radial clearance adjustable

### Features

- ▶ With integrated wiper seals

### Product description

Linear sets are complete bearing units consisting of a housing and a Rexroth linear bushing. They are available in many different configurations. Because of their rationalized construction and fabrication, they offer users significant cost advantages over customer-built designs.

### Detailed information:

Linear bushings catalog

### Technical data

| Shaft diameter d             | mm | 20    | 30    | 40     |
|------------------------------|----|-------|-------|--------|
| C <sup>1)</sup>              | N  | 2 470 | 5 860 | 10 070 |
| C <sub>0</sub> <sup>1)</sup> | N  | 1 340 | 3 570 | 5 570  |
| H <sub>1</sub>               | mm | 50    | 70    | 90     |
| L                            | mm | 45    | 68    | 80     |
| A                            | mm | 60    | 74    | 84     |
| m                            | kg | 0.41  | 1.19  | 2.26   |

<sup>1)</sup> The load capacities apply for the main direction of loading.

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## Linear sets with super linear bushings **A**, flanged, cast iron housing, type R1081



- ▶ Precision flanged housing made of lamellar graphite cast iron
- ▶ Super linear bushing with self-alignment feature
- ▶ With 2 integrated wiper seals

### Features

- ▶ Two retaining rings
- ▶ Two spacer rings (steel) for shaft diameters 16 to 40

### Product description

Linear sets are complete bearing units consisting of a housing and a Rexroth linear bushing. They are available in many different configurations. Because of their rationalized construction and fabrication, they offer users significant cost advantages over customer-built designs.

### Detailed information:

Linear bushings catalog

### Technical data

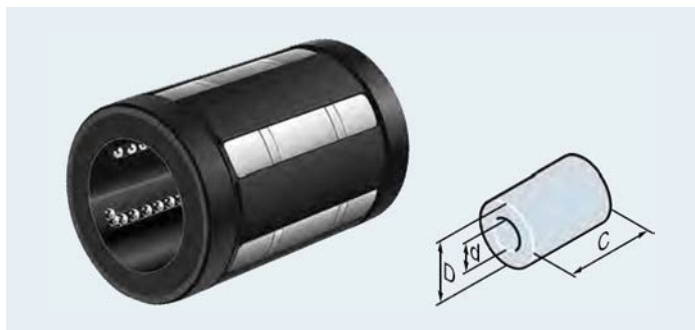
| Shaft diameter d | mm | 16    | 20    | 25    | 30    | 40    | 50     |
|------------------|----|-------|-------|-------|-------|-------|--------|
| C                | N  | 1 020 | 2 020 | 3 950 | 4 800 | 8 240 | 12 060 |
| C <sub>0</sub>   | N  | 530   | 1 050 | 2 180 | 2 790 | 4 350 | 6 470  |
| B                | mm | 50    | 60    | 74    | 84    | 108   | 130    |
| L                | mm | 36    | 45    | 58    | 68    | 80    | 100    |
| m                | kg | 0.16  | 0.30  | 0.57  | 1.85  | 1.65  | 3.40   |

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## Super linear bushings **B**, closed, type R0672



- ▶ High load-bearing capacity
- ▶ Smooth ball circulation
- ▶ Long service life
- ▶ High travel speed of up to 3 m/s

### Features

- ▶ Hardened steel segmental load bearing plates with ground ball tracks
- ▶ Ball retainer and outer sleeve made of POM
- ▶ Balls made of anti-friction bearing steel
- ▶ With or without two integrated wiper seals

### Product description

The super linear bushing **B** without self-alignment is the solution for applications where only one linear bushing is used per shaft and the Linear Bushing may not commute on the shaft.

### Detailed information:

Linear bushings catalog

### Technical data

| Shaft diameter d | mm               | 10    | 12    | 16    | 20    | 25    | 30    | 40     | 50     |
|------------------|------------------|-------|-------|-------|-------|-------|-------|--------|--------|
| $C_{max}$        | N                | 820   | 1 140 | 1 400 | 2 470 | 4 820 | 5 860 | 10 070 | 14 730 |
| $C_{0 max}$      | N                | 480   | 620   | 780   | 1 340 | 2 790 | 3 570 | 5 570  | 8 280  |
| $v_{max}^{1)}$   | m/s              | 3     | 3     | 3     | 3     | 3     | 3     | 3      | 3      |
| $a_{max}$        | m/s <sup>2</sup> | 150   | 150   | 150   | 150   | 150   | 150   | 150    | 150    |
| D                | mm               | 19    | 22    | 26    | 32    | 40    | 47    | 62     | 75     |
| Length C         | mm               | 29    | 32    | 36    | 45    | 58    | 68    | 80     | 100    |
| m                | kg               | 0.017 | 0.023 | 0.028 | 0.061 | 0.122 | 0.185 | 0.36   | 0.58   |

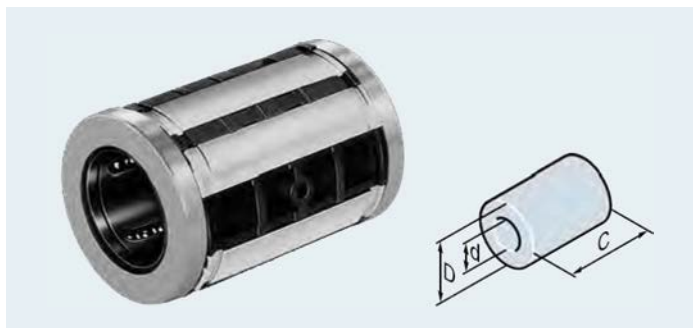
<sup>1)</sup> Up to 5 m/s possible (increased wear on the plastic parts).

For ordering information for the GoTo products, see page 113

Bosch Rexroth AG, R310EN 2060/ 2021-04

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## Super Linear Bushings **H**, closed, type R0732



- ▶ High load-bearing capacity
- ▶ Highest level of precision
- ▶ Compensation of misalignments
- ▶ High travel speed of up to 5 m/s

### Features

- ▶ Additional rows of balls for higher load ratings
- ▶ Steel inserts with ground ball guide grooves and cut back,
- ▶ with or without integrated wiper seals
- ▶ Two metal retaining rings
- ▶ POM ball retainer

### Product description

Compared with the existing and time-tested super linear bushing **A**, the super linear bushing **H** is equipped with more supporting steel inserts and rows of balls. Higher load capacities permit movement of particularly high masses with full alignment.

### Detailed information:

Linear bushings catalog

### Technical data

| Shaft diameter d | mm               | 20    | 25    | 30    | 40    | 50     | 60     |
|------------------|------------------|-------|-------|-------|-------|--------|--------|
| C                | N                | 2 520 | 4 430 | 6 300 | 9 680 | 16 000 | 23 500 |
| C <sub>0</sub>   | N                | 1 880 | 3 360 | 5 230 | 7 600 | 12 200 | 18 700 |
| v <sub>max</sub> | m/s              | 5     | 5     | 5     | 5     | 5      | 5      |
| a <sub>max</sub> | m/s <sup>2</sup> | 150   | 150   | 150   | 150   | 150    | 150    |
| D                | mm               | 32    | 40    | 47    | 62    | 75     | 90     |
| Length C         | mm               | 45    | 58    | 68    | 80    | 100    | 125    |
| m                | kg               | 0.07  | 0.15  | 0.21  | 0.4   | 0.7    | 1.2    |

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## Super linear bushings **SH**, closed, type R0730



- ▶ Very high load capacity
- ▶ High rigidity
- ▶ Highest level of precision
- ▶ Compensation of misalignments
- ▶ High travel speed of up to 5 m/s

### Features

- ▶ Additional weight-bearing steel inserts with ground ball guide grooves and cut back,
- ▶ with or without integrated wiper seals
- ▶ Two metal retaining rings
- ▶ POM ball retainer

### Product description

Compared with the existing and time-tested super linear bushing **A**, the super linear bushing **SH** is equipped with more supporting steel inserts and rows of balls. Very high load capacities permit movement of particularly high masses with full alignment.

### Detailed information:

Linear bushings catalog

### Technical data

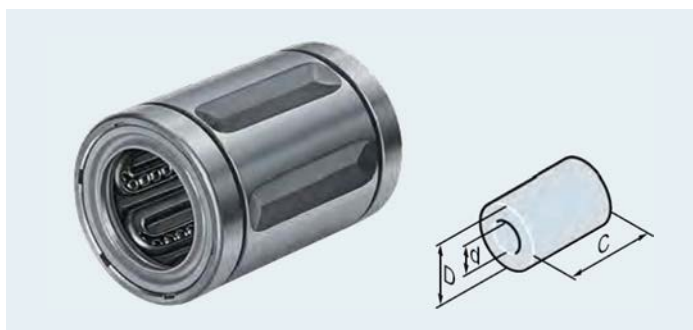
| Shaft diameter d | mm               | 20    | 25    | 30    | 40     | 50     |
|------------------|------------------|-------|-------|-------|--------|--------|
| C                | N                | 3 530 | 6 190 | 6 300 | 13 500 | 22 300 |
| C <sub>0</sub>   | N                | 2 530 | 4 530 | 7 180 | 10 400 | 16 800 |
| v <sub>max</sub> | m/s              | 5     | 5     | 5     | 5      | 5      |
| a <sub>max</sub> | m/s <sup>2</sup> | 150   | 150   | 150   | 150    | 150    |
| D                | mm               | 32    | 40    | 47    | 62     | 75     |
| Length C         | mm               | 45    | 58    | 68    | 80     | 100    |
| m                | kg               | 0.009 | 0.19  | 0.3   | 0.6    | 1.05   |

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## Standard linear bushings, closed, Type R0600 and R0602



- ▶ Closed-type construction form for self-supporting shafts
- ▶ Steel ball retainer
- ▶ With two integrated wiper seals or integrated steel holding rings
- ▶ Shaft diameter 8 with plastic ball retainer

### Features

- ▶ Robust, hard-wearing design
- ▶ Particularly suitable for tough demands
- ▶ Size 12 and up can be used at temperatures up to 200 °C without seals
- ▶ Hardened and ground outer sleeves
- ▶ Anti-friction bearing steel

### Product description

Linear bushings in rugged all-metal design with steel ball retainer for harsh environments with heavy contamination. Many pockets acting as lubricant reservoirs for extended lubrication intervals or lubrication for life. Pockets also whisk away any dirt that may have worked its way in and so prevent jamming of the linear bushing.

### Detailed information:

Linear bushings catalog

### Technical data

| Shaft diameter d | mm               | 8    | 12   | 16   | 20    | 25    | 30    | 40    | 50    |
|------------------|------------------|------|------|------|-------|-------|-------|-------|-------|
| $C_{max}$        | N                | 370  | 480  | 670  | 1 390 | 2 480 | 2 980 | 5 480 | 8 740 |
| $C_{0 max}$      | N                | 330  | 400  | 620  | 1 250 | 2 280 | 2 860 | 4 880 | 8 280 |
| $v_{max}$        | m/s              | 2.5  | 2.5  | 2.5  | 2.5   | 2.5   | 2.5   | 2.5   | 2     |
| $a_{max}$        | m/s <sup>2</sup> | 100  | 100  | 100  | 100   | 100   | 100   | 100   | 50    |
| D                | mm               | 16   | 22   | 26   | 32    | 40    | 47    | 62    | 75    |
| Length C         | mm               | 25   | 32   | 36   | 45    | 58    | 68    | 80    | 100   |
| m                | kg               | 0.02 | 0.04 | 0.05 | 0.10  | 0.19  | 0.32  | 0.62  | 1.14  |

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## Standard linear bushings, closed, corrosion-resistant, type R0602



- ▶ Hardened and ground outer sleeve made of corrosion-resistant steel
- ▶ Corrosion-resistant steel ball retainer
- ▶ Balls made of corrosion-resistant steel
- ▶ Closed-type construction form for self-supporting shafts

### Features

- ▶ With two integrated wiper seals or integrated steel holding rings
- ▶ Robust, hard-wearing design
- ▶ Particularly suitable for tough demands
- ▶ Corrosion-resistant steels as per ISO 683-17/EN 10088

### Product description

Linear bushings in rugged all-metal design with steel ball retainer for harsh environments with heavy contamination. Many pockets acting as lubricant reservoirs for extended lubrication intervals or lubrication for life. Pockets also whisk away any dirt that may have worked its way in and so prevent jamming of the linear bushing.

### Detailed information:

Linear bushings catalog

### Technical data

| Shaft diameter d | mm               | 8     | 12    | 16    | 20    | 25    |
|------------------|------------------|-------|-------|-------|-------|-------|
| $C_{max}$        | N                | 240   | 460   | 530   | 800   | 830   |
| $C_{0\ max}$     | N                | 330   | 600   | 630   | 1 250 | 2 100 |
| $v_{max}$        | m/s              | 2.5   | 2.5   | 2.5   | 2.5   | 2.5   |
| $a_{max}$        | m/s <sup>2</sup> | 100   | 100   | 100   | 100   | 100   |
| D                | mm               | 16    | 22    | 26    | 32    | 40    |
| Length C         | mm               | 25    | 32    | 36    | 45    | 58    |
| m                | kg               | 0.022 | 0.045 | 0.060 | 0.100 | 0.235 |

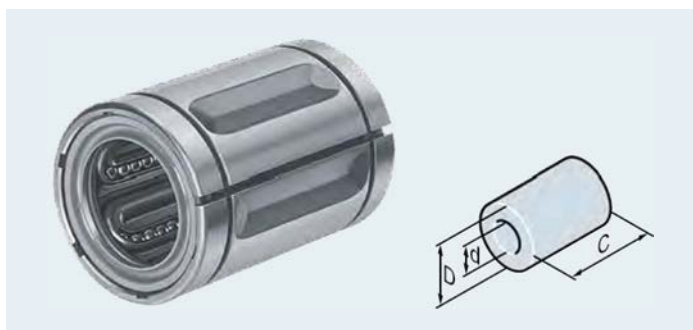
For ordering information for the GoTo products, see page 113

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## Standard linear bushings, adjustable, type R0610 and R0612



- ▶ Radial clearance adjustable
- ▶ Closed-type construction form for self-supporting shafts
- ▶ Steel ball retainer
- ▶ Shaft diameter 8 with plastic ball retainer
- ▶ With two integrated wiper seals or integrated steel holding rings

### Features

- ▶ Robust, hard-wearing design
- ▶ Particularly suitable for tough demands
- ▶ Size 12 and up can be used at temperatures up to 200 °C without seals
- ▶ Hardened and ground outer sleeves
- ▶ Anti-friction bearing steel

### Product description

Linear bushings in rugged all-metal design with steel ball retainer for harsh environments with heavy contamination. Many pockets acting as lubricant reservoirs for extended lubrication intervals or lubrication for life. Pockets also whisk away any dirt that may have worked its way in and so prevent jamming of the linear bushing.

### Detailed information:

Linear bushings catalog

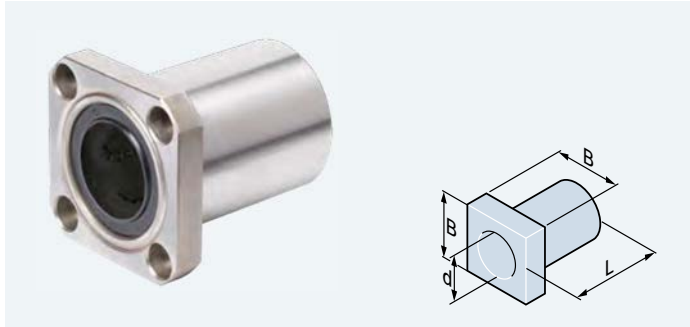
### Technical data

| Shaft diameter d | mm               | 8    | 12   | 16   | 20    | 25    | 30    | 40    | 50    |
|------------------|------------------|------|------|------|-------|-------|-------|-------|-------|
| $C_{max}$        | N                | 370  | 480  | 670  | 1 390 | 2 480 | 2 980 | 5 480 | 8 740 |
| $C_{0 max}$      | N                | 330  | 400  | 620  | 1 250 | 2 280 | 2 860 | 4 880 | 8 280 |
| $v_{max}$        | m/s              | 2.5  | 2.5  | 2.5  | 2.5   | 2.5   | 2.5   | 2.5   | 2     |
| $a_{max}$        | m/s <sup>2</sup> | 100  | 100  | 100  | 100   | 100   | 100   | 100   | 50    |
| D                | mm               | 16   | 22   | 26   | 32    | 40    | 47    | 62    | 75    |
| Length C         | mm               | 25   | 32   | 36   | 45    | 58    | 68    | 80    | 100   |
| m                | kg               | 0.02 | 0.04 | 0.05 | 0.10  | 0.19  | 0.32  | 0.62  | 1.14  |

For ordering information for the GoTo products, see page 114

R310EN 2060/ 2021-04, Bosch Rexroth AG

## Standard linear bushings, flanged, normal, type R0740



- ▶ Hardened and machined outer sleeve
- ▶ POM ball retainer
- ▶ Balls made of rolling bearing steel
- ▶ Integrated wiper seals

### Features

- ▶ No separate housing necessary
- ▶ Bearings for quick attachment

### Product description

The advantage of the flanged ball bushings is that they can be mounted easily on the corresponding attachments.

**Detailed information:**  
Linear bushings catalog

### Technical data

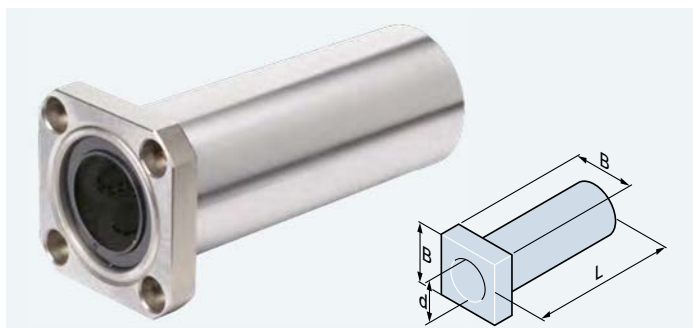
| Shaft diameter d | mm               | 5     | 8     | 12    | 16    | 20    | 25    | 30    | 40    |
|------------------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| $C_{max}$        | N                | 185   | 240   | 460   | 530   | 800   | 830   | 1320  | 1820  |
| $C_{0\ max}$     | N                | 250   | 330   | 600   | 630   | 1 250 | 2 100 | 2500  | 4200  |
| $v_{max}$        | m/s              | 2.5   | 2.5   | 2.5   | 2.5   | 2.5   | 2.5   | 2.5   | 2.5   |
| $a_{max}$        | m/s <sup>2</sup> | 100   | 100   | 100   | 100   | 100   | 100   | 100   | 100   |
| D                | mm               | 12    | 16    | 22    | 26    | 32    | 40    | 47    | 62    |
| B                | mm               | 22    | 25    | 32    | 35    | 42    | 50    | 60    | 75    |
| L                | mm               | 22    | 25    | 32    | 36    | 45    | 58    | 68    | 80    |
| m                | kg               | 0.020 | 0.033 | 0.064 | 0.090 | 0.150 | 0.300 | 0.470 | 0.980 |

For ordering information for the GoTo products, see page 114

Bosch Rexroth AG, R310EN 2060/ 2021-04

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

## Standard linear bushings, flanged, tandem, normal, type R0741



- ▶ Hardened and machined outer sleeve
- ▶ POM ball retainer
- ▶ Balls made of rolling bearing steel
- ▶ Integrated wiper seals

### Features

- ▶ No separate housing necessary
- ▶ Bearings for quick attachment

### Product description

The advantage of the flanged ball bushings is that they can be mounted easily on the corresponding attachments. The tandem version with a longer ball bushing enables a higher longitudinal moment  $ML_0$ .

### Detailed information:

Linear bushings catalog

### Technical data

| Shaft diameter d | mm               | 8    | 12   | 16   | 20   | 25   | 30   | 40   |
|------------------|------------------|------|------|------|------|------|------|------|
| $C_{max}$        | N                | 390  | 750  | 860  | 1300 | 1350 | 2150 | 3000 |
| $C_{0\ max}$     | N                | 660  | 1200 | 1260 | 2500 | 4200 | 5000 | 8400 |
| $ML_0$           | Nm               | 4.5  | 11   | 13   | 26   | 61   | 82   | 165  |
| $v_{max}$        | m/s              | 2.5  | 2.5  | 2.5  | 2.5  | 2.5  | 2.5  | 2.5  |
| $a_{max}$        | m/s <sup>2</sup> | 100  | 100  | 100  | 100  | 100  | 100  | 100  |
| D                | mm               | 16   | 22   | 26   | 32   | 40   | 47   | 62   |
| B                | mm               | 25   | 32   | 35   | 42   | 50   | 60   | 75   |
| L                | mm               | 46   | 61   | 68   | 80   | 112  | 123  | 151  |
| m                | kg               | 0.05 | 0.09 | 0.14 | 0.23 | 0.50 | 0.72 | 1.60 |

For ordering information for the GoTo products, see page 114

R310EN 2060/ 2021-04, Bosch Rexroth AG

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: [comercial@dbrautomation.com](mailto:comercial@dbrautomation.com)

## Standard linear bushings, central flanged, normal, type R0742



- ▶ Hardened and machined outer sleeve
- ▶ POM ball retainer
- ▶ Balls made of rolling bearing steel
- ▶ Integrated wiper seals

### Features

- ▶ No separate housing necessary
- ▶ Bearings for quick attachment

### Product description

The advantage of the flanged ball bushings is that they can be mounted easily on the corresponding attachments. The tandem version with a longer ball bushing enables a higher longitudinal moment  $ML_0$ .

### Detailed information:

Linear bushings catalog

### Technical data

| Shaft diameter d | mm      | 8    | 12   | 16   | 20   | 25   | 30   | 40   |
|------------------|---------|------|------|------|------|------|------|------|
| $C_{max}$        | N       | 390  | 750  | 860  | 1300 | 1350 | 2150 | 3000 |
| $C_{0\ max}$     | N       | 660  | 1200 | 1260 | 2500 | 4200 | 5000 | 8400 |
| $ML_0$           | Nm      | 4.5  | 11   | 13   | 26   | 61   | 82   | 165  |
| $v_{max}$        | m/s     | 2.5  | 2.5  | 2.5  | 2.5  | 2.5  | 2.5  | 2.5  |
| $a_{max}$        | $m/s^2$ | 100  | 100  | 100  | 100  | 100  | 100  | 100  |
| D                | mm      | 16   | 22   | 26   | 32   | 40   | 47   | 62   |
| B                | mm      | 25   | 32   | 35   | 42   | 50   | 60   | 75   |
| L                | mm      | 46   | 61   | 68   | 80   | 112  | 123  | 151  |
| m                | kg      | 0.05 | 0.09 | 0.14 | 0.23 | 0.50 | 0.72 | 1.60 |

For ordering information for the GoTo products, see page 114

Bosch Rexroth AG, R310EN 2060/ 2021-04

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

## Linear sets with standard linear bushings, adjustable, cast-iron housing, type R1066



- ▶ Precision housing made of lamellar graphite cast iron
- ▶ Standard linear bushing
- ▶ Radial clearance adjustable

### Features

- ▶ With two integrated wiper seals
- ▶ With two retaining rings

### Product description

The linear sets are complete bearing units consisting of a housing and a Rexroth linear bushing. They are available in many different configurations. Because of their rationalized construction and fabrication, they offer users significant cost advantages over customer-built designs.

### Detailed information:

Linear bushings catalog

### Technical data

| Shaft diameter d             | mm | 25    | 30    | 40    | 50    |
|------------------------------|----|-------|-------|-------|-------|
| C <sup>1)</sup>              | N  | 2 080 | 2 820 | 5 170 | 8 260 |
| C <sub>0</sub> <sup>1)</sup> | N  | 1 560 | 2 230 | 3 810 | 6 470 |
| H <sub>1</sub>               | mm | 60    | 70    | 90    | 105   |
| L                            | mm | 58    | 68    | 80    | 100   |
| A                            | mm | 74    | 84    | 108   | 130   |
| m                            | kg | 0.89  | 1.33  | 2.51  | 3.68  |

<sup>1)</sup> The load capacities stated are minimal values as the orientation and direction of load cannot always be precisely defined.

## Linear sets with standard linear bushings, flanged, cast-iron housing, type R1081



- ▶ Precision flanged housing made of lamellar graphite cast iron
- ▶ Standard linear bushing

### Features

- ▶ With two integrated wiper seals
- ▶ With two retaining rings
- ▶ With two spacer rings for shaft diameters 16 to 40

### Product description

The linear sets are complete bearing units consisting of a housing and a Rexroth linear bushing. They are available in many different configurations. Because of their rationalized construction and fabrication, they offer users significant cost advantages over customer-built designs.

### Detailed information:

Linear bushings catalog

### Technical data

| Shaft diameter d             | mm | 16   | 20    | 25    | 30    | 40    | 50    |
|------------------------------|----|------|-------|-------|-------|-------|-------|
| C <sup>1)</sup>              | N  | 580  | 1 170 | 2 080 | 2 820 | 5 170 | 8 260 |
| C <sub>0</sub> <sup>1)</sup> | N  | 440  | 860   | 1 560 | 2 230 | 3 810 | 6 470 |
| B                            | mm | 50   | 60    | 74    | 84    | 108   | 130   |
| L                            | mm | 36   | 45    | 58    | 68    | 80    | 100   |
| m                            | kg | 0.18 | 0.33  | 0.63  | 1.00  | 1.90  | 4.00  |

<sup>1)</sup> The load capacities stated are minimal values as the orientation and direction of load cannot always be precisely defined.

For ordering information for the GoTo products, see page 115

Bosch Rexroth AG, R310EN 2060/ 2021-04

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

## Segmental linear bushing, closed, normal and stainless, type R0668



- ▶ Stainless version also available
- ▶ Universally applicable
- ▶ Inexpensive
- ▶ High travel speed of up to 3 m/s

### Features

- ▶ Hardened or stainless steel segments
- ▶ Polyamide ball retainer

### Product description

The segmental linear bushing is the most inexpensive ready-to-install linear bushing and shaft with a sturdy plastic case. This linear bushing also comes as a stainless version for applications in corrosive conditions or with high demands for cleanliness, such as in food processing, semiconductor manufacturing and medical technology.

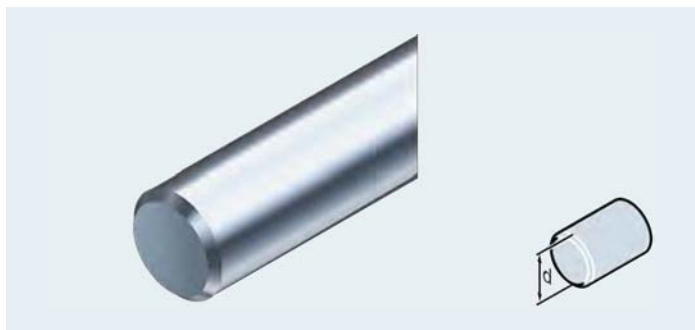
**Detailed information:**  
Linear bushings catalog

### Technical data

| Shaft diameter d                 | mm               | 12    | 16   | 20    | 25    | 30    | 40    |
|----------------------------------|------------------|-------|------|-------|-------|-------|-------|
| $C_{max}$                        | N                | 570   | 860  | 1 080 | 1 730 | 2 530 | 4 100 |
| $C_{max}$ corrosion-resistant    | N                | 290   | 430  | 540   | 870   | 1 270 | 2 050 |
| $C_{0\ max}$                     | N                | 620   | 910  | 1 120 | 1 750 | 2 510 | 4 180 |
| $C_{0\ max}$ corrosion-resistant | N                | 490   | 730  | 890   | 1 400 | 2 000 | 3 340 |
| $v_{max}$                        | m/s              | 3     | 3    | 3     | 3     | 3     | 3     |
| $a_{max}$                        | m/s <sup>2</sup> | 150   | 150  | 150   | 150   | 150   | 150   |
| D                                | mm               | 20    | 25   | 30    | 37    | 44    | 56    |
| Length C                         | mm               | 24    | 28   | 30    | 37    | 44    | 56    |
| m                                | kg               | 0.013 | 0.02 | 0.031 | 0.057 | 0.096 | 0.17  |

For ordering information for the GoTo products, see page 115

## Precision steel shafts, solid, type R1000



- ▶ Various diameters in tolerance class h6
- ▶ Heat-treated steel
- ▶ Corrosion-resistant steel
- ▶ Hard chrome plated

### Features

- ▶ With chamfers to protect the linear bushing seal
- ▶ Broad spectrum of uses (guide shaft, roller, etc.)

### Product description

Broad application spectrum with shafts made of heat-treated steel and corrosion-resistant steel as well as hard chrome plated. Precision steel shafts are induction hardened and smoothed by centerless grinding. They are cut to length and chamfered according to customer specifications.

**Detailed information:**  
Linear bushings catalog

### Technical data

| Shaft diameter d               | mm   | 8     | 10    | 12                  | 16    | 20    | 25    | 30    | 40    | 50    |
|--------------------------------|------|-------|-------|---------------------|-------|-------|-------|-------|-------|-------|
| Heat-treated steel             |      | ✓     | ✓     | ✓                   | ✓     | ✓     | ✓     | ✓     | ✓     | ✓     |
| Corrosion-resistant X46Cr13    |      | ✓     | ✓     | ✓                   | ✓     | ✓     | ✓     | ✓     | ✓     | ✓     |
| Corrosion-resistant X90CrMoV18 |      |       |       |                     |       | ✓     | ✓     | ✓     | ✓     | ✓     |
| Hard chrome plated             |      |       |       |                     |       |       | ✓     | ✓     | ✓     | ✓     |
| m                              | kg/m | 0.39  | 0.61  | 0.88                | 1.57  | 2.45  | 3.83  | 5.51  | 9.80  | 15.32 |
| L <sub>max</sub>               | mm   | 5 900 | 5 900 | 5 900 <sup>1)</sup> | 5 900 | 5 900 | 5 900 | 5 900 | 5 900 | 5 900 |

<sup>1)</sup> In corrosion-resistant version X46Cr13 L<sub>max</sub> = 3 450 mm

For ordering information for the GoTo products, see page 116

Bosch Rexroth AG, R310EN 2060/ 2021-04

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com



## Precision steel shafts, tubular, type R1001



- ▶ Heat-treated steel in tolerance class h6
- ▶ Hard chrome plated in tolerance class h7

### Features

- ▶ With chamfers to protect the linear bushing seal
- ▶ Broad spectrum of uses (guide shaft, roller, etc.)

### Product description

Broad application spectrum with shafts in various tolerances made of heat-treated steel as well as hard chrome plated. Precision steel shafts are induction hardened and smoothed by centerless grinding. They are cut to length and chamfered according to customer specifications.

### Detailed information:

Linear bushings catalog

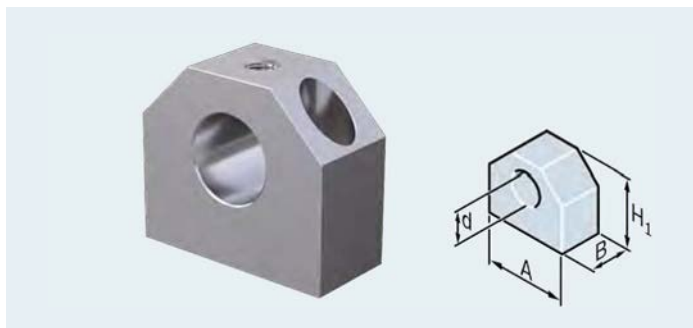
### Technical data

| Shaft diameter d   | mm   | 25    | 30    | 40    | 50    |
|--------------------|------|-------|-------|-------|-------|
| Heat-treated steel |      | ✓     | ✓     | ✓     | ✓     |
| Hard chrome plated |      |       | ✓     | ✓     | ✓     |
| $d_i$ (approx.)    | mm   | 14    | 19    | 26.5  | 29.6  |
| m                  | kg/m | 2.63  | 3.30  | 5.50  | 9.95  |
| $L_{max}$          | mm   | 5 900 | 5 900 | 5 900 | 5 900 |

For ordering information for the GoTo products, see page 116

R310EN 2060/ 2021-04, Bosch Rexroth AG

## Compact shaft support blocks, aluminum, type R1058



- ▶ Aluminum
- ▶ High-precision version
- ▶ Extra low height
- ▶ Clamping from above for better access

### Features

- ▶ Thread for attachment from below
- ▶ Drill hole for attachment from above

### Product description

Compact shaft support blocks are used to fix the ends of guide shafts with compact linear bushings and compact linear sets. Rexroth compact shaft support blocks provide significant technical and cost advantages over customer-built designs. The compact shaft brackets can be mounted from above or below and allow for rigid shaft fixing.

### Detailed information:

Linear bushings catalog

### Technical data

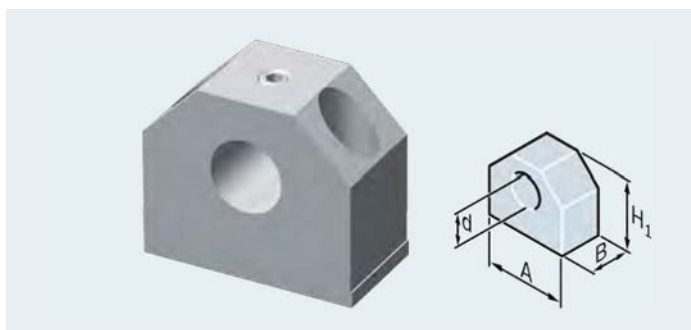
| Shaft diameter d | mm | 12    | 16    | 20   | 25   | 30   | 40   | 50   |
|------------------|----|-------|-------|------|------|------|------|------|
| H <sub>1</sub>   | mm | 33    | 38    | 45   | 54   | 60   | 76   | 92   |
| B                | mm | 18    | 20    | 24   | 28   | 30   | 40   | 50   |
| A                | mm | 40    | 45    | 53   | 62   | 67   | 87   | 103  |
| m                | kg | 0.045 | 0.065 | 0.11 | 0.17 | 0.22 | 0.47 | 0.82 |

For ordering information for the GoTo products, see page 116

Bosch Rexroth AG, R310EN 2060/ 2021-04

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

## Shaft support blocks, aluminum, type R1057



- ▶ Aluminum
- ▶ Rigid shaft mounting due to extra-wide design
- ▶ Clamping from above for better access
- ▶ Thread for attachment from below
- ▶ With reference edge for easy alignment

### Features

- ▶ Greater security through clamping screw with large thread diameter
- ▶ Drill hole for attachment from above
- ▶ High rigidity
- ▶ Interchangeability thanks to high dimensional accuracy
- ▶ Simple mounting

### Product description

Shaft support blocks are used to fix the ends of guide shafts with closed-type linear bushings and linear sets. Rexroth shaft support blocks provide significant technical and cost advantages over customer-built designs. Aluminum shaft blocks are characterized by their broad construction. This allows the shaft to be rigidly kept in place. They can also be fastened from above or below and aligned easily and precisely with the help of the reference edge.

### Detailed information:

Linear bushings catalog

### Technical data

| Shaft diameter d | mm | 10   | 12   | 16   | 20   | 25   | 30   | 40   | 50   |
|------------------|----|------|------|------|------|------|------|------|------|
| H <sub>1</sub>   | mm | 31   | 35   | 42   | 51   | 61   | 70   | 88   | 105  |
| B                | mm | 20   | 20   | 24   | 30   | 38   | 40   | 48   | 58   |
| A                | mm | 40   | 43   | 53   | 60   | 78   | 87   | 108  | 132  |
| m                | kg | 0.05 | 0.06 | 0.11 | 0.18 | 0.35 | 0.48 | 0.90 | 1.50 |

For ordering information for the GoTo products, see page 117

R310EN 2060/ 2021-04, Bosch Rexroth AG

# Ball screw assemblies (BASA)

Ball screw assemblies are the efficient solution for precise conversion of rotary to linear motion. Building on long years of experience and deep engineering expertise, we have developed a product range that meets the most varied requirements. No matter whether you need very high linear speeds, maximum load ratings, or minimum installed length, you will always find the right solution in Rexroth's broad manufacturing spectrum. To make sure your application runs with utmost accuracy and operational safety, the individual components in our range have been precisely matched to one another. That makes it easy to put together complete assemblies quickly and efficiently.

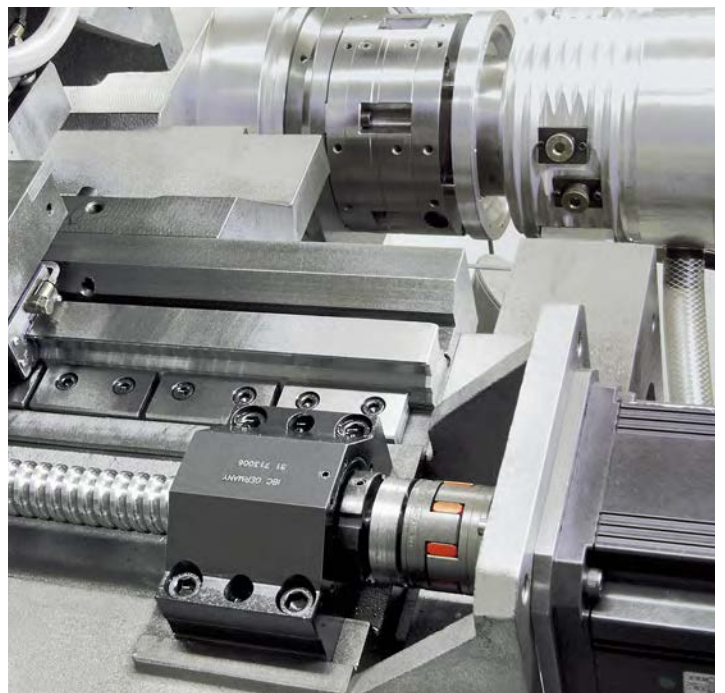
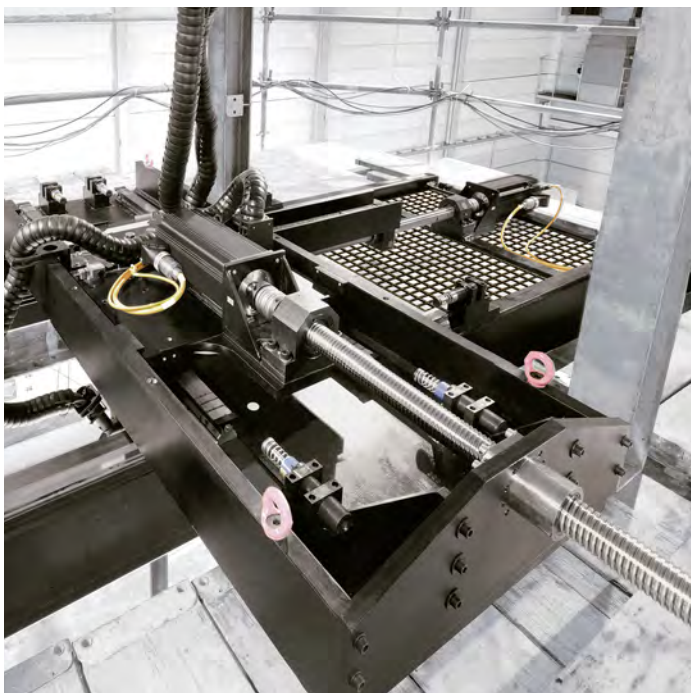
## Ball nuts

The flanged nuts from the standard series are available not only with Rexroth connection dimensions but also in a version with DIN connection dimensions. The corresponding engineering standards (DIN 69051 and ISO 3408) are therefore fully supported by Rexroth. Almost all single nuts in the version with axial backlash can be easily mounted on the screw by the customer – which is especially useful when it comes to replacements.

## Precision ball screws

Precision-rolled screws from Rexroth are the core element of Rexroth ball screw assemblies. They are produced in high quality in many different sizes and leads. Depending on the lead, Rexroth screws can also be delivered in two-start or four-start versions.

In combination with the multi-start Rexroth ball nuts, this allows higher load ratings to be achieved within a short overall length.



# Overview

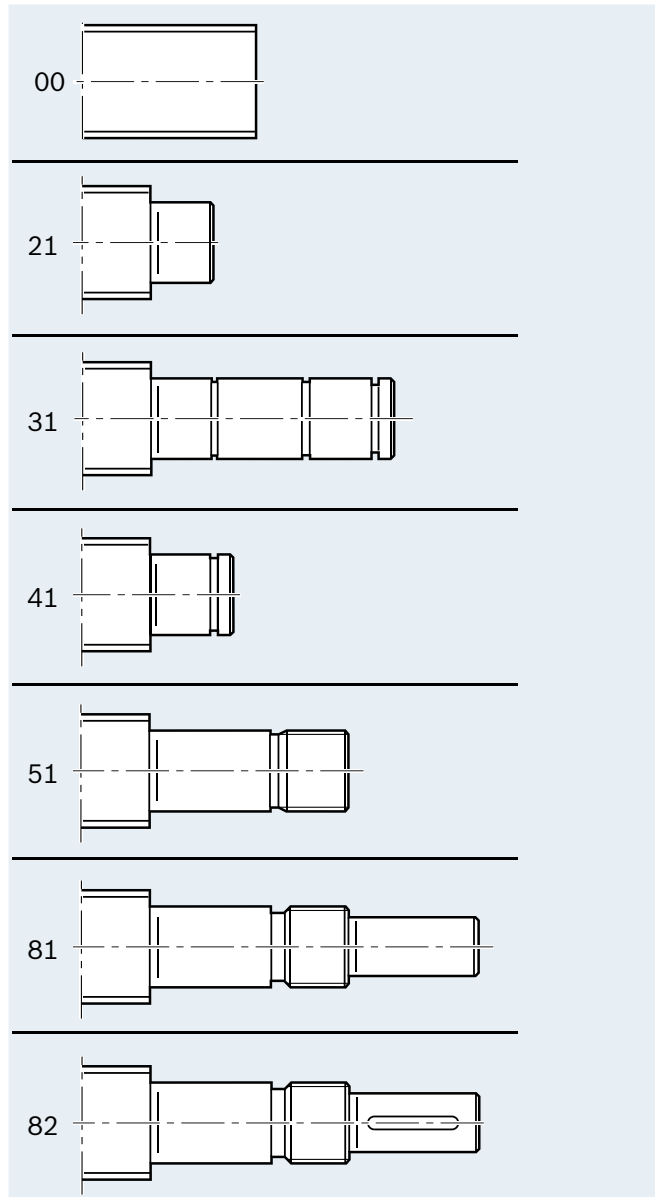
| Sizes<br>$d_0 \times P$ | Complete BASA |         | Nuts    |         |
|-------------------------|---------------|---------|---------|---------|
|                         | FEM-E-B       | FEM-E-S | FEM-E-B | FEM-E-S |
| 8 x 2.5R                | -             | -       | -       | ✓       |
| 12 x R                  | -             | -       | ✓       | -       |
| 12 x 5R                 | -             | -       | -       | ✓       |
| 16 x 5R                 | ✓             | -       | ✓       | ✓       |
| 16 x 10R                | ✓             | -       | ✓       | ✓       |
| 16 x 16R                | ✓             | -       | ✓       | ✓       |
| 20 x 5R                 | ✓             | -       | ✓       | ✓       |
| 20 x 10R                | ✓             | -       | ✓       | ✓       |
| 20 x 20R                | ✓             | -       | ✓       | ✓       |
| 25 x 5R                 | ✓             | -       | ✓       | ✓       |
| 25 x 10R                | ✓             | -       | ✓       | ✓       |
| 25 x 25R                | ✓             | -       | ✓       | ✓       |
| 32 x 5R                 | ✓             | -       | ✓       | ✓       |
| 32 x 10R                | ✓             | -       | ✓       | ✓       |
| 32 x 20R                | ✓             | -       | ✓       | ✓       |
| 32 x 32R                | ✓             | -       | ✓       | ✓       |
| 40 x 5R                 | ✓             | -       | ✓       | ✓       |
| 40 x 10R x 6-4          | ✓             | -       | ✓       | ✓       |
| 40 x 20R                | ✓             | -       | ✓       | ✓       |
| 40 x 40R                | ✓             | -       | ✓       | ✓       |

|                          |   |
|--------------------------|---|
| Accuracy class           | T5, T7, T9                                      |
| Screw end                | 00, 21, 31, 41, 51, 81, 82                      |
| Screw end version        | as per screw assemblies catalog                 |
| Internal screw machining | none  |
| Total length $L_{tot}$   | see technical data                              |
| Nut type                 | FEM-E-S, FEM-E-C                                |
| Sealing                  | standard  |
| Pre-loading              | Backlash, reduced backlash, C1 moderate preload |
| Lubrication              | Basic greasing with Dynalub 510                 |
| Documentation            | standard  |

Further information regarding ball screw assemblies can be found at: [www.boschrexroth.com/eshop](http://www.boschrexroth.com/eshop)



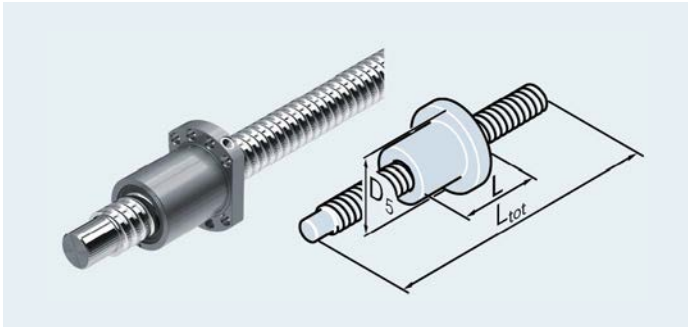
## Screw ends for complete BASA



### Features

- Beveled screw ends

## Complete BASA with flanged single nuts FEM-E-B, standard, type R1502



- ▶ Standard seals
- ▶ Connection dimensions as per DIN 69051, Part 5
- ▶ With backlash, reduced backlash, C1 pre-loading

### Features

- ▶ High axial load-bearing capacity
- ▶ Highly dynamic
- ▶ High rigidity
- ▶ Precision-rolled ball screws SN-R in tolerance grades T5, T7, T9
- ▶ See table for ball screw length

### Product description

Ball screw assemblies are the efficient solution for precise conversion of rotary to linear motion.

Ball screw assemblies are used in applications requiring very high linear speeds, maximum load ratings, or minimum installation lengths.

### Detailed information:

Screw assemblies catalog

### Technical data

| Size             |     | 16x5R  | 16x10R | 16x16R | 20x5R  | 20x10R | 20x20R | 25x5R  | 25x10R | 25x25R |
|------------------|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| C                | N   | 14 800 | 11 500 | 11 200 | 17 200 | 16 900 | 16 000 | 19 100 | 18 800 | 17 600 |
| D <sub>5</sub>   | mm  | 48     | 48     | 48     | 58     | 58     | 58     | 62     | 62     | 62     |
| L <sub>tot</sub> | mm  | 1 500  | 1 500  | 1 500  | 1 500  | 1 500  | 1 500  | 2 500  | 2 500  | 2 500  |
| v <sub>max</sub> | m/s | 30     | 60     | 96     | 30     | 60     | 120    | 30     | 60     | 150    |

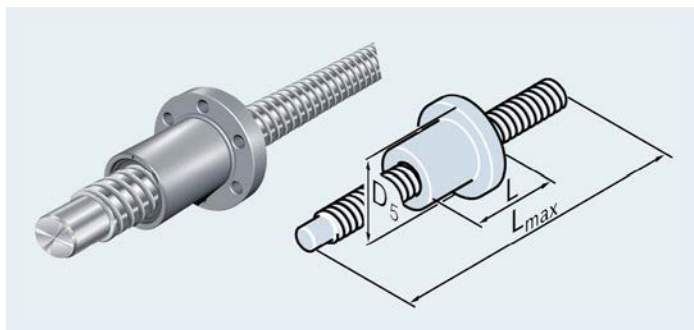
| Size             |     | 32x5R  | 32x10R | 32x20R | 32x32R | 40x5R  | 40x10R | 40x20R | 40x40R |
|------------------|-----|--------|--------|--------|--------|--------|--------|--------|--------|
| C                | N   | 25 900 | 38 000 | 23 600 | 23 400 | 34 900 | 60 000 | 45 500 | 44 400 |
| D <sub>5</sub>   | mm  | 80     | 80     | 80     | 80     | 93     | 93     | 93     | 93     |
| L <sub>tot</sub> | mm  | 2 500  | 2 500  | 2 500  | 2 500  | 3 500  | 3 500  | 3 500  | 3 500  |
| v <sub>max</sub> | m/s | 23     | 47     | 94     | 150    | 19     | 38     | 75     | 150    |

For ordering information for the GoTo products, see page 117

R310EN 2060/ 2021-04, Bosch Rexroth AG

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

## Complete BASA with flanged single nuts FEM-E-S, standard, type R1512



- ▶ Standard seals
- ▶ Rexroth connection dimensions
- ▶ With backlash, reduced backlash, C1 pre-loading

### Features

- ▶ High axial load-bearing capacity
- ▶ Highly dynamic
- ▶ High rigidity
- ▶ Precision ball screws SN-R in tolerance grades T5, T7, T9
- ▶ See table for ball screw length

### Product description

Ball screw assemblies are the efficient solution for precise conversion of rotary to linear motion.

Ball screw assemblies are used in applications requiring very high linear speeds, maximum load ratings, or minimum installation lengths.

### Detailed information:

Screw assemblies catalog

### Technical data

| Size             |     | 16x5R  | 16x10R | 16x16R | 20x5R  | 20x10R | 20x20R | 25x5R  | 25x10R | 25x25R |
|------------------|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| C                | N   | 14 800 | 11 500 | 7 560  | 17 200 | 16 900 | 10 900 | 19 100 | 18 800 | 12 100 |
| D <sub>5</sub>   | mm  | 48     | 48     | 48     | 58     | 58     | 62     | 62     | 62     | 62     |
| L <sub>max</sub> | mm  | 1 500  | 1 500  | 1 500  | 1 500  | 1 500  | 1 500  | 2 500  | 2 500  | 2 500  |
| v <sub>max</sub> | m/s | 30     | 60     | 96     | 30     | 60     | 120    | 30     | 60     | 150    |

| Size             |     | 32x5R  | 32x10R | 32x20R | 32x32R | 40x5R  | 40x10R | 40x20R | 40x40R |
|------------------|-----|--------|--------|--------|--------|--------|--------|--------|--------|
| C                | N   | 25 900 | 38 000 | 16 200 | 16 100 | 34 900 | 60 000 | 45 500 | 30 600 |
| D <sub>5</sub>   |     | 80     | 80     | 80     | 80     | 93     | 93     | 93     | 110    |
| L <sub>max</sub> | mm  | 2 500  | 2 500  | 2 500  | 2 500  | 3 500  | 3 500  | 3 500  | 3 500  |
| v <sub>max</sub> | m/s | 23     | 47     | 94     | 150    | 19     | 38     | 75     | 150    |

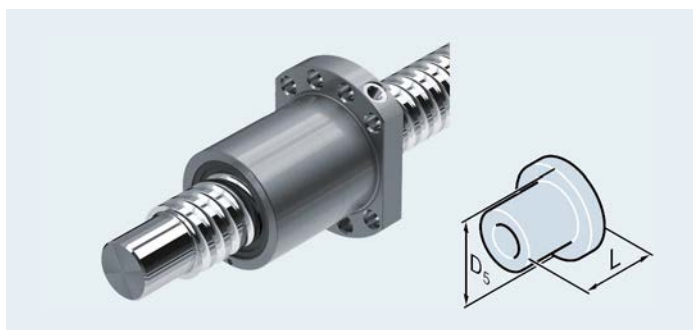
For ordering information for the GoTo products, see page 117

Bosch Rexroth AG, R310EN 2060/ 2021-04

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com



## Flanged single nuts FEM-E-B, standard, type R1502



- ▶ Standard seals
- ▶ Connection dimensions as per DIN 69051, Part 5
- ▶ With backlash

### Features

- ▶ High axial load-bearing capacity
- ▶ Highly dynamic
- ▶ High rigidity
- ▶ For precision ball screws SN-R in tolerance grades T5, T7, T9

### Product description

Ball screw assemblies are the efficient solution for precise conversion of rotary to linear motion.

Ball screw assemblies are used for maximum linear velocities, maximum load ratings or when minimal lengths are required.

### Detailed information:

Screw assemblies catalog

### Technical data

| Size             |     | 16x5R  | 16x10R | 16x16R | 20x5R  | 20x10R | 20x20R | 25x5R  | 25x10R | 25x25R |
|------------------|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| C                | N   | 14 800 | 11 500 | 11 200 | 17 200 | 16 900 | 16 000 | 19 100 | 18 800 | 17 600 |
| D <sub>5</sub>   | mm  | 48     | 48     | 48     | 58     | 58     | 58     | 62     | 62     | 62     |
| L                | mm  | 38     | 45     | 61     | 40     | 60     | 77     | 45     | 64     | 95     |
| v <sub>max</sub> | m/s | 30     | 60     | 96     | 30     | 60     | 120    | 30     | 60     | 150    |
| m                | kg  | 0.19   | 0.21   | 0.26   | 0.31   | 0.40   | 0.49   | 0.36   | 0.47   | 0.63   |

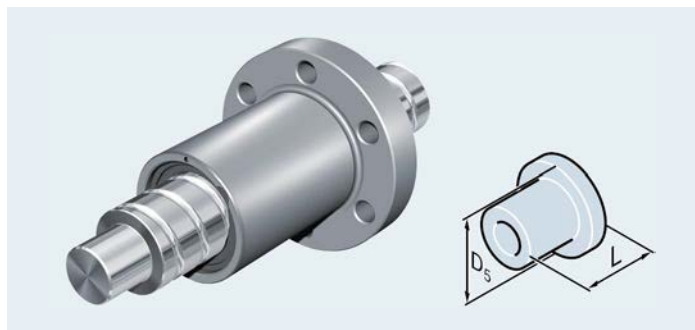
| Size             |     | 32x5R  | 32x10R | 32x20R | 32x32R | 40x5R  | 40x10R | 40x20R | 40x40R |
|------------------|-----|--------|--------|--------|--------|--------|--------|--------|--------|
| C                | N   | 25 900 | 38 000 | 23 600 | 23 400 | 34 900 | 60 000 | 45 500 | 44 400 |
| D <sub>5</sub>   | mm  | 80     | 80     | 80     | 80     | 93     | 93     | 93     | 93     |
| L                | mm  | 48     | 77     | 84     | 120    | 54     | 70     | 88     | 142    |
| v <sub>max</sub> | m/s | 23     | 47     | 94     | 150    | 19     | 38     | 75     | 150    |
| m                | kg  | 0.62   | 0.84   | 0.9    | 1.21   | 1.03   | 1.19   | 1.44   | 2.16   |

For ordering information for the GoTo products, see page 118

R310EN 2060/ 2021-04, Bosch Rexroth AG

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## Flange single nut FEM-E-S, standard, type R1512, size 8x2.5 to 25x25



- ▶ Standard seals
- ▶ Rexroth connection dimensions
- ▶ With backlash

### Features

- ▶ High axial load-bearing capacity
- ▶ Highly dynamic
- ▶ High rigidity
- ▶ For precision ball screws SN-R in tolerance grades T5, T7, T9

### Product description

Ball screw assemblies are the efficient solution for precise conversion of rotary to linear motion.

Ball screw assemblies are used for maximum linear velocities, maximum load ratings or when minimal lengths are required.

### Detailed information:

Screw assemblies catalog

### Technical data

| Size             |     | 8x2.5R | 12x5  | 16x5R  | 16x10R | 16x16R | 20x5R  | 20x10R | 20x20R |
|------------------|-----|--------|-------|--------|--------|--------|--------|--------|--------|
| C                | N   | 2 640  | 4 560 | 14 800 | 11 500 | 7 560  | 17 200 | 16 900 | 10 900 |
| D <sub>5</sub>   | mm  | 30     | 40    | 53     | 53     | 58     | 58     | 58     | 63     |
| L                | mm  | 16     | 28    | 38     | 45     | 45     | 40     | 60     | 60     |
| v <sub>max</sub> | m/s | 15     | 30    | 30     | 60     | 96     | 30     | 60     | 120    |
| m                | kg  | 0.05   | 0.12  | 0.24   | 0.25   | 0.39   | 0.28   | 0.36   | 0.6    |

| Size             |     | 25x5R  | 25x10R | 25x25R | 32x5R  | 32x10R | 32x20R | 32x32R |
|------------------|-----|--------|--------|--------|--------|--------|--------|--------|
| C                | N   | 19 100 | 18 800 | 12 100 | 25 900 | 38 000 | 16 200 | 16 100 |
| D <sub>5</sub>   | mm  | 63     | 63     | 73     | 73     | 73     | 80     | 80     |
| L                | mm  | 45     | 64     | 70     | 48     | 77     | 64     | 88     |
| v <sub>max</sub> | m/s | 30     | 60     | 150    | 23     | 47     | 94     | 150    |
| m                | kg  | 0.35   | 0.44   | 1.09   | 0.54   | 0.72   | 1.02   | 1.4    |

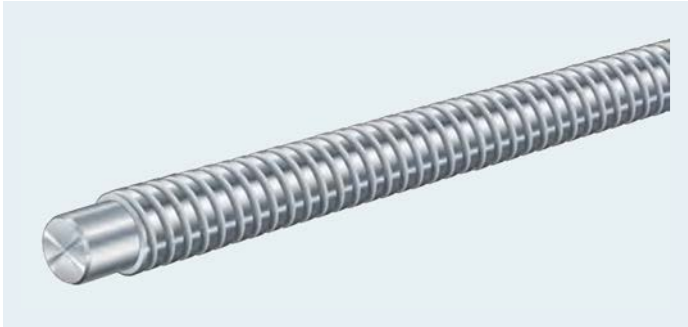
| Size             |     | 40x5R  | 40x10R | 40x20R | 40x40R |
|------------------|-----|--------|--------|--------|--------|
| C                | N   | 34 900 | 60 000 | 45 500 | 30 600 |
| D <sub>5</sub>   | mm  | 80     | 95     | 95     | 110    |
| L                | mm  | 54     | 70     | 88     | 102    |
| v <sub>max</sub> | m/s | 19     | 38     | 75     | 150    |
| m                | kg  | 0.71   | 1.29   | 1.54   | 3.59   |

For ordering information for the GoTo products, see page 119

Bosch Rexroth AG, R310EN 2060/ 2021-04

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## Precision ball screws SN-R, type R1511



► Ball screws

### Features

- Tolerance classes T5, T7, T9

### Product description

Precision ball screws are produced in high quality in many different sizes and leads. Depending on the lead, ball screws can also be delivered in two-start or four-start versions. In combination with our multi-start ball nuts, this allows higher load ratings to be achieved within a short overall length.

### Detailed information:

Screw assembly catalog

### Technical data

| Size      |                      | 8x2,5R | 12x5R | 16x5R | 16x10R | 16x16R | 20x5R | 20x10R |
|-----------|----------------------|--------|-------|-------|--------|--------|-------|--------|
| $J_s$     | kgcm <sup>2</sup> /m | 0.04   | 0.11  | 0.31  | 0.31   | 0.34   | 0.84  | 0.84   |
| m         | kg/m                 | 0.30   | 0.75  | 1.24  | 1.23   | 1.29   | 2.03  | 2.03   |
| $L_{max}$ | mm                   | 1 000  | 1 500 | 1 500 | 1 500  | 1 500  | 1 500 | 1 500  |

| Size      |                      | 20x20R | 25x5R | 25x10R | 25x25R | 32x5R | 32x10R | 32x20R |
|-----------|----------------------|--------|-------|--------|--------|-------|--------|--------|
| $J_s$     | kgcm <sup>2</sup> /m | 0.81   | 2.22  | 2.39   | 2.15   | 6.05  | 6.4    | 6.39   |
| m         | kg/m                 | 1.99   | 3.31  | 3.43   | 3.25   | 5.45  | 5.6    | 5.6    |
| $L_{max}$ | mm                   | 1 500  | 2 500 | 2 500  | 2 500  | 2 500 | 2 500  | 2 500  |

| Size      |                      | 32x32R | 40x5R | 40x10R | 40x20R | 40x40R |
|-----------|----------------------|--------|-------|--------|--------|--------|
| $J_s$     | kgcm <sup>2</sup> /m | 6.17   | 15.64 | 13.55  | 13.52  | 13.42  |
| m         | kg/m                 | 5.5    | 8.78  | 8.15   | 8.14   | 8.11   |
| $L_{max}$ | mm                   | 2 500  | 4 500 | 4 500  | 4 500  | 4 500  |

For ordering information for the GoTo products, see page 119

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# Ball transfer units

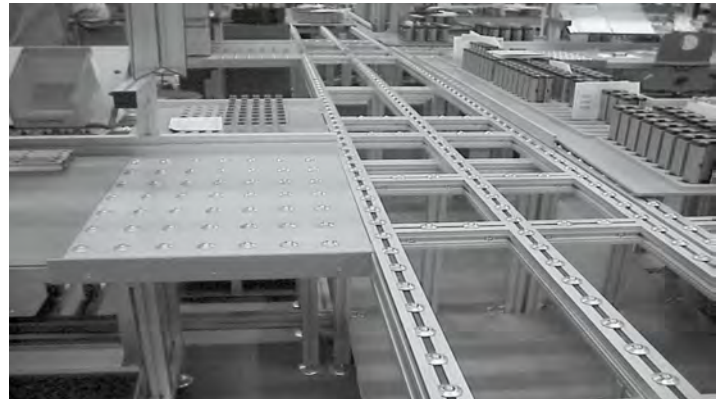
Ball transfer units make light work of shifting, rotating and directing unit loads. They have proven extremely valuable as integral parts of conveyor systems, feed devices, and machining and packaging equipment.

## Applications

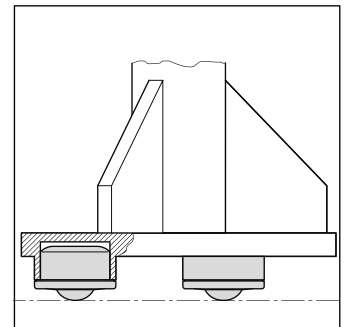
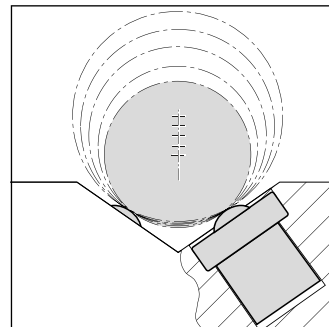
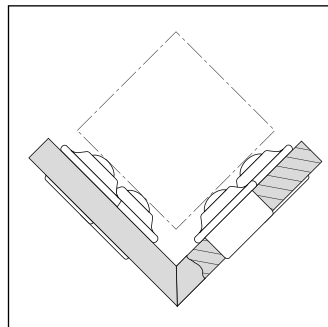
- ▶ General-purpose machines
- ▶ Feed tables for sheet-metal working machines
- ▶ Fixtures for press brakes
- ▶ Drilling machine tables and motor-driven supporting tables
- ▶ Assembly aids in the manufacture of large engines and motors
- ▶ Construction of special-purpose machines
- ▶ Aerospace industry
- ▶ Beverage and stone-processing industries
- ▶ Not suited for use under water

## Conveyor systems

- ▶ Ball transfer tables, turntables and switches for sorting and distribution systems
- ▶ Crossover sections of continuous conveyors
- ▶ Baggage sorting systems at airports
- ▶ Transport of steel tubes and pipes
- ▶ Lifting platforms



## Mounting possibilities



## Ball transfer units

### R0530 1..



Ball transfer units with sheet steel housing

### R0536 1..



Ball transfer units with clip as fastening element

### R0535 1..



Ball transfer units with reinforced steel housing

### R0531 1..



Ball transfer units with plastic load balls

### R0533 ...



Ball transfer units with solid steel housing without collar

#### Detailed informations:

Ball transfer units catalog

#### Technical data R0530 1..

| Size                |    | 8     | 12    | 15    | 22    | 30    | 45    |
|---------------------|----|-------|-------|-------|-------|-------|-------|
| dyn C               | N  | 130   | 250   | 500   | 1300  | 2500  | 6000  |
| stat C <sub>0</sub> | N  | 250   | 500   | 1000  | 2500  | 5000  | 12000 |
| m                   | kg | 0,007 | 0,018 | 0,038 | 0,132 | 0,265 | 0,720 |

#### Technical data R0531 1..

| Size                |    | 8     | 12    | 15    | 22    | 30    |
|---------------------|----|-------|-------|-------|-------|-------|
| dyn C               | N  | 10    | 35    | 70    | 100   | 150   |
| stat C <sub>0</sub> | N  | 10    | 35    | 70    | 100   | 150   |
| m                   | kg | 0,005 | 0,012 | 0,024 | 0,093 | 0,168 |

#### Technical data R0535 1..

| Size                |    | 15    | 22   | 30   | 45    |
|---------------------|----|-------|------|------|-------|
| dyn C               | N  | 500   | 1300 | 2500 | 6000  |
| stat C <sub>0</sub> | N  | 1300  | 3000 | 6000 | 15000 |
| m                   | kg | 0,045 | 0,15 | 0,3  | 0,82  |

#### Technical data R0536 1..

| Size                |    | 15    | 22    | 30   |
|---------------------|----|-------|-------|------|
| dyn C               | N  | 500   | 1300  | 2500 |
| stat C <sub>0</sub> | N  | 1000  | 2600  | 5000 |
| m                   | kg | 0,044 | 0,146 | 0,29 |

#### Technical data R0533 ...

| Size                |    | 12    |
|---------------------|----|-------|
| dyn C               | N  | 250   |
| stat C <sub>0</sub> | N  | 700   |
| m                   | kg | 0,028 |

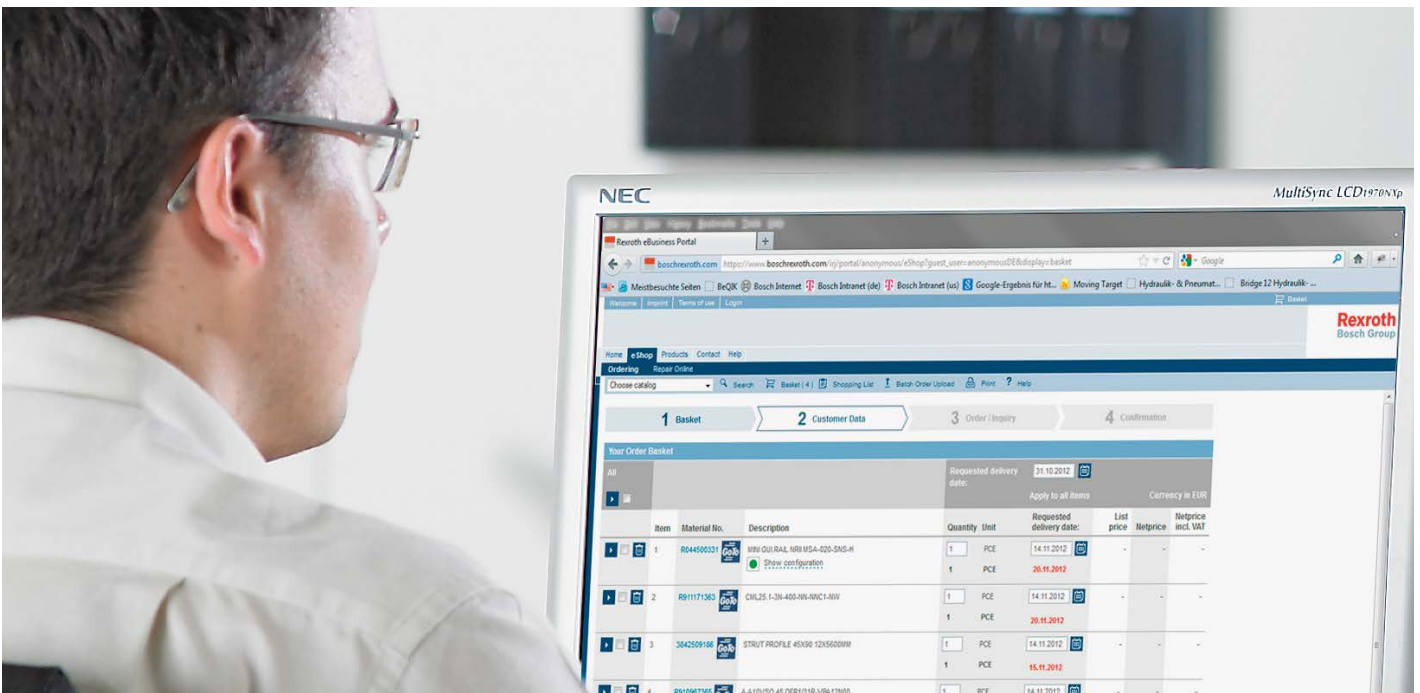
For ordering information for the GoTo products, see page 120

R310EN 2060/ 2021-04, Bosch Rexroth AG

DBR AUTOMATION SL, Malaga Spain, Telf: +34 951709474 E-mail: comercial@dbrautomation.com

# Ordering Information

The following pages list all available GoTo products with their description and part number. In addition, the table provides the maximum order quantity and the delivery time.



| Page   | Part no.   | Size     | Description                                    | Specification                         | Maximum GoTo quantity (units)  | Delivery time (working days)<br>ex works in Germany |
|--|------------|----------|--|---------------------------------------|--|---|
| <b>Linear systems <sup>1)</sup></b>                  |            |          |  |                                       |  |   |
| <b>8 Compact module CKR with belt drive</b>          |            |          |  |                                       |  |   |
|  | R03643000G | 090-NNG1 | Section width<br>Guide width<br>Belt drive     | 90 mm<br>12 mm                        | Motor installation: MA01, MA02,<br>MA05, MA06, MG10, MG11<br>Drives: i=5, i=10<br>Motor: without / MSK 030C<br>Switch: without: 000<br>with: 021, 022<br>with / without connecting plate<br>with / without cable duct/<br>switching cam / cover      | 4<br>8  |
|  | R03644000G | 110-NNG1 | Section width<br>Guide width<br>Belt drive     | 110 mm<br>15 mm                       | Motor installation: MA01, MA02,<br>MA05, MA06, MG10, MG11<br>Drives: i=5, i=10<br>Motor: without / MSK 030C<br>Switch: without: 000<br>with: 021, 022<br>with / without connecting plate<br>with / without cable duct/<br>switching cam / cover      | 4<br>8  |
|  | R03645000G | 145-NNG1 | Section width<br>Guide width<br>Belt drive     | 145 mm<br>20 mm                       | Motor installation: MA01, MA02,<br>MA05, MA06, MG10, MG11<br>Drives: i=3, i=5, i=10<br>Motor: without / MSK 040C<br>Switch: without: 000<br>with: 021, 022<br>with / without connecting plate<br>with / without cable duct/<br>switching cam / cover | 4<br>8  |
|  | R03646000G | 200-NNG1 | Section width<br>Guide width<br>Belt drive     | 200 mm<br>25 mm                       | Motor installation: MA01, MA02,<br>MG01, MG02<br>Drives: i=3, i=5, i=10<br>Motor: without / MSK 060C<br>Switch: without: 000<br>with: 015, 021, 022<br>with / without connecting plate<br>with / without cable duct/<br>switching cam/cover          | 4<br>8  |
| <b>8 Compact module CKK with ball screw assembly</b> |            |          |  |                                       |  |   |
|  | R03603000G | 090-NNG1 | Section width<br>Guide width<br>Screw assembly | 90 mm<br>12 mm<br>12x5 mm<br>12x10 mm | Motor installation: OF01, MF01<br>no drive<br>Motor: without / MSK 030C<br>Switch: without: 000<br>with: 021, 022<br>with / without connecting plate<br>with / without cable duct/<br>switching cam/cover  | 4<br>8  |

<sup>1)</sup> Please state the required stroke when ordering.

| Page                      | Part no.   | Size     | Description   | Specification   | Maximum GoTo quantity (units) | Delivery time (working days) ex works in Germany |
|---------------------------|------------|----------|---|---|-------------------------------|--|
|                           | R03604000G | 110-NNG1 | Section width 110 mm<br>Guide width 15 mm<br>Screw assembly 16x5 mm<br>16x10 mm<br>16x16 mm             | Motor installation: OF01, MF01, RV01, RV02, RV03<br>no drive<br>Motor: without / MSK 030C, MSK 040C<br>Switch: without: 000<br>with: 021, 022<br>with / without connecting plate<br>with / without cable duct/<br>switching cam/cover                 | 4                             | 8  |
|                           | R03605000G | 145-NNG1 | Section width 145 mm<br>Guide width 20 mm<br>Screw assembly 20x5 mm<br>20x10 mm<br>20x20 mm             | Motor installation: OF01, MF01, RV01, RV02, RV03<br>no drive<br>Motor: without / MSK 040C, MSK 050C<br>Switch: without: 000<br>with: 021, 022<br>with / without connecting plate<br>with / without cable duct/<br>switching cam/cover                 | 4                             | 8  |
|                           | R03606000G | 200-NNG1 | Section width 200 mm<br>Guide width 25 mm<br>Screw assembly 32x5 mm<br>32x10 mm<br>32x20 mm<br>32x32 mm | Motor installation: OF01, MF01, RV01, RV02, RV03<br>no drive<br>Motor: without / MSK 060C<br>Switch: without: 000<br>with: 015, 021, 022<br>with / without connecting plate<br>with / without cable duct/<br>switching cam/cover                      | 4                             | 8  |
| <b>10 Feed module VKK</b> |            |          |   |   |                               |  |
|                           | R14622000G | 050-NNG1 | Section width 50 mm<br>Guide width 15 mm<br>Screw assembly 12x5 mm<br>12x10 mm                          | Motor installation: OF01, MF01, RV01, RV02, RV03<br>no drive<br>Motor: without / MSK 030C<br>Switch: without: 000<br>with: 021, 022, 058, 059<br>Mounting flange:<br>with: 003<br>without: 004<br>with / without cable duct/<br>switching cam         | 4                             | 8  |
|                           | R14623000G | 070-NNG1 | Section width 70 mm<br>Guide width 15 mm<br>Screw assembly 16x5 mm<br>16x10 mm<br>16x16 mm              | Motor installation: OF01, MF01, RV01, RV02, RV03<br>no drive<br>Motor: without MSK 030C, MSK 040C<br>Switch: without: 000<br>with: 021, 022, 058, 059<br>Mounting flange:<br>with: 003<br>without: 004<br>with / without cable duct/<br>switching cam | 4                             | 8  |



| Page                                      | Part no.   | Size     | Description   | Specification   | Maximum GoTo quantity (units) | Delivery time (working days)<br>ex works in Germany |
|---|------------|----------|---|---|-------------------------------|---|
|   | R14624000G | 100-NNG1 | Section width 100 mm<br>Guide width 25 mm<br>Screw assembly 20x5 mm<br>20x10 mm<br>20x20 mm | Motor installation: OF01, MF01, RV01, RV02, RV03<br>no drive<br>Motor: without<br>MSK 050C<br>Switch:<br>without: 000<br>with: 021, 022, 058, 059<br>Mounting flange:<br>with: 003<br>without: 004<br>with / without cable duct/<br>switching cam | 4                             | 8   |
| <b>12 Electromechanical cylinders EMC</b> |            |          |   |   |                               |   |
|   | R15601001G | 032-NNG2 | Screw assembly 12 x 5<br>12 x 10  | Motor installation: OF01, MF01, RV01, RV02, RV03<br>Motor: without<br>MSK 030<br>Housing: 001, 002, 003<br>Lubrication: 001, 002, 003<br>Switch: without: 000   | 6                             | 8   |
|   | R15602001G | 040-NNG2 | Screw assembly 16 x 5<br>16 x 10<br>16 x 16   | Motor installation: OF01, MF01, RV01, RV02, RV03<br>Motor: without<br>MSK 030, MSK 040<br>Housing: 001, 002, 003<br>Lubrication: 001, 002, 003<br>Switch: without: 000  | 6                             | 8   |
|   | R15603001G | 050-NNG2 | Screw assembly 20 x 5<br>20 x 10<br>20 x 20   | Motor installation: OF01, MF01, RV01, RV02, RV03<br>Motor: without<br>MSK 040, MSK 050<br>Housing: 001, 002, 003<br>Lubrication: 001, 002, 003<br>Switch: without: 000  | 6                             | 8   |
|   | R15604001G | 063-NNG2 | Screw assembly 25 x 5<br>25 x 10<br>25 x 25   | Motor installation: OF01, MF01, RV01, RV02, RV03<br>Motor: without<br>MSK 040, MSK 050,<br>MSK 060<br>Housing: 001, 002, 003<br>Lubrication: 001, 002, 003<br>Switch: without: 000  | 6                             | 8   |
|   | R15605001G | 080-NNG2 | Screw assembly 32 x 5<br>32 x 10<br>32 x 20<br>32 x 32                                      | Motor installation: OF01, MF01, RV01, RV02, RV03<br>Motor: without<br>MSK 050, MSK 060,<br>MSK 076<br>Housing: 001, 002, 003<br>Lubrication: 001, 002, 003<br>Switch: without: 000  | 6                             | 8   |

| Page | Part no.   | Size     | Description   | Specification   | Maximum GoTo quantity (units) | Delivery time (working days) ex works in Germany |
|------|------------|----------|---|---|-------------------------------|--|
|      | R15606001G | 100-NNG2 | Screw assembly<br>40 x 5<br>40 x 10<br>40 x 20<br>40 x 40 | Motor installation: OF01, MF01, RV01, RV02, RV03<br>Motor: without<br>MSK 060, MSK 071, MSK 076<br>Housing: 001, 002, 003<br>Lubrication: 001, 002, 003<br>Switch: without: 000 | 6                             | 8  |

**14 Connection elements for linear systems**

|            |  |  |                   |   |   |
|------------|--|--|-------------------|---|---|
| R039110255 |  | Bracket, standard                      | CKx 090 / CKx 090 | 4 | 3 |
| R039110255 |  | Bracket, standard                      | CKx 110 / CKx 090 | 4 | 3 |
| R039110256 |  | Bracket, standard                      | CKx 110 / CKx 110 | 4 | 3 |
| R039110258 |  | Bracket, standard                      | CKx 145 / CKx 145 | 4 | 3 |
| R039110326 |  | Bracket, standard                      | CKx 145 / CKx 110 | 4 | 3 |
| R039110328 |  | Bracket, standard                      | CKx 200 / CKx 145 | 4 | 3 |
| R039110329 |  | Bracket, standard                      | CKx 200 / CKx 200 | 4 | 3 |
| R039110254 |  | Bracket, standard                      | CKx 090 / CKx 090 | 4 | 3 |
| R039110472 |  | Bracket, long right-side (CMS version) | CKx 145 / CKx 110 | 4 | 3 |
| R039110471 |  | Bracket, long left-side (CMS version)  | CKx 145 / CKx 110 | 4 | 3 |
| R039110480 |  | Bracket, long right-side (CMS version) | CKx 145 / CKx 145 | 4 | 3 |
| R039110479 |  | Bracket, long left-side (CMS version)  | CKx 145 / CKx 145 | 4 | 3 |
| R039110475 |  | Bracket, long right-side (CMS version) | CKx 200 / CKx 145 | 4 | 3 |
| R039110474 |  | Bracket, long left-side (CMS version)  | CKx 200 / CKx 145 | 4 | 3 |
| R039110478 |  | Bracket, long right-side (CMS version) | CKx 110 / CKx 110 | 4 | 3 |
| R039110477 |  | Bracket, long left-side (CMS version)  | CKx 110 / CKx 110 | 4 | 3 |
| R039110481 |  | Bracket, standard (CMS version)        | CKx 110 / CKx 090 | 4 | 3 |
| R039110482 |  | Bracket, standard (CMS version)        | CKx 110 / CKx 110 | 4 | 3 |
| R039110483 |  | Bracket, standard (CMS version)        | CKx 145 / CKx 110 | 4 | 3 |
| R039110484 |  | Bracket, standard (CMS version)        | CKx 145 / CKx 145 | 4 | 3 |
| R039120045 |  | direct                                 | CKx 090 / CKx 090 | 4 | 3 |
| R039120045 |  | direct                                 | CKx 110 / CKx 090 | 4 | 3 |
| R039120046 |  | direct                                 | CKx 110 / CKx 110 | 4 | 3 |
| R039120242 |  | direct                                 | CKx 145 / CKx 090 | 4 | 3 |
| R039120047 |  | direct                                 | CKx 145 / CKx 110 | 4 | 3 |
| R039120048 |  | direct                                 | CKx 145 / CKx 145 | 4 | 3 |
| R039120049 |  | direct                                 | CKx 200 / CKx 145 | 4 | 3 |
| R039120145 |  | direct                                 | CKx 200 / CKx 145 | 4 | 3 |
| R039120239 |  | direct                                 | CKx 090 / VKK 050 | 4 | 3 |
| R039120239 |  | direct                                 | CKx 090 / VKK 110 | 4 | 3 |
| R039120046 |  | direct                                 | CKx 090 / VKK 070 | 4 | 3 |
| R039120046 |  | direct                                 | CKx 110 / VKK 070 | 4 | 3 |
| R039120047 |  | direct                                 | CKx 145 / VKK 070 | 4 | 3 |
| R039120048 |  | direct                                 | CKx 145 / VKK 100 | 4 | 3 |

**Roller rail systems****16 Standard roller runner blocks, steel, FNS, type R1851**

|            |    |                    |                     |    |   |
|------------|----|--------------------|---------------------|----|---|
| R18512222X | 25 | RWD-025-FNS-C2-P-2 | P class, preload C2 | 12 | 3 |
| R18512322X | 25 | RWD-025-FNS-C3-P-2 | P class, preload C3 | 12 | 3 |
| R18513222X | 35 | RWD-035-FNS-C2-P-2 | P class, preload C2 | 12 | 3 |

| Page                     | Part no.   | Size | Description          | Specification            | Maximum GoTo quantity (units) | Delivery time (working days) ex works in Germany |
|--------------------------|--|------|----------------------|--------------------------|-------------------------------|--|
|                          | R18513322X   | 35   | RWD-035-FNS-C3-P-2   | P class, preload C3      | 12                            | 3  |
|                          | R18514222X   | 45   | RWD-045-FNS-C2-P-2   | P class, preload C2      | 12                            | 3  |
|                          | R18514322X   | 45   | RWD-045-FNS-C3-P-2   | P class, preload C3      | 12                            | 3  |
| <b>17</b>                | <b>Standard roller runner blocks, steel, FLS, type R1853</b>   |      |                      |                          |                               |  |
|                          | R18532222X   | 25   | RWD-025-FLS-C2-P-2   | P class, preload C2      | 12                            | 3  |
|                          | R18532322X   | 25   | RWD-025-FLS-C3-P-2   | P class, preload C3      | 12                            | 3  |
|                          | R18533222X   | 35   | RWD-035-FLS-C2-P-2   | P class, preload C2      | 12                            | 3  |
|                          | R18533322X   | 35   | RWD-035-FLS-C3-P-2   | P class, preload C3      | 12                            | 3  |
|                          | R18534222X   | 45   | RWD-045-FLS-C2-P-2   | P class, preload C2      | 12                            | 3  |
|                          | R18534322X   | 45   | RWD-045-FLS-C3-P-2   | P class, preload C3      | 12                            | 3  |
| <b>18</b>                | <b>Standard roller runner blocks, steel, SNH, type R1821</b>   |      |                      |                          |                               |  |
|                          | R18212222X   | 25   | RWD-025-SNH-C2-P-2   | P class, preload C2      | 12                            | 3  |
|                          | R18212322X   | 25   | RWD-025-SNH-C3-P-2   | P class, preload C3      | 12                            | 3  |
|                          | R18213222X   | 35   | RWD-035-SNH-C2-P-2   | P class, preload C2      | 12                            | 3  |
|                          | R18213322X   | 35   | RWD-035-SNH-C3-P-2   | P class, preload C3      | 12                            | 3  |
|                          | R18214222X   | 45   | RWD-045-SNH-C2-P-2   | P class, preload C2      | 12                            | 3  |
|                          | R18214322X   | 45   | RWD-045-SNH-C3-P-2   | P class, preload C3      | 12                            | 3  |
| <b>19</b>                | <b>Standard roller runner blocks, steel, SLH, type R1824</b>   |      |                      |                          |                               |  |
|                          | R18242222X   | 25   | RWD-025-SLH-C2-P-2   | P class, preload C2      | 12                            | 3  |
|                          | R18242322X   | 25   | RWD-025-SLH-C3-P-2   | P class, preload C3      | 12                            | 3  |
|                          | R18243222X   | 35   | RWD-035-SLH-C2-P-2   | P class, preload C2      | 12                            | 3  |
|                          | R18243322X   | 35   | RWD-035-SLH-C3-P-2   | P class, preload C3      | 12                            | 3  |
|                          | R18244222X   | 45   | RWD-045-SLH-C2-P-2   | P class, preload C2      | 12                            | 3  |
|                          | R18244322X   | 45   | RWD-045-SLH-C3-P-2   | P class, preload C3      | 12                            | 3  |
| <b>20</b>                | <b>Standard roller guide rails, steel, SNS, type R1805, with cover strip and protective end caps</b> |      |                      |                          |                               |  |
|                          | R180526231   | 25   | RSA-025-SNS-P-B03-M1 | P class                  | 12                            | 3  |
|                          | R180536261   | 35   | RSA-035-SNS-P-B03-M1 | P class                  | 12                            | 3  |
|                          | R180546261   | 45   | RSA-045-SNS-P-B03-M1 | P class                  | 12                            | 3  |
| <b>21</b>                | <b>Standard roller guide rails, steel, SNS, type R1807, for mounting from below</b>                  |      |                      |                          |                               |  |
|                          | R180720231   | 25   | RSA-025-SNS-P-B08-M1 | P class                  | 12                            | 3  |
|                          | R180730231   | 35   | RSA-035-SNS-P-B08-M1 | P class                  | 12                            | 3  |
|                          | R180740231   | 45   | RSA-045-SNS-P-B08-M1 | P class                  | 12                            | 3  |
| <b>Ball rail systems</b> |  |      |                      |                          |                               |  |
| <b>24</b>                | <b>Standard ball runner blocks, steel, FNS, type R1651</b>   |      |                      |                          |                               |  |
|                          | R165111220   | 15   | KWD-015-FNS-C1-P-1   | P class, preload C1      | 12                            | 5  |
|                          | R165111322   | 15   | KWD-015-FNS-C1-H-1   | H class, preload C1      | 12                            | 5  |
|                          | R165111422   | 15   | KWD-015-FNS-C1-N-1   | N class, preload C1      | 12                            | 5  |
|                          | R165112220   | 15   | KWD-015-FNS-C2-P-1   | P class, preload C2      | 12                            | 5  |
|                          | R165112320   | 15   | KWD-015-FNS-C2-H-1   | H class, preload C2      | 12                            | 5  |
|                          | R165112420   | 15   | KWD-015-FNS-C2-N-1   | N class, preload C2      | 12                            | 5  |
|                          | R165119420   | 15   | KWD-015-FNS-C0-N-1   | N class, without preload | 12                            | 5  |
|                          | R165181220   | 20   | KWD-020-FNS-C1-P-1   | P class, preload C1      | 12                            | 5  |
|                          | R165181322   | 20   | KWD-020-FNS-C1-H-1   | H class, preload C1      | 12                            | 5  |
|                          | R165181422   | 20   | KWD-020-FNS-C1-N-1   | N class, preload C1      | 12                            | 5  |
|                          | R165182220   | 20   | KWD-020-FNS-C2-P-1   | P class, preload C2      | 12                            | 5  |

2) Thread located in table section

3) Groove located in table section

| Page      | Part no.   | Size | Description        | Specification            | Maximum GoTo quantity (units) | Delivery time (working days) ex works in Germany |
|-----------|--|------|--------------------|--------------------------|-------------------------------|--|
|           | R165182320   | 20   | KWD-020-FNS-C2-H-1 | H class, preload C2      | 12                            | 5  |
|           | R165182420   | 20   | KWD-020-FNS-C2-N-1 | N class, preload C2      | 12                            | 5  |
|           | R165189420   | 20   | KWD-020-FNS-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R165121220   | 25   | KWD-025-FNS-C1-P-1 | P class, preload C1      | 12                            | 5  |
|           | R165121322   | 25   | KWD-025-FNS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R165121422   | 25   | KWD-025-FNS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R165122220   | 25   | KWD-025-FNS-C2-P-1 | P class, preload C2      | 12                            | 5  |
|           | R165122320   | 25   | KWD-025-FNS-C2-H-1 | H class, preload C2      | 12                            | 5  |
|           | R165122420   | 25   | KWD-025-FNS-C2-N-1 | N class, preload C2      | 12                            | 5  |
|           | R165129420   | 25   | KWD-025-FNS-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R165171220   | 30   | KWD-030-FNS-C1-P-1 | P class, preload C1      | 12                            | 5  |
|           | R165171322   | 30   | KWD-030-FNS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R165171422   | 30   | KWD-030-FNS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R165172220   | 30   | KWD-030-FNS-C2-P-1 | P class, preload C2      | 12                            | 5  |
|           | R165172320   | 30   | KWD-030-FNS-C2-H-1 | H class, preload C2      | 12                            | 5  |
|           | R165172420   | 30   | KWD-030-FNS-C2-N-1 | N class, preload C2      | 12                            | 5  |
|           | R165179420   | 30   | KWD-030-FNS-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R165131220   | 35   | KWD-035-FNS-C1-P-1 | P class, preload C1      | 12                            | 5  |
|           | R165131322   | 35   | KWD-035-FNS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R165131422   | 35   | KWD-035-FNS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R165132220   | 35   | KWD-035-FNS-C2-P-1 | P class, preload C2      | 12                            | 5  |
|           | R165132320   | 35   | KWD-035-FNS-C2-H-1 | H class, preload C2      | 12                            | 5  |
|           | R165132420   | 35   | KWD-035-FNS-C2-N-1 | N class, preload C2      | 12                            | 5  |
|           | R165139420   | 35   | KWD-035-FNS-C0-N-1 | N class, preload C2      | 12                            | 5  |
|           | R165141220   | 45   | KWD-045-FNS-C1-P-1 | P class, preload C1      | 12                            | 5  |
|           | R165141320   | 45   | KWD-045-FNS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R165141420   | 45   | KWD-045-FNS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R165142220   | 45   | KWD-045-FNS-C2-P-1 | P class, preload C2      | 12                            | 5  |
|           | R165142320   | 45   | KWD-045-FNS-C2-H-1 | H class, preload C2      | 12                            | 5  |
|           | R165142420   | 45   | KWD-045-FNS-C2-N-1 | N class, preload C2      | 12                            | 5  |
|           | R165149420   | 45   | KWD-045-FNS-C0-N-1 | N class, without preload | 12                            | 5  |
| <b>25</b> | <b>Standard ball runner blocks, steel, FLS, type R1653</b> |      |                    |                          |                               |  |
|           | R165311220   | 15   | KWD-015-FLS-C1-P-1 | P class, preload C1      | 12                            | 5  |
|           | R165311320   | 15   | KWD-015-FLS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R165311420   | 15   | KWD-015-FLS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R165312220   | 15   | KWD-015-FLS-C2-P-1 | P class, preload C2      | 12                            | 5  |
|           | R165312320   | 15   | KWD-015-FLS-C2-H-1 | H class, preload C2      | 12                            | 5  |
|           | R165312420   | 15   | KWD-015-FLS-C2-N-1 | N class, preload C2      | 12                            | 5  |
|           | R165319420   | 15   | KWD-015-FLS-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R165381220   | 20   | KWD-020-FLS-C1-P-1 | P class, preload C1      | 12                            | 5  |
|           | R165381320   | 20   | KWD-020-FLS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R165381420   | 20   | KWD-020-FLS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R165382220   | 20   | KWD-020-FLS-C2-P-1 | P class, preload C2      | 12                            | 5  |
|           | R165382320   | 20   | KWD-020-FLS-C2-H-1 | H class, preload C2      | 12                            | 5  |
|           | R165382420   | 20   | KWD-020-FLS-C2-N-1 | N class, preload C2      | 12                            | 5  |
|           | R165389420   | 20   | KWD-020-FLS-C0-N-1 | N class, without preload | 12                            | 5  |

| Page      | Part no.   | Size | Description        | Specification            | Maximum GoTo quantity (units) | Delivery time (working days) ex works in Germany |
|-----------|--|------|--------------------|--------------------------|-------------------------------|--|
|           | R165321220   | 25   | KWD-025-FLS-C1-P-1 | P class, preload C1      | 12                            | 5  |
|           | R165321320   | 25   | KWD-025-FLS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R165321420   | 25   | KWD-025-FLS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R165322220   | 25   | KWD-025-FLS-C2-P-1 | P class, preload C2      | 12                            | 5  |
|           | R165322320   | 25   | KWD-025-FLS-C2-H-1 | H class, preload C2      | 12                            | 5  |
|           | R165322420   | 25   | KWD-025-FLS-C2-N-1 | N class, preload C2      | 12                            | 5  |
|           | R165329420   | 25   | KWD-025-FLS-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R165371220   | 30   | KWD-030-FLS-C1-P-1 | P class, preload C1      | 12                            | 5  |
|           | R165371320   | 30   | KWD-030-FLS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R165371420   | 30   | KWD-030-FLS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R165372220   | 30   | KWD-030-FLS-C2-P-1 | P class, preload C2      | 12                            | 5  |
|           | R165372320   | 30   | KWD-030-FLS-C2-H-1 | P class, preload C1      | 12                            | 5  |
|           | R165372420   | 30   | KWD-030-FLS-C2-N-1 | N class, preload C2      | 12                            | 5  |
|           | R165379420   | 30   | KWD-030-FLS-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R165331220   | 35   | KWD-035-FLS-C1-P-1 | P class, preload C1      | 12                            | 5  |
|           | R165331320   | 35   | KWD-035-FLS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R165331420   | 35   | KWD-035-FLS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R165332220   | 35   | KWD-035-FLS-C2-P-1 | P class, preload C2      | 12                            | 5  |
|           | R165332320   | 35   | KWD-035-FLS-C2-H-1 | H class, preload C2      | 12                            | 5  |
|           | R165332420   | 35   | KWD-035-FLS-C2-N-1 | N class, preload C2      | 12                            | 5  |
|           | R165339420   | 35   | KWD-035-FLS-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R165341220   | 45   | KWD-045-FLS-C1-P-1 | P class, preload C1      | 12                            | 5  |
|           | R165341320   | 45   | KWD-045-FLS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R165341420   | 45   | KWD-045-FLS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R165342220   | 45   | KWD-045-FLS-C2-P-1 | P class, preload C2      | 12                            | 5  |
|           | R165342320   | 45   | KWD-045-FLS-C2-H-1 | H class, preload C2      | 12                            | 5  |
|           | R165342420   | 45   | KWD-045-FLS-C2-N-1 | N class, preload C2      | 12                            | 5  |
|           | R165349420   | 45   | KWD-045-FLS-C0-N-1 | N class, without preload | 12                            | 5  |
| <b>26</b> | <b>Standard ball runner blocks, steel, FKS, type R1665</b> |      |                    |                          |                               |  |
|           | R166511320   | 15   | KWD-015-FKS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R166511420   | 15   | KWD-015-FKS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R166519420   | 15   | KWD-015-FKS-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R166581320   | 20   | KWD-020-FKS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R166581420   | 20   | KWD-020-FKS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R166589420   | 20   | KWD-020-FKS-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R166521320   | 25   | KWD-025-FKS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R166521420   | 25   | KWD-025-FKS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R166529420   | 25   | KWD-025-FKS-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R166571320   | 30   | KWD-030-FKS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R166571420   | 30   | KWD-030-FKS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R166579420   | 30   | KWD-030-FKS-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R166531320   | 35   | KWD-035-FKS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R166531420   | 35   | KWD-035-FKS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R166539420   | 35   | KWD-035-FKS-C0-N-1 | N class, without preload | 12                            | 5  |
| <b>27</b> | <b>Standard ball runner blocks, steel, SNS, type R1622</b> |      |                    |                          |                               |  |
|           | R162211220   | 15   | KWD-015-SNS-C1-P-1 | P class, preload C1      | 12                            | 5  |

| Page      | Part no.   | Size | Description        | Specification                             | Maximum GoTo quantity (units) | Delivery time (working days) ex works in Germany |
|-----------|--|------|--------------------|---|-------------------------------|--|
|           | R162211322   | 15   | KWD-015-SNS-C1-H-1 | H class, preload C1                       | 12                            | 5  |
|           | R162211422   | 15   | KWD-015-SNS-C1-N-1 | N class, preload C1                       | 12                            | 5  |
|           | R162212220   | 15   | KWD-015-SNS-C2-P-1 | P class, preload C2                       | 12                            | 5  |
|           | R162212320   | 15   | KWD-015-SNS-C2-H-1 | H class, preload C2                       | 12                            | 5  |
|           | R162212420   | 15   | KWD-015-SNS-C2-N-1 | N class, preload C2                       | 12                            | 5  |
|           | R162219420   | 15   | KWD-015-SNS-C0-N-1 | N class, without preload                  | 12                            | 5  |
|           | R162281220   | 20   | KWD-020-SNS-C1-P-1 | P class, preload C1                       | 12                            | 5  |
|           | R162281322   | 20   | KWD-020-SNS-C1-H-1 | H class, preload C1                       | 12                            | 5  |
|           | R162281422   | 20   | KWD-020-SNS-C1-N-1 | N class, preload C1                       | 12                            | 5  |
|           | R162282220   | 20   | KWD-020-SNS-C2-P-1 | P class, preload C2                       | 12                            | 5  |
|           | R162282320   | 20   | KWD-020-SNS-C2-H-1 | H class, preload C2                       | 12                            | 5  |
|           | R162282420   | 20   | KWD-020-SNS-C2-N-1 | N class, preload C2                       | 12                            | 5  |
|           | R162289420   | 20   | KWD-020-SNS-C0-N-1 | N class, without preload                  | 12                            | 5  |
|           | R16228242Z   | 20   | KWD-020-SNS-C2-N-1 | N class, preload C2, with double-lip-seal | 12                            | 5  |
|           | R162221220   | 25   | KWD-025-SNS-C1-P-1 | P class, preload C1                       | 12                            | 5  |
|           | R162221322   | 25   | KWD-025-SNS-C1-H-1 | H class, preload C1                       | 12                            | 5  |
|           | R162221422   | 25   | KWD-025-SNS-C1-N-1 | N class, preload C1                       | 12                            | 5  |
|           | R162222220   | 25   | KWD-025-SNS-C2-P-1 | P class, preload C2                       | 12                            | 5  |
|           | R162222320   | 25   | KWD-025-SNS-C2-H-1 | H class, preload C2                       | 12                            | 5  |
|           | R162222420   | 25   | KWD-025-SNS-C2-N-1 | N class, preload C2                       | 12                            | 5  |
|           | R162229420   | 25   | KWD-025-SNS-C0-N-1 | N class, without preload                  | 12                            | 5  |
|           | R162271220   | 30   | KWD-030-SNS-C1-P-1 | P class, preload C1                       | 12                            | 5  |
|           | R162271322   | 30   | KWD-030-SNS-C1-H-1 | H class, preload C1                       | 12                            | 5  |
|           | R162271422   | 30   | KWD-030-SNS-C1-N-1 | N class, preload C1                       | 12                            | 5  |
|           | R162272220   | 30   | KWD-030-SNS-C2-P-1 | P class, preload C2                       | 12                            | 5  |
|           | R162272320   | 30   | KWD-030-SNS-C2-H-1 | H class, preload C2                       | 12                            | 5  |
|           | R162272420   | 30   | KWD-030-SNS-C2-N-1 | N class, preload C2                       | 12                            | 5  |
|           | R162279420   | 30   | KWD-030-SNS-C0-N-1 | N class, without preload                  | 12                            | 5  |
|           | R162231220   | 35   | KWD-035-SNS-C1-P-1 | P class, preload C1                       | 12                            | 5  |
|           | R162231322   | 35   | KWD-035-SNS-C1-H-1 | H class, preload C1                       | 12                            | 5  |
|           | R162231422   | 35   | KWD-035-SNS-C1-N-1 | N class, preload C1                       | 12                            | 5  |
|           | R162232220   | 35   | KWD-035-SNS-C2-P-1 | P class, preload C2                       | 12                            | 5  |
|           | R162232320   | 35   | KWD-035-SNS-C2-H-1 | H class, preload C2                       | 12                            | 5  |
|           | R162232420   | 35   | KWD-035-SNS-C2-N-1 | N class, preload C2                       | 12                            | 5  |
|           | R162239420   | 35   | KWD-035-SNS-C0-N-1 | N class, without preload                  | 12                            | 5  |
|           | R162241220   | 45   | KWD-045-SNS-C1-P-1 | P class, preload C1                       | 12                            | 5  |
|           | R162241320   | 45   | KWD-045-SNS-C1-H-1 | H class, preload C1                       | 12                            | 5  |
|           | R162241420   | 45   | KWD-045-SNS-C1-N-1 | N class, preload C1                       | 12                            | 5  |
|           | R162242220   | 45   | KWD-045-SNS-C2-P-1 | P class, preload C2                       | 12                            | 5  |
|           | R162242320   | 45   | KWD-045-SNS-C2-H-1 | H class, preload C2                       | 12                            | 5  |
|           | R162242420   | 45   | KWD-045-SNS-C2-N-1 | N class, preload C2                       | 12                            | 5  |
|           | R162249420   | 45   | KWD-045-SNS-C0-N-1 | N class, without preload                  | 12                            | 5  |
| <b>28</b> | <b>Standard ball runner blocks, steel, SLS, type R1623</b> |      |                    |   |                               |  |
|           | R162311220   | 15   | KWD-015-SLS-C1-P-1 | P class, preload C1                       | 12                            | 5  |
|           | R162311320   | 15   | KWD-015-SLS-C1-H-1 | H class, preload C1                       | 12                            | 5  |

| Page | Part no.   | Size | Description        | Specification            | Maximum GoTo quantity (units) | Delivery time (working days) ex works in Germany |
|------|------------|------|--------------------|--------------------------|-------------------------------|--|
|      | R162311420 | 15   | KWD-015-SLS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|      | R162312220 | 15   | KWD-015-SLS-C2-P-1 | P class, preload C2      | 12                            | 5  |
|      | R162312320 | 15   | KWD-015-SLS-C2-H-1 | H class, preload C2      | 12                            | 5  |
|      | R162312420 | 15   | KWD-015-SLS-C2-N-1 | N class, preload C2      | 12                            | 5  |
|      | R162319420 | 15   | KWD-015-SLS-C0-N-1 | N class, without preload | 12                            | 5  |
|      | R162381220 | 20   | KWD-020-SLS-C1-P-1 | P class, preload C1      | 12                            | 5  |
|      | R162381320 | 20   | KWD-020-SLS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|      | R162381420 | 20   | KWD-020-SLS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|      | R162382220 | 20   | KWD-020-SLS-C2-P-1 | P class, preload C2      | 12                            | 5  |
|      | R162382320 | 20   | KWD-020-SLS-C2-H-1 | H class, preload C2      | 12                            | 5  |
|      | R162382420 | 20   | KWD-020-SLS-C2-N-1 | N class, preload C2      | 12                            | 5  |
|      | R162389420 | 20   | KWD-020-SLS-C0-N-1 | N class, without preload | 12                            | 5  |
|      | R162321220 | 25   | KWD-025-SLS-C1-P-1 | P class, preload C1      | 12                            | 5  |
|      | R162321320 | 25   | KWD-025-SLS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|      | R162321420 | 25   | KWD-025-SLS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|      | R162322220 | 25   | KWD-025-SLS-C2-P-1 | P class, preload C2      | 12                            | 5  |
|      | R162322320 | 25   | KWD-025-SLS-C2-H-1 | H class, preload C2      | 12                            | 5  |
|      | R162322420 | 25   | KWD-025-SLS-C2-N-1 | N class, preload C2      | 12                            | 5  |
|      | R162329420 | 25   | KWD-025-SLS-C0-N-1 | N class, without preload | 12                            | 5  |
|      | R162371220 | 30   | KWD-030-SLS-C1-P-1 | P class, preload C1      | 12                            | 5  |
|      | R162371320 | 30   | KWD-030-SLS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|      | R162371420 | 30   | KWD-030-SLS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|      | R162372220 | 30   | KWD-030-SLS-C2-P-1 | P class, preload C2      | 12                            | 5  |
|      | R162372320 | 30   | KWD-030-SLS-C2-H-1 | H class, preload C2      | 12                            | 5  |
|      | R162372420 | 30   | KWD-030-SLS-C2-N-1 | N class, preload C2      | 12                            | 5  |
|      | R162379420 | 30   | KWD-030-SLS-C0-N-1 | N class, without preload | 12                            | 5  |
|      | R162331220 | 35   | KWD-035-SLS-C1-P-1 | P class, preload C1      | 12                            | 5  |
|      | R162331320 | 35   | KWD-035-SLS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|      | R162331420 | 35   | KWD-035-SLS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|      | R162332220 | 35   | KWD-035-SLS-C2-P-1 | P class, preload C2      | 12                            | 5  |
|      | R162332320 | 35   | KWD-035-SLS-C2-H-1 | H class, preload C2      | 12                            | 5  |
|      | R162332420 | 35   | KWD-035-SLS-C2-N-1 | N class, preload C2      | 12                            | 5  |
|      | R162339420 | 35   | KWD-035-SLS-C0-N-1 | N class, without preload | 12                            | 5  |
|      | R162341220 | 45   | KWD-045-SLS-C1-P-1 | P class, preload C1      | 12                            | 5  |
|      | R162341320 | 45   | KWD-045-SLS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|      | R162341420 | 45   | KWD-045-SLS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|      | R162342220 | 45   | KWD-045-SLS-C2-P-1 | P class, preload C2      | 12                            | 5  |
|      | R162342320 | 45   | KWD-045-SLS-C2-H-1 | H class, preload C2      | 12                            | 5  |
|      | R162342420 | 45   | KWD-045-SLS-C2-N-1 | N class, preload C2      | 12                            | 5  |
|      | R162349420 | 45   | KWD-045-SLS-C0-N-1 | N class, without preload | 12                            | 5  |

**29 Standard ball runner blocks, steel, SKS, type R1666**

|  |            |    |                    |                          |    |   |
|--|------------|----|--------------------|--------------------------|----|---|
|  | R166611320 | 15 | KWD-015-SKS-C1-H-1 | H class, preload C1      | 12 | 5 |
|  | R166611420 | 15 | KWD-015-SKS-C1-N-1 | N class, preload C1      | 12 | 5 |
|  | R166619420 | 15 | KWD-015-SKS-C0-N-1 | N class, without preload | 12 | 5 |
|  | R166681320 | 20 | KWD-020-SKS-C1-H-1 | H class, preload C1      | 12 | 5 |
|  | R166681420 | 20 | KWD-020-SKS-C1-N-1 | N class, preload C1      | 12 | 5 |

| Page      | Part no.   | Size | Description        | Specification            | Maximum GoTo quantity (units) | Delivery time (working days) ex works in Germany |
|-----------|--|------|--------------------|--------------------------|-------------------------------|--|
|           | R166689420   | 20   | KWD-020-SKS-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R166621320   | 25   | KWD-025-SKS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R166621420   | 25   | KWD-025-SKS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R166629420   | 25   | KWD-025-SKS-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R166671320   | 30   | KWD-030-SKS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R166671420   | 30   | KWD-030-SKS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R166679420   | 30   | KWD-030-SKS-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R166631320   | 35   | KWD-035-SKS-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R166631420   | 35   | KWD-035-SKS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R166639420   | 35   | KWD-035-SKS-C0-N-1 | N class, without preload | 12                            | 5  |
| <b>30</b> | <b>Standard ball runner blocks, steel, SNH, type R1621</b> |      |                    |                          |                               |  |
|           | R162111220   | 15   | KWD-015-SNH-C1-P-1 | P class, preload C1      | 12                            | 5  |
|           | R162111320   | 15   | KWD-015-SNH-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R162111420   | 15   | KWD-015-SNH-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R162112220   | 15   | KWD-015-SNH-C2-P-1 | P class, preload C2      | 12                            | 5  |
|           | R162112320   | 15   | KWD-015-SNH-C2-H-1 | H class, preload C2      | 12                            | 5  |
|           | R162112420   | 15   | KWD-015-SNH-C2-N-1 | N class, preload C2      | 12                            | 5  |
|           | R162119420   | 15   | KWD-015-SNH-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R162121220   | 25   | KWD-025-SNH-C1-P-1 | P class, preload C1      | 12                            | 5  |
|           | R162121320   | 25   | KWD-025-SNH-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R162121420   | 25   | KWD-025-SNH-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R162122220   | 25   | KWD-025-SNH-C2-P-1 | P class, preload C2      | 12                            | 5  |
|           | R162122320   | 25   | KWD-025-SNH-C2-H-1 | H class, preload C2      | 12                            | 5  |
|           | R162122320   | 25   | KWD-025-SNH-C2-N-1 | N class, preload C2      | 12                            | 5  |
|           | R162129420   | 25   | KWD-025-SNH-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R162171220   | 30   | KWD-030-SNH-C1-P-1 | P class, preload C1      | 12                            | 5  |
|           | R162171320   | 30   | KWD-030-SNH-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R162171420   | 30   | KWD-030-SNH-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R162172220   | 30   | KWD-030-SNH-C2-P-1 | P class, preload C2      | 12                            | 5  |
|           | R162172320   | 30   | KWD-030-SNH-C2-H-1 | H class, preload C2      | 12                            | 5  |
|           | R162172420   | 30   | KWD-030-SNH-C2-N-1 | N class, preload C2      | 12                            | 5  |
|           | R162179420   | 30   | KWD-030-SNH-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R162131220   | 35   | KWD-035-SNH-C1-P-1 | P class, preload C1      | 12                            | 5  |
|           | R162131320   | 35   | KWD-035-SNH-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R162131420   | 35   | KWD-035-SNH-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R162132220   | 35   | KWD-035-SNH-C2-P-1 | P class, preload C2      | 12                            | 5  |
|           | R162132320   | 35   | KWD-035-SNH-C2-H-1 | H class, preload C2      | 12                            | 5  |
|           | R162132420   | 35   | KWD-035-SNH-C2-N-1 | N class, preload C2      | 12                            | 5  |
|           | R162139420   | 35   | KWD-035-SNH-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R162141220   | 45   | KWD-045-SNH-C1-P-1 | P class, preload C1      | 12                            | 5  |
|           | R162141320   | 45   | KWD-045-SNH-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R162141420   | 45   | KWD-045-SNH-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R162142220   | 45   | KWD-045-SNH-C2-P-1 | P class, preload C2      | 12                            | 5  |
|           | R162142320   | 45   | KWD-045-SNH-C2-H-1 | H class, preload C2      | 12                            | 5  |
|           | R162142420   | 45   | KWD-045-SNH-C2-N-1 | N class, preload C2      | 12                            | 5  |
|           | R162149420   | 45   | KWD-045-SNH-C0-N-1 | N class, without preload | 12                            | 5  |

**31 Standard ball runner blocks, steel, SLH, type R1624**



| Page      | Part no.  | Size | Description        | Specification            | Maximum GoTo quantity (units) | Delivery time (working days) ex works in Germany |
|-----------|---|------|--------------------|--------------------------|-------------------------------|--|
|           | R162421220  | 25   | KWD-025-SLH-C1-P-1 | P class, preload C1      | 12                            | 5  |
|           | R162421320  | 25   | KWD-025-SLH-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R162421420  | 25   | KWD-025-SLH-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R162422220  | 25   | KWD-025-SLH-C2-P-1 | P class, preload C2      | 12                            | 5  |
|           | R162422320  | 25   | KWD-025-SLH-C2-H-1 | H class, preload C2      | 12                            | 5  |
|           | R162422420  | 25   | KWD-025-SLH-C2-N-1 | N class, preload C2      | 12                            | 5  |
|           | R162429420  | 25   | KWD-025-SLH-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R162471220  | 30   | KWD-030-SLH-C1-P-1 | P class, preload C1      | 12                            | 5  |
|           | R162471320  | 30   | KWD-030-SLH-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R162471420  | 30   | KWD-030-SLH-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R162472220  | 30   | KWD-030-SLH-C2-P-1 | P class, preload C2      | 12                            | 5  |
|           | R162472320  | 30   | KWD-030-SLH-C2-H-1 | H class, preload C2      | 12                            | 5  |
|           | R162472420  | 30   | KWD-030-SLH-C2-N-1 | N class, preload C2      | 12                            | 5  |
|           | R162479420  | 30   | KWD-030-SLH-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R162431220  | 35   | KWD-035-SLH-C1-P-1 | P class, preload C1      | 12                            | 5  |
|           | R162431320  | 35   | KWD-035-SLH-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R162431420  | 35   | KWD-035-SLH-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R162432220  | 35   | KWD-035-SLH-C2-P-1 | P class, preload C2      | 12                            | 5  |
|           | R162432320  | 35   | KWD-035-SLH-C2-H-1 | H class, preload C2      | 12                            | 5  |
|           | R162432420  | 35   | KWD-035-SLH-C2-N-1 | N class, preload C2      | 12                            | 5  |
|           | R162439420  | 35   | KWD-035-SLH-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R162441220  | 45   | KWD-045-SLH-C1-P-1 | P class, preload C1      | 12                            | 5  |
|           | R162441320  | 45   | KWD-045-SLH-C1-H-1 | H class, preload C1      | 12                            | 5  |
|           | R162441420  | 45   | KWD-045-SLH-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R162442220  | 45   | KWD-045-SLH-C2-P-1 | P class, preload C2      | 12                            | 5  |
|           | R162442320  | 45   | KWD-045-SLH-C2-H-1 | H class, preload C2      | 12                            | 5  |
|           | R162442420  | 45   | KWD-045-SLH-C2-N-1 | N class, preload C2      | 12                            | 5  |
|           | R162449420  | 45   | KWD-045-SLH-C0-N-1 | N class, without preload | 12                            | 5  |
| <b>32</b> | <b>Super ball runner blocks, steel, FKS, type R1661</b> |      |                    |                          |                               |  |
|           | R166111420  | 15   | KWD-015-FKS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R166119420  | 15   | KWD-015-FKS-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R166181420  | 20   | KWD-020-FKS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R166189420  | 20   | KWD-020-FKS-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R166121420  | 25   | KWD-025-FKS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R166129420  | 25   | KWD-025-FKS-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R166171420  | 30   | KWD-030-FKS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R166179420  | 30   | KWD-030-FKS-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R166131420  | 35   | KWD-035-FKS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R166139420  | 35   | KWD-035-FKS-C0-N-1 | N class, without preload | 12                            | 5  |
| <b>33</b> | <b>Super ball runner blocks, steel, SKS, type R1662</b> |      |                    |                          |                               |  |
|           | R166211420  | 15   | KWD-015-SKS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R166219420  | 15   | KWD-015-SKS-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R166281420  | 20   | KWD-020-SKS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R166289420  | 20   | KWD-020-SKS-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R166221420  | 25   | KWD-025-SKS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|           | R166229420  | 25   | KWD-025-SKS-C0-N-1 | N class, without preload | 12                            | 5  |
|           | R166271420  | 30   | KWD-030-SKS-C1-N-1 | N class, preload C1      | 12                            | 5  |


| Page         | Part no.  | Size | Description        | Specification            | Maximum GoTo quantity (units) | Delivery time (working days) ex works in Germany |
|--------------|---|------|--------------------|--------------------------|-------------------------------|--|
|              | R166279420  | 30   | KWD-030-SKS-C0-N-1 | N class, without preload | 12                            | 5  |
|              | R166231420  | 35   | KWD-035-SKS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|              | R166239420  | 35   | KWD-035-SKS-C0-N-1 | N class, without preload | 12                            | 5  |
| <b>34</b>    | <b>Standard ball runner blocks, aluminum, FNS, type R1631</b>   |      |                    |                          |                               |  |
|              | R163111420  | 15   | KWD-015-FNS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|              | R163119420  | 15   | KWD-015-FNS-C0-N-1 | N class, without preload | 12                            | 5  |
|              | R163181420  | 20   | KWD-020-FNS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|              | R163189420  | 20   | KWD-020-FNS-C0-N-1 | N class, without preload | 12                            | 5  |
|              | R163171420  | 30   | KWD-030-FNS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|              | R163179420  | 30   | KWD-030-FNS-C0-N-1 | N class, without preload | 12                            | 5  |
|              | R163121420  | 25   | KWD-025-FNS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|              | R163129420  | 25   | KWD-025-FNS-C0-N-1 | N class, without preload | 12                            | 5  |
|              | R163131420  | 35   | KWD-035-FNS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|              | R163139420  | 35   | KWD-035-FNS-C0-N-1 | N class, without preload | 12                            | 5  |
| <b>35</b>    | <b>Standard ball runner blocks, aluminum, SNS, type R1632</b>   |      |                    |                          |                               |  |
|              | R163211420  | 15   | KWD-015-SNS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|              | R163219420  | 15   | KWD-015-SNS-C0-N-1 | N class, without preload | 12                            | 5  |
|              | R163281420  | 20   | KWD-020-SNS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|              | R163289420  | 20   | KWD-020-SNS-C0-N-1 | N class, without preload | 12                            | 5  |
|              | R163221420  | 25   | KWD-025-SNS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|              | R163229420  | 25   | KWD-025-SNS-C0-N-1 | N class, without preload | 12                            | 5  |
|              | R163271420  | 30   | KWD-030-SNS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|              | R163279420  | 30   | KWD-030-SNS-C0-N-1 | N class, without preload | 12                            | 5  |
|              | R163231420  | 35   | KWD-035-SNS-C1-N-1 | N class, preload C1      | 12                            | 5  |
|              | R163239420  | 35   | KWD-035-SNS-C0-N-1 | N class, without preload | 12                            | 5  |
| <b>36</b>    | <b>Standard ball guide rails, steel, SNS, type R1605 .0, with plastic mounting hole plugs</b>         |      |                    |                          |                               |  |
|              | R160510231  | 15   | KSA-015-SNS-P      | P class                  | 12                            | 3  |
|              | R160510331  | 15   | KSA-015-SNS-H      | H class                  | 12                            | 3  |
|              | R160510431  | 15   | KSA-015-SNS-N      | N class                  | 12                            | 3  |
|              | R160580231  | 20   | KSA-020-SNS-P      | P class                  | 12                            | 3  |
|              | R160580331  | 20   | KSA-020-SNS-H      | H class                  | 12                            | 3  |
|              | R160580431  | 20   | KSA-020-SNS-N      | N class                  | 12                            | 3  |
|              | R160520231  | 25   | KSA-025-SNS-P      | P class                  | 12                            | 3  |
|              | R160520331  | 25   | KSA-025-SNS-H      | H class                  | 12                            | 3  |
|              | R160520431  | 25   | KSA-025-SNS-N      | N class                  | 12                            | 3  |
|              | R160570231  | 30   | KSA-030-SNS-P      | P class                  | 12                            | 3  |
|              | R160570331  | 30   | KSA-030-SNS-H      | H class                  | 12                            | 3  |
|              | R160570431  | 30   | KSA-030-SNS-N      | N class                  | 12                            | 3  |
|              | R160530231  | 35   | KSA-035-SNS-P      | P class                  | 12                            | 3  |
|              | R160530331  | 35   | KSA-035-SNS-H      | H class                  | 12                            | 3  |
|              | R160530431  | 35   | KSA-035-SNS-N      | N class                  | 12                            | 3  |
|              | R160540231  | 45   | KSA-045-SNS-P      | P class                  | 12                            | 3  |
|              | R160540331  | 45   | KSA-045-SNS-H      | H class                  | 12                            | 3  |
|              | R160540431  | 45   | KSA-045-SNS-N      | N class                  | 12                            | 3  |
| <b>37</b>    | <b>Standard ball guide rails, steel, SNS, type R1605 .6, with cover strip and protective end caps</b> |      |                    |                          |                               |  |
|              | R160516231  | 15   | KSA-015-SNS-P      | P class                  | 12                            | 3  |
|              | R160516331  | 15   | KSA-015-SNS-H      | H class                  | 12                            | 3  |
|              | R160516431  | 15   | KSA-015-SNS-N      | N class                  | 12                            | 3  |
| <b>Bosch</b> | R160586231  | 20   | KSA-020-SNS-P      | P class                  | 12                            | 3  |








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|           | R160586331   | 20   | KSA-020-SNS-H       | H class               | 12                            | 3  |
|           | R160586431   | 20   | KSA-020-SNS-N       | N class               | 12                            | 3  |
|           | R160526231   | 25   | KSA-025-SNS-P       | P class               | 12                            | 3  |
|           | R160526331   | 25   | KSA-025-SNS-H       | H class               | 12                            | 3  |
|           | R160526431   | 25   | KSA-025-SNS-N       | N class               | 12                            | 3  |
|           | R160576231   | 30   | KSA-030-SNS-P       | P class               | 12                            | 3  |
|           | R160576331   | 30   | KSA-030-SNS-H       | H class               | 12                            | 3  |
|           | R160576431   | 30   | KSA-030-SNS-N       | N class               | 12                            | 3  |
|           | R160536261   | 35   | KSA-035-SNS-P       | P class               | 12                            | 3  |
|           | R160536361   | 35   | KSA-035-SNS-H       | H class               | 12                            | 3  |
|           | R160536461   | 35   | KSA-035-SNS-N       | N class               | 12                            | 3  |
|           | R160546261   | 45   | KSA-045-SNS-S       | P class               | 12                            | 3  |
|           | R160546361   | 45   | KSA-045-SNS-H       | H class               | 12                            | 3  |
|           | R160546461   | 45   | KSA-045-SNS-N       | N class               | 12                            | 3  |
| <b>38</b> | <b>Standard ball guide rails, steel, SNS, type R1607, for mounting from below</b>        |      |                     |                       |                               |  |
|           | R160710231   | 15   | KSA-015-SNS-P       | P class               | 12                            | 3  |
|           | R160710331   | 15   | KSA-015-SNS-H       | H class               | 12                            | 3  |
|           | R160710431   | 15   | KSA-015-SNS-N       | N class               | 12                            | 3  |
|           | R160780231   | 20   | KSA-020-SNS-P       | P class               | 12                            | 3  |
|           | R160780331   | 20   | KSA-020-SNS-H       | H class               | 12                            | 3  |
|           | R160780431   | 20   | KSA-020-SNS-N       | N class               | 12                            | 3  |
|           | R160720231   | 25   | KSA-025-SNS-P       | P class               | 12                            | 3  |
|           | R160720331   | 25   | KSA-025-SNS-H       | H class               | 12                            | 3  |
|           | R160720431   | 25   | KSA-025-SNS-N       | N class               | 12                            | 3  |
|           | R160770231   | 30   | KSA-030-SNS-P       | P class               | 12                            | 3  |
|           | R160770331   | 30   | KSA-030-SNS-H       | H class               | 12                            | 3  |
|           | R160770431   | 30   | KSA-030-SNS-N       | N class               | 12                            | 3  |
|           | R160730231   | 35   | KSA-035-SNS-P       | P class               | 12                            | 3  |
|           | R160730331   | 35   | KSA-035-SNS-H       | H class               | 12                            | 3  |
|           | R160730431   | 35   | KSA-035-SNS-N       | N class               | 12                            | 3  |
|           | R160740231   | 45   | KSA-045-SNS-P       | P class               | 12                            | 3  |
|           | R160740331   | 45   | KSA-045-SNS-H       | H class               | 12                            | 3  |
|           | R160740431   | 45   | KSA-045-SNS-H       | N class               | 12                            | 3  |
| <b>39</b> | <b>Wide runner blocks, steel, BNS, type R1671</b>  |      |                     |                       |                               |  |
|           | R167151320   | 20   | KWD-020-BNS-C1-H-1  | H class, with preload | 12                            | 5  |
|           | R167151420   | 20   | KWD-020-BNS-C1-N-1  | N class, with preload | 12                            | 5  |
|           | R167121320   | 25   | KWD-025-BNS-C1-H-1  | H class, with preload | 12                            | 5  |
|           | R167121420   | 25   | KWD-025-BNS-C1-N-1  | N class, with preload | 12                            | 5  |
|           | R167131310   | 35   | KWC-035-BNS-C1-H-2  | H class, with preload | 12                            | 5  |
|           | R167131410   | 35   | KWC-035-BNS-C1-N-2  | N class, with preload | 12                            | 5  |
| <b>40</b> | <b>Wide Ball Guide Rails, steel, BNS, Type R1675.0, with plastic mounting hole plugs</b> |      |                     |                       |                               |  |
|           | R167550331   | 20   | KSD-020-BNS-H-MA-AK | H class               | 12                            | 5  |
|           | R167550431   | 20   | KSD-020-BNS-N-MA-AK | N class               | 12                            | 5  |
|           | R167520331   | 25   | KSA-025-BNS-H-MA-AK | H class               | 12                            | 5  |
|           | R167520431   | 25   | KSA-025-BNS-N-MA-AK | N class               | 12                            | 5  |
|           | R167530331   | 35   | KSA-035-BNS-H-MA-AK | H class               | 12                            | 5  |
|           | R167530431   | 35   | KSA-035-BNS-N-MA-AK | N class               | 12                            | 5  |

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| <b>41</b>                          | <b>Standard ball runner blocks NRFG, steel, FNS, type R2001</b>                             |      |                           |                                     |                               |  |
|                                    | R200111314  | 15   | NRFG KWD-015-FNS-C1-H-0   | H class, with preload               | 12                            | 5  |
|                                    | R200181314  | 20   | NRFG KWD-020-FNS-C1-H-0   | H class, with preload               | 12                            | 5  |
|                                    | R200121314  | 25   | NRFG KWD-025-FNS-C1-H-0   | H class, with preload               | 12                            | 5  |
|                                    | R200171314  | 30   | NRFG KWD-030-FNS-C1-H-0   | H class, with preload               | 12                            | 5  |
|                                    | R200131314  | 35   | NRFG KWD-035-FNS-C1-H-0   | H class, with preload               | 12                            | 5  |
| <b>42</b>                          | <b>Standard ball runner blocks NRFG, steel, FLS, type R2002</b>                             |      |                           |                                     |                               |  |
|                                    | R200211314  | 15   | NRFG KWD-015-FLS-C1-H-0   | H class, with preload               | 12                            | 5  |
|                                    | R200281314  | 20   | NRFG KWD-020-FLS-C1-H-0   | H class, with preload               | 12                            | 5  |
|                                    | R200221314  | 25   | NRFG KWD-025-FLS-C1-H-0   | H class, with preload               | 12                            | 5  |
|                                    | R200271314  | 30   | NRFG KWD-030-FLS-C1-H-0   | H class, with preload               | 12                            | 5  |
|                                    | R200231314  | 35   | NRFG KWD-035-FLS-C1-H-0   | H class, with preload               | 12                            | 5  |
| <b>43</b>                          | <b>Standard ball runner blocks NRFG, steel, SNS, type R2011</b>                             |      |                           |                                     |                               |  |
|                                    | R201111314  | 15   | NRFG KWD-015-SNS-C1-H-0   | H class, with preload               | 12                            | 5  |
|                                    | R201181314  | 20   | NRFG KWD-020-SNS-C1-H-0   | H class, with preload               | 12                            | 5  |
|                                    | R201121314  | 25   | NRFG KWD-025-SNS-C1-H-0   | H class, with preload               | 12                            | 5  |
|                                    | R201171314  | 30   | NRFG KWD-030-SNS-C1-H-0   | H class, with preload               | 12                            | 5  |
|                                    | R201131314  | 35   | NRFG KWD-035-SNS-C1-H-0   | H class, with preload               | 12                            | 5  |
| <b>44</b>                          | <b>Standard ball runner blocks NRFG, steel, SLS, type R2012</b>                             |      |                           |                                     |                               |  |
|                                    | R201211314  | 15   | NRFG KWD-015-SLS-C1-H-0   | H class, with preload               | 12                            | 5  |
|                                    | R201281314  | 20   | NRFG KWD-020-SLS-C1-H-0   | H class, with preload               | 12                            | 5  |
|                                    | R201221314  | 25   | NRFG KWD-025-SLS-C1-H-0   | H class, with preload               | 12                            | 5  |
|                                    | R201271314  | 30   | NRFG KWD-030-SLS-C1-H-0   | H class, with preload               | 12                            | 5  |
|                                    | R201231314  | 35   | NRFG KWD-035-SLS-C1-H-0   | H class, with preload               | 12                            | 5  |
| <b>45</b>                          | <b>Ball guide rails, resist NR II, SNS, type R2045 .0, with plastic mounting hole plugs</b> |      |                           |                                     |                               |  |
|                                    | R204510331  | 15   | NR II KSA-015-SNS-H-MA-AK | H class                             | 12                            | 5  |
|                                    | R204580331  | 20   | NR II KSA-020-SNS-H-MA-AK | H class                             | 12                            | 5  |
|                                    | R204520331  | 25   | NR II KSA-025-SNS-H-MA-AK | H class                             | 12                            | 5  |
|                                    | R204570331  | 30   | NR II KSA-030-SNS-H-MA-AK | H class                             | 12                            | 5  |
|                                    | R204530331  | 35   | NR II KSA-035-SNS-H-MA-AK | H class                             | 12                            | 5  |
| <b>Miniature ball rail systems</b> |   |      |                           |                                     |                               |  |
| <b>48</b>                          | <b>Miniature ball runner block, standard, SNS, type R0442</b>                               |      |                           |                                     |                               |  |
|                                    | R044271201  | 7    | MWA-007-SNS-C1-P-3        | P class, with preload               | 16                            | 3  |
|                                    | R044271301  | 7    | MWA-007-SNS-C1-H-3        | H class, with preload               | 16                            | 3  |
|                                    | R044279401  | 7    | MWA-007-SNS-C0-N-3        | N class, with clearance             | 16                            | 3  |
|                                    | R044281201  | 9    | MWA-009-SNS-C1-P-3        | P class, with preload               | 16                            | 3  |
|                                    | R044281301  | 9    | MWA-009-SNS-C1-H-3        | H class, with preload               | 16                            | 3  |
|                                    | R044289401  | 9    | MWA-009-SNS-C0-N-3        | N class, with clearance             | 16                            | 3  |
|                                    | R044221201  | 12   | MWA-012-SNS-C1-P-3        | P class, with preload               | 16                            | 3  |
|                                    | R044221301  | 12   | MWA-012-SNS-C1-H-3        | H class, with preload               | 16                            | 3  |
|                                    | R044221300  | 12   | MWA-012-SNS-C1-H-3        | H class, with preload, with N seals | 16                            | 3  |
|                                    | R044229401  | 12   | MWA-012-SNS-C0-N-3        | N class, with clearance             | 16                            | 3  |
|                                    | R044251201  | 15   | MWA-015-SNS-C1-P-3        | P class, with preload               | 16                            | 3  |




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|           | R044251301  | 15   | MWA-015-SNS-C1-H-3 | H class, with preload                           | 16                            | 3  |
|           | R044259401  | 15   | MWA-015-SNS-C0-N-3 | N class, with clearance                         | 16                            | 3  |
|           | R044251200  | 15   | MWA-015-SNS-C1-P-3 | H class, with preload, with N seals             | 16                            | 3  |
|           | R044201201  | 20   | MWA-020-SNS-C1-P-3 | P class, with preload                           | 16                            | 3  |
|           | R044201301  | 20   | MWA-020-SNS-C1-H-3 | H class, with preload                           | 16                            | 3  |
|           | R044201340  | 20   | MWA-020-SNS-C1-H-0 | H class, with preload, N and longitudinal seals | 16                            | 3  |
|           | R044209401  | 20   | MWA-020-SNS-C0-N-3 | N class, with clearance                         | 16                            | 3  |
| <b>49</b> | <b>Miniature ball runner block, long, SLS, type R0444</b>                         |      |                    |   |                               |  |
|           | R044471201  | 7    | MWA-007-SLS-C1-P-3 | P class, with preload                           | 16                            | 3  |
|           | R044471301  | 7    | MWA-007-SLS-C1-H-3 | H class, with preload                           | 16                            | 3  |
|           | R044479401  | 7    | MWA-007-SLS-C0-N-3 | N class, with clearance                         | 16                            | 3  |
|           | R044481201  | 9    | MWA-009-SLS-C1-P-3 | P class, with preload                           | 16                            | 3  |
|           | R044481301  | 9    | MWA-009-SLS-C1-H-3 | H class, with preload                           | 16                            | 3  |
|           | R044489401  | 9    | MWA-009-SLS-C0-N-3 | N class, with clearance                         | 16                            | 3  |
|           | R044421201  | 12   | MWA-012-SLS-C1-P-3 | P class, with preload                           | 16                            | 3  |
|           | R044421301  | 12   | MWA-012-SLS-C1-H-3 | H class, with preload                           | 16                            | 3  |
|           | R044429401  | 12   | MWA-012-SLS-C0-N-3 | N class, with clearance                         | 16                            | 3  |
|           | R044451201  | 15   | MWA-015-SLS-C1-P-3 | P class, with preload                           | 16                            | 3  |
|           | R044451301  | 15   | MWA-015-SLS-C1-H-3 | H class, with preload                           | 16                            | 3  |
|           | R044459401  | 15   | MWA-015-SLS-C0-N-3 | N class, with clearance                         | 16                            | 3  |
| <b>50</b> | <b>Miniature ball guide rails, standard, without cover strip, SNS, type R0445</b> |      |                    |   |                               |  |
|           | R044570231  | 7    | MSA-007-SNS-P      | P class   | 16                            | 3  |
|           | R044570331  | 7    | MSA-007-SNS-H      | H class   | 16                            | 3  |
|           | R044570431  | 7    | MSA-007-SNS-N      | N class   | 16                            | 3  |
|           | R044580231  | 9    | MSA-009-SNS-P      | P class   | 16                            | 3  |
|           | R044580331  | 9    | MSA-009-SNS-H      | H class   | 16                            | 3  |
|           | R044580431  | 9    | MSA-009-SNS-N      | N class   | 16                            | 3  |
|           | R044520231  | 12   | MSA-012-SNS-P      | P class   | 16                            | 3  |
|           | R044520331  | 12   | MSA-012-SNS-H      | H class   | 16                            | 3  |
|           | R044520431  | 12   | MSA-012-SNS-N      | N class   | 16                            | 3  |
|           | R044550231  | 15   | MSA-015-SNS-P      | P class   | 16                            | 3  |
|           | R044550331  | 15   | MSA-015-SNS-H      | H class   | 16                            | 3  |
|           | R044550431  | 15   | MSA-015-SNS-N      | N class   | 16                            | 3  |
|           | R044500231  | 20   | MSA-020-SNS-P      | P class   | 16                            | 3  |
|           | R044500331  | 20   | MSA-020-SNS-H      | H class   | 16                            | 3  |
|           | R044500431  | 20   | MSA-020-SNS-N      | N class   | 16                            | 3  |
| <b>51</b> | <b>Miniature ball runner block, wide, BNS, type R0443</b>                         |      |                    |   |                               |  |
|           | R044381201  | 9    | MWA-009-BNS-C1-P-3 | P class, with preload                           | 16                            | 3  |
|           | R044381301  | 9    | MWA-009-BNS-C1-H-3 | H class, with preload                           | 16                            | 3  |
|           | R044389401  | 9    | MWA-009-BNS-C0-N-3 | N class, with clearance                         | 16                            | 3  |
|           | R044321201  | 12   | MWA-012-BNS-C1-P-3 | P class, with preload                           | 16                            | 3  |
|           | R044321301  | 12   | MWA-012-BNS-C1-H-3 | H class, with preload                           | 16                            | 3  |
|           | R044329401  | 12   | MWA-012-BNS-C0-N-3 | N class, with clearance                         | 16                            | 3  |
|           | R044351201  | 15   | MWA-015-BNS-C1-P-3 | P class, with preload                           | 16                            | 3  |

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|                                   | R044351301   | 15   | MWA-015-BNS-C1-H-3 | H class, with preload               | 16                            | 3  |
|                                   | R044351300   | 15   | MWA-015-BNS-C1-H-3 | H class, with preload, with N seals | 16                            | 3  |
|                                   | R044359401   | 15   | MWA-015-BNS-C0-N-3 | N class, with clearance             | 16                            | 3  |
| <b>52</b>                         | <b>Miniature ball runner block, wide, long, BLS, type R0441</b>                                    |      |                    |                                     |                               |  |
|                                   | R044121201   | 12   | MWA-012-BLS-C1-P-3 | P class, with preload               | 16                            | 3  |
|                                   | R044121301   | 12   | MWA-012-BLS-C1-H-3 | H class, with preload               | 16                            | 3  |
|                                   | R044129401   | 12   | MWA-012-BLS-C0-N-3 | N class, with clearance             | 16                            | 3  |
|                                   | R044151201   | 15   | MWA-015-BLS-C1-P-3 | P class, with preload               | 16                            | 3  |
|                                   | R044151301   | 15   | MWA-015-BLS-C1-H-3 | H class, with preload               | 16                            | 3  |
|                                   | R044159401   | 15   | MWA-015-BLS-C0-N-3 | N class, with clearance             | 16                            | 3  |
| <b>53</b>                         | <b>Miniature ball guide rails, wide, BNS, without cover strip, type R0455</b>                      |      |                    |                                     |                               |  |
|                                   | R045580231   | 9    | MSA-009-BNS-P      | P class                             | 16                            | 3  |
|                                   | R045580331   | 9    | MSA-009-BNS-H      | H class                             | 16                            | 3  |
|                                   | R045580431   | 9    | MSA-009-BNS-N      | N class                             | 16                            | 3  |
|                                   | R045520231   | 12   | MSA-012-BNS-P      | P class                             | 16                            | 3  |
|                                   | R045520331   | 12   | MSA-012-BNS-H      | H class                             | 16                            | 3  |
|                                   | R045520431   | 12   | MSA-012-BNS-N      | N class                             | 16                            | 3  |
|                                   | R045550231   | 15   | MSA-015-BNS-P      | P class                             | 16                            | 3  |
|                                   | R045550331   | 15   | MSA-015-BNS-H      | H class                             | 16                            | 3  |
|                                   | R045550431   | 15   | MSA-015-BNS-N      | N class                             | 16                            | 3  |
| <b>Linear bushings and shafts</b> |  |      |                    |                                     |                               |  |
| <b>56</b>                         | <b>Compact linear bushings, closed, type R0658</b>   |      |                    |                                     |                               |  |
|                                   | R065820830   | 8    | KBC-8-DD-NR        | Corrosion-resistant, with seals     | 16                            | 3  |
|                                   | R065820840   | 8    | KBC-8-DD           | With seals                          | 16                            | 3  |
|                                   | R065821030   | 10   | KBC-10-DD-NR       | Corrosion-resistant, with seals     | 16                            | 3  |
|                                   | R065821040   | 10   | KBC-10-DD          | With seals                          | 16                            | 3  |
|                                   | R065821230   | 12   | KBC-12-DD-NR       | Corrosion-resistant, with seals     | 16                            | 3  |
|                                   | R065821240   | 12   | KBC-12-DD          | With seals                          | 16                            | 3  |
|                                   | R065821630   | 16   | KBC-16-DD-NR       | Corrosion-resistant, with seals     | 16                            | 3  |
|                                   | R065821640   | 16   | KBC-16-DD          | With seals                          | 16                            | 3  |
|                                   | R065822030   | 20   | KBC-20-DD-NR       | Corrosion-resistant, with seals     | 16                            | 3  |
|                                   | R065822040   | 20   | KBC-20-DD          | With seals                          | 16                            | 3  |
|                                   | R065822530   | 25   | KBC-25-DD-NR       | Corrosion-resistant, with seals     | 16                            | 3  |
|                                   | R065822540   | 25   | KBC-25-DD          | With seals                          | 16                            | 3  |
|                                   | R065823030   | 30   | KBC-30-DD-NR       | Corrosion-resistant, with seals     | 16                            | 3  |
|                                   | R065823040   | 30   | KBC-30-DD          | With seals                          | 16                            | 3  |
|                                   | R065824030   | 40   | KBC-40-DD-NR       | Corrosion-resistant, with seals     | 12                            | 3  |
|                                   | R065824040   | 40   | KBC-40-DD          | With seals                          | 12                            | 3  |
|                                   | R065825030   | 50   | KBC-50-DD-NR       | Corrosion-resistant, with seals     | 12                            | 3  |
|                                   | R065825040   | 50   | KBC-50-DD          | With seals                          | 12                            | 3  |
| <b>58</b>                         | <b>Linear sets with compact linear bushings, closed, normal or corrosion-resistant, type R1027</b> |      |                    |                                     |                               |  |
|                                   | R102721244   | 12   | LSAC-12-DD-G       | With seals                          | 12                            | 3  |
|                                   | R102721644   | 16   | LSAC-16-DD-G       | With seals                          | 12                            | 3  |
|                                   | R102722034   | 20   | LSAC-20-DD-NR-G    | Corrosion-resistant, with seals     | 12                            | 3  |
|                                   | R102722044   | 20   | LSAC-20-DD-G       | With seals                          | 12                            | 3  |

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|           | R102722534   | 25   | LSAC-25-DD-NR-G | Corrosion-resistant, with seals | 12                            | 3  |
|           | R102722544   | 25   | LSAC-25-DD-G    | With seals                      | 12                            | 3  |
|           | R102723034   | 30   | LSAC-30-DD-NR-G | Corrosion-resistant, with seals | 12                            | 3  |
|           | R102723044   | 30   | LSAC-30-DD-G    | With seals                      | 12                            | 3  |
|           | R102724034   | 40   | LSAC-40-DD-NR-G | Corrosion-resistant, with seals | 12                            | 3  |
|           | R102724044   | 40   | LSAC-40-DD-G    | With seals                      | 12                            | 3  |
|           | R102725044   | 50   | LSAC-50-DD-G    | With seals                      | 12                            | 3  |
| <b>59</b> | <b>Linear sets with compact linear bushings, adjustable, type R1028</b>  |      |                 |                                 |                               |  |
|           | R102821244   | 12   | LSACE-12-DD-G   | With seals                      | 12                            | 3  |
|           | R102821644   | 16   | LSACE-16-DD-G   | With seals                      | 12                            | 3  |
|           | R102822044   | 20   | LSACE-20-DD-G   | With seals                      | 12                            | 3  |
|           | R102822544   | 25   | LSACE-25-DD-G   | With seals                      | 12                            | 3  |
|           | R102823044   | 30   | LSACE-30-DD-G   | With seals                      | 12                            | 3  |
|           | R102824044   | 40   | LSACE-40-DD-G   | With seals                      | 12                            | 3  |
|           | R102825044   | 50   | LSACE-50-DD-G   | With seals                      | 12                            | 3  |
| <b>60</b> | <b>Super linear bushings , closed, type R0670</b> |      |                 |                                 |                               |  |
|           | R067001000   | 10   | KBA-10          | Without seals                   | 12                            | 3  |
|           | R067021040   | 10   | KBA-10-DD       | With seals                      | 12                            | 3  |
|           | R067001200   | 12   | KBA-12          | Without seals                   | 12                            | 3  |
|           | R067021240   | 12   | KBA-12-DD       | With seals                      | 12                            | 3  |
|           | R067001600   | 16   | KBA-16          | Without seals                   | 12                            | 3  |
|           | R067021640   | 16   | KBA-16-DD       | With seals                      | 12                            | 3  |
|           | R067002000   | 20   | KBA-20          | Without seals                   | 12                            | 3  |
|           | R067022040   | 20   | KBA-20-DD       | With seals                      | 12                            | 3  |
|           | R067002500   | 25   | KBA-25          | Without seals                   | 12                            | 3  |
|           | R067022540   | 25   | KBA-25-DD       | With seals                      | 12                            | 3  |
|           | R067003000   | 30   | KBA-30          | Without seals                   | 12                            | 3  |
|           | R067023040   | 30   | KBA-30-DD       | With seals                      | 12                            | 3  |
|           | R067004000   | 40   | KBA-40          | Without seals                   | 12                            | 3  |
|           | R067024040   | 40   | KBA-40-DD       | With seals                      | 12                            | 3  |
|           | R067005000   | 50   | KBA-50          | Without seals                   | 12                            | 3  |
|           | R067025040   | 50   | KBA-50-DD       | With seals                      | 12                            | 3  |

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| <b>61</b> | <b>Linear sets with super linear bushings , closed, type R1035</b>                          |      |               |                        |                               |  |
|           | R103561220   | 12   | LSA-A-12-DD   | With seals             | 12                            | 3  |
|           | R103561620   | 16   | LSA-A-16-DD   | With seals             | 12                            | 3  |
|           | R103562020   | 20   | LSA-A-20-DD   | With seals             | 12                            | 3  |
|           | R103562520   | 25   | LSA-A-25-DD   | With seals             | 12                            | 3  |
|           | R103563020   | 30   | LSA-A-30-DD   | With seals             | 12                            | 3  |
|           | R103564020   | 40   | LSA-A-40-DD   | With seals             | 12                            | 3  |
|           | R103565020   | 50   | LSA-A-50-DD   | With seals             | 12                            | 3  |
| <b>62</b> | <b>Linear sets with super linear bushings , adjustable, type R1036</b>                      |      |               |                        |                               |  |
|           | R103661220   | 12   | LSAE-A-12-DD  | Adjustable, with seals | 12                            | 3  |
|           | R103661620   | 16   | LSAE-A-16-DD  | Adjustable, with seals | 12                            | 3  |
|           | R103662020   | 20   | LSAE-A-20-DD  | Adjustable, with seals | 12                            | 3  |
|           | R103662520   | 25   | LSAE-A-25-DD  | Adjustable, with seals | 12                            | 3  |
|           | R103663020   | 30   | LSAE-A-30-DD  | Adjustable, with seals | 12                            | 3  |
|           | R103664020   | 40   | LSAE-A-40-DD  | Adjustable, with seals | 12                            | 3  |
|           | R103665020   | 50   | LSAE-A-50-DD  | Adjustable, with seals | 12                            | 3  |
| <b>63</b> | <b>Linear sets with super linear bushings , closed, tandem, type R1085</b>                  |      |               |                        |                               |  |
|           | R108561220   | 12   | LSAT-A-12-DD  | With seals             | 12                            | 3  |
|           | R108561620   | 16   | LSAT-A-16-DD  | With seals             | 12                            | 3  |
|           | R108562020   | 20   | LSAT-A-20-DD  | With seals             | 12                            | 3  |
|           | R108562520   | 25   | LSAT-A-25-DD  | With seals             | 12                            | 3  |
|           | R108563020   | 30   | LSAT-A-30-DD  | With seals             | 12                            | 3  |
|           | R108564020   | 40   | LSAT-A-40-DD  | With seals             | 12                            | 3  |
|           | R108565020   | 50   | LSAT-A-50-DD  | With seals             | 12                            | 3  |
| <b>64</b> | <b>Linear sets with super linear bushings , adjustable, tandem, type R1032</b>            |      |               |                        |                               |  |
|           | R103261220   | 12   | LSATE-A-12-DD | With seals             | 12                            | 3  |
|           | R103261620   | 16   | LSATE-A-16-DD | With seals             | 12                            | 3  |
|           | R103262020   | 20   | LSATE-A-20-DD | With seals             | 12                            | 3  |
|           | R103262520   | 25   | LSATE-A-25-DD | With seals             | 12                            | 3  |
|           | R103263020   | 30   | LSATE-A-30-DD | With seals             | 12                            | 3  |
|           | R103264020   | 40   | LSATE-A-40-DD | With seals             | 12                            | 3  |
|           | R103265020   | 50   | LSATE-A-50-DD | With seals             | 12                            | 3  |
| <b>65</b> | <b>Linear sets with super linear bushings , closed, tandem, flanged, type R1083</b>       |      |               |                        |                               |  |
|           | R108361220   | 12   | LSAFT-A-12-DD | With seals             | 12                            | 3  |
|           | R108361620   | 16   | LSAFT-A-16-DD | With seals             | 12                            | 3  |
|           | R108362020   | 20   | LSAFT-A-20-DD | With seals             | 12                            | 3  |
|           | R108362520   | 25   | LSAFT-A-25-DD | With seals             | 12                            | 3  |
|           | R108363020   | 30   | LSAFT-A-30-DD | With seals             | 12                            | 3  |
| <b>66</b> | <b>Linear sets with super linear bushings , adjustable, cast iron housing, type R1066</b> |      |               |                        |                               |  |
|           | R106662040   | 20   | LSGE-A-20-DD  | With seals             | 12                            | 3  |
|           | R106663040   | 30   | LSGE-A-30-DD  | With seals             | 12                            | 3  |
|           | R106664040   | 40   | LSGE-A-40-DD  | With seals             | 12                            | 3  |
| <b>67</b> | <b>Linear sets with super linear bushings , flanged, cast iron housing, type R1081</b>    |      |               |                        |                               |  |
|           | R108161640   | 16   | LSGF-A-16-DD  | With seals             | 12                            | 3  |
|           | R108162040   | 20   | LSGF-A-20-DD  | With seals             | 12                            | 3  |
|           | R108162540   | 25   | LSGF-A-25-DD  | With seals             | 12                            | 3  |



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|           | R108163040   | 30   | LSGF-A-30-DD | With seals                      | 12                            | 3  |
|           | R108164040   | 40   | LSGF-A-40-DD | With seals                      | 12                            | 3  |
|           | R108165040   | 50   | LSGF-A-50-DD | With seals                      | 12                            | 3  |
| <b>68</b> | <b>Super linear bushings , closed, type R0672</b> |      |              |                                 |                               |  |
|           | R067221040   | 10   | KBB-10-DD    | With seals                      | 12                            | 3  |
|           | R067221240   | 12   | KBB-12-DD    | With seals                      | 12                            | 3  |
|           | R067221640   | 16   | KBB-16-DD    | With seals                      | 12                            | 3  |
|           | R067222040   | 20   | KBB-20-DD    | With seals                      | 12                            | 3  |
|           | R067222540   | 25   | KBB-25-DD    | With seals                      | 12                            | 3  |
|           | R067223040   | 30   | KBB-30-DD    | With seals                      | 12                            | 3  |
|           | R067224040   | 40   | KBB-40-DD    | With seals                      | 12                            | 3  |
|           | R067225040   | 50   | KBB-50-DD    | With seals                      | 12                            | 3  |
| <b>69</b> | <b>Super linear bushings , closed, type R0732</b> |      |              |                                 |                               |  |
|           | R073222040   | 20   | KBH-20-DD    | With seals                      | 12                            | 3  |
|           | R073222540   | 25   | KBH-25-DD    | With seals                      | 12                            | 3  |
|           | R073223040   | 30   | KBH-30-DD    | With seals                      | 12                            | 3  |
|           | R073224040   | 40   | KBH-40-DD    | With seals                      | 12                            | 3  |
|           | R073225040   | 50   | KBH-50-DD    | With seals                      | 12                            | 3  |
| <b>70</b> | <b>Super linear bushings , closed, type R0732</b> |      |              |                                 |                               |  |
|           | R073022040   | 20   | KBSH-20-DD   | With seals                      | 12                            | 3  |
|           | R073022540   | 25   | KBSH-25-DD   | With seals                      | 12                            | 3  |
|           | R073023040   | 30   | KBSH-30-DD   | With seals                      | 12                            | 3  |
|           | R073024040   | 40   | KBSH-40-DD   | With seals                      | 12                            | 3  |
|           | R073025040   | 50   | KBSH-50-DD   | With seals                      | 12                            | 3  |
| <b>71</b> | <b>Standard linear bushings, closed, type R0600 and R0602</b>  |      |              |                                 |                               |  |
|           | R060030800   | 8    | KBM-8        | Without seals                   | 16                            | 3  |
|           | R060230810   | 8    | KBM-8-DD     | With seals                      | 16                            | 3  |
|           | R060001200   | 12   | KBM-12       | Without seals                   | 16                            | 3  |
|           | R060201210   | 12   | KBM-12-DD    | With seals                      | 16                            | 3  |
|           | R060001600   | 16   | KBM-16       | Without seals                   | 16                            | 3  |
|           | R060201610   | 16   | KBM-16-DD    | With seals                      | 16                            | 3  |
|           | R060002000   | 20   | KBM-20       | Without seals                   | 16                            | 3  |
|           | R060202010   | 20   | KBM-20-DD    | With seals                      | 16                            | 3  |
|           | R060002500   | 25   | KBM-25       | Without seals                   | 16                            | 3  |
|           | R060202510   | 25   | KBM-25-DD    | With seals                      | 16                            | 3  |
|           | R060003000   | 30   | KBM-30       | Without seals                   | 16                            | 3  |
|           | R060203010   | 30   | KBM-30-DD    | With seals                      | 16                            | 3  |
|           | R060004000   | 40   | KBM-40       | Without seals                   | 12                            | 3  |
|           | R060204010   | 40   | KBM-40-DD    | With seals                      | 12                            | 3  |
|           | R060005000   | 50   | KBM-50       | Without seals                   | 12                            | 3  |
|           | R060205010   | 50   | KBM-50-DD    | With seals                      | 12                            | 3  |
| <b>72</b> | <b>Standard linear bushings, closed, corrosion-resistant, type R0602</b>   |      |              |                                 |                               |  |
|           | R060200830   | 8    | KBM-8-DD-NR  | Corrosion-resistant, with seals | 12                            | 3  |
|           | R060201230   | 12   | KBM-12-DD-NR | Corrosion-resistant, with seals | 12                            | 3  |
|           | R060201630   | 16   | KBM-16-DD-NR | Corrosion-resistant, with seals | 12                            | 3  |

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|  | R060202030 | 20   | KBM-20-DD-NR | Corrosion-resistant, with seals | 12                            | 3  |
|  | R060202530 | 25   | KBM-25-DD-NR | Corrosion-resistant, with seals | 12                            | 3  |
| <b>73 Standard linear bushings, adjustable, type R0610 and R0612</b>                           |            |      |              |                                 |                               |  |
|  | R061030800 | 8    | KBM-E-8      | Adjustable, without seals       | 16                            | 3  |
|  | R061230810 | 8    | KBM-E-8-DD   | Adjustable, with seals          | 16                            | 3  |
|  | R061001200 | 12   | KBM-E-12     | Adjustable, without seals       | 16                            | 3  |
|  | R061201210 | 12   | KBM-E-12-DD  | Adjustable, with seals          | 16                            | 3  |
|  | R061001600 | 16   | KBM-E-16     | Adjustable, without seals       | 16                            | 3  |
|  | R061201610 | 16   | KBM-E-16-DD  | Adjustable, with seals          | 16                            | 3  |
|  | R061002000 | 20   | KBM-E-20     | Adjustable, without seals       | 16                            | 3  |
|  | R061202010 | 20   | KBM-E-20-DD  | Adjustable, with seals          | 16                            | 3  |
|  | R061002500 | 25   | KBM-E-25     | Adjustable, without seals       | 16                            | 3  |
|  | R061202510 | 25   | KBM-E-25-DD  | Adjustable, with seals          | 16                            | 3  |
|  | R061003000 | 30   | KBM-E-30     | Adjustable, without seals       | 16                            | 3  |
|  | R061203010 | 30   | KBM-E-30-DD  | Adjustable, with seals          | 16                            | 3  |
|  | R061004000 | 40   | KBM-E-40     | Adjustable, without seals       | 12                            | 3  |
|  | R061204010 | 40   | KBM-E-40-DD  | Adjustable, with seals          | 12                            | 3  |
|  | R061005000 | 50   | KBM-E-50     | Adjustable, without seals       | 12                            | 3  |
|  | R061205010 | 50   | KBM-E-50-DD  | Adjustable, with seals          | 12                            | 3  |
| <b>74 Standard linear bushings, flanged, normal, type R0740</b>                                |            |      |              |                                 |                               |  |
|  | R074050500 | 5    | KBMF-5-DD    | With seals                      | 10                            | 3  |
|  | R074050800 | 8    | KBMF-8-DD    | With seals                      | 16                            | 3  |
|  | R074051200 | 12   | KBMF-12-DD   | With seals                      | 16                            | 3  |
|  | R074051600 | 16   | KBMF-16-DD   | With seals                      | 16                            | 3  |
|  | R074052000 | 20   | KBMF-20-DD   | With seals                      | 16                            | 3  |
|  | R074052500 | 25   | KBMF-25-DD   | With seals                      | 16                            | 3  |
|  | R074053000 | 30   | KBMF-30-DD   | With seals                      | 16                            | 3  |
|  | R074054000 | 40   | KBMF-40-DD   | With seals                      | 10                            | 3  |
| <b>75 Standard linear bushings, flanged, tandem, normal, type R0741</b>                        |            |      |              |                                 |                               |  |
|  | R074150800 | 8    | KBMFT-8-DD   | With seals                      | 16                            | 3  |
|  | R074151200 | 12   | KBMFT-12-DD  | With seals                      | 16                            | 3  |
|  | R074151600 | 16   | KBMFT-16-DD  | With seals                      | 16                            | 3  |
|  | R074152000 | 20   | KBMFT-20-DD  | With seals                      | 16                            | 3  |
|  | R074152500 | 25   | KBMFT-25-DD  | With seals                      | 16                            | 3  |
|  | R074153000 | 30   | KBMFT-30-DD  | With seals                      | 16                            | 3  |
|  | R074154000 | 40   | KBMFT-40-DD  | With seals                      | 16                            | 3  |
| <b>76 Standard linear bushings, central-flanged, normal, type R0742</b>                        |            |      |              |                                 |                               |  |
|  | R074250800 | 8    | KBMM-8-DD    | With seals                      | 5                             | 3  |
|  | R074251200 | 12   | KBMM-12-DD   | With seals                      | 10                            | 3  |
|  | R074251600 | 16   | KBMM-16-DD   | With seals                      | 16                            | 3  |
|  | R074252000 | 20   | KBMM-20-DD   | With seals                      | 16                            | 3  |
|  | R074252500 | 25   | KBMM-25-DD   | With seals                      | 10                            | 3  |
|  | R074253000 | 30   | KBMM-30-DD   | With seals                      | 10                            | 3  |
|  | R074254000 | 40   | KBMM-40-DD   | With seals                      | 10                            | 3  |
| <b>77 Linear sets with standard linear bushings, adjustable, cast-iron housing, type R1066</b> |            |      |              |                                 |                               |  |
|  | R106622500 | 25   | LSGE-M-25-DD | With seals                      | 12                            | 3  |

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|           | R106623000   | 30   | LSGE-M-30-DD | With seals          | 12                            | 3  |
|           | R106624000   | 40   | LSGE-M-40-DD | With seals          | 12                            | 3  |
|           | R106625000   | 50   | LSGE-M-50-DD | With seals          | 12                            | 3  |
| <b>78</b> | <b>Linear sets with standard linear bushings, flanged, cast-iron housing, type R1081</b> |      |              |                     |                               |  |
|           | R108121600   | 16   | LSGF-M-16-DD | With seals          | 12                            | 3  |
|           | R108122000   | 20   | LSGF-M-20-DD | With seals          | 12                            | 3  |
|           | R108122500   | 25   | LSGF-M-25-DD | With seals          | 12                            | 3  |
|           | R108123000   | 30   | LSGF-M-30-DD | With seals          | 12                            | 3  |
|           | R108124000   | 40   | LSGF-M-40-DD | With seals          | 12                            | 3  |
|           | R108125000   | 50   | LSGF-M-50-DD | With seals          | 12                            | 3  |
| <b>79</b> | <b>Segmental linear bushings, closed, type R0668</b>                                     |      |              |                     |                               |  |
|           | R066801200   | 12   | KBSE-12      | Heat-treated steel  | 12                            | 3  |
|           | R066801230   | 12   | KBSE-12-NR   | Corrosion-resistant | 12                            | 3  |
|           | R066801600   | 16   | KBSE-16      | Heat-treated steel  | 12                            | 3  |
|           | R066801630   | 16   | KBSE-16-NR   | Corrosion-resistant | 12                            | 3  |
|           | R066802000   | 20   | KBSE-20      | Heat-treated steel  | 12                            | 3  |
|           | R066802030   | 20   | KBSE-20-NR   | Corrosion-resistant | 12                            | 3  |
|           | R066802500   | 25   | KBSE-25      | Heat-treated steel  | 12                            | 3  |
|           | R066802530   | 25   | KBSE-25-NR   | Corrosion-resistant | 12                            | 3  |
|           | R066803000   | 30   | KBSE-30      | Heat-treated steel  | 12                            | 3  |
|           | R066803030   | 30   | KBSE-30-NR   | Corrosion-resistant | 12                            | 3  |
|           | R066804000   | 40   | KBSE-40      | Heat-treated steel  | 12                            | 3  |
|           | R066804030   | 40   | KBSE-40-NR   | Corrosion-resistant | 12                            | 3  |

| Page      | Part no.   | Size | Description    | Specification       | Maximum GoTo quantity (units) | Delivery time (working days) ex works in Germany |
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| <b>80</b> | <b>Precision steel shafts, solid, type R1000 (Delivery time only for shafts cut-to-size with or without chamfer)</b>   |      |                |                     |                               |  |
|           | R100000800   | 8    | 8 H6           | Heat-treated steel  | 12                            | 5  |
|           | R100000830   | 8    | 8 H6 NR - X46  | Corrosion-resistant | 12                            | 5  |
|           | R100001000   | 10   | 10 H6          | Heat-treated steel  | 12                            | 5  |
|           | R100001030   | 10   | 10 H6 NR - X46 | Corrosion-resistant | 12                            | 5  |
|           | R100001200   | 12   | 12 H6          | Heat-treated steel  | 12                            | 5  |
|           | R100001230   | 12   | 12 H6 NR - X46 | Corrosion-resistant | 12                            | 5  |
|           | R100001600   | 16   | 16 H6          | Heat-treated steel  | 12                            | 5  |
|           | R100001630   | 16   | 16 H6 NR - X46 | Corrosion-resistant | 12                            | 5  |
|           | R100002000   | 20   | 20 H6          | Heat-treated steel  | 12                            | 5  |
|           | R100002020   | 20   | 20 H6 NR - X90 | Corrosion-resistant | 12                            | 5  |
|           | R100002030   | 20   | 20 H6 NR - X46 | Corrosion-resistant | 12                            | 5  |
|           | R100002500   | 25   | 25 H6          | Heat-treated steel  | 12                            | 5  |
|           | R100002520   | 25   | 25 H6 NR - X90 | Corrosion-resistant | 12                            | 5  |
|           | R100002530   | 25   | 25 H6 NR - X46 | Corrosion-resistant | 12                            | 5  |
|           | R100002560   | 25   | 25 H6 CR       | Hard chrome plated  | 12                            | 5  |
|           | R100003000   | 30   | 30 H6          | Heat-treated steel  | 12                            | 5  |
|           | R100003020   | 30   | 30 H6 NR - X90 | Corrosion-resistant | 12                            | 5  |
|           | R100003030   | 30   | 30 H6 NR - X46 | Corrosion-resistant | 12                            | 5  |
|           | R100003060   | 30   | 30 H6 CR       | Hard chrome plated  | 12                            | 5  |
|           | R100004000   | 40   | 40 H6          | Heat-treated steel  | 12                            | 5  |
|           | R100004020   | 40   | 40 H6 NR - X90 | Corrosion-resistant | 12                            | 5  |
|           | R100004030   | 40   | 40 H6 NR - X46 | Corrosion-resistant | 12                            | 5  |
|           | R100004060   | 40   | 40 H6 CR       | Hard chrome plated  | 12                            | 5  |
|           | R100005000   | 50   | 50 H6          | Heat-treated steel  | 12                            | 5  |
|           | R100005020   | 50   | 50 H6 NR - X90 | Corrosion-resistant | 12                            | 5  |
|           | R100005030   | 50   | 50 H6 NR - X46 | Corrosion-resistant | 12                            | 5  |
|           | R100005060   | 50   | 50 H6 CR       | Hard chrome plated  | 12                            | 5  |
| <b>81</b> | <b>Precision steel shafts, tubular, type R1001 (Delivery time only for shafts cut-to-size with or without chamfer)</b> |      |                |                     |                               |  |
|           | R100102510   | 25   | 25 H6          | Heat-treated steel  | 12                            | 5  |
|           | R100103010   | 30   | 30 H6          | Heat-treated steel  | 12                            | 5  |
|           | R100103041   | 30   | 30 H7 CR       | Hard chrome plated  | 12                            | 5  |
|           | R100104010   | 40   | 40 H6          | Heat-treated steel  | 12                            | 5  |
|           | R100104041   | 40   | 40 H7 CR       | Hard chrome plated  | 12                            | 5  |
|           | R100105010   | 50   | 50 H6          | Heat-treated steel  | 12                            | 5  |
|           | R100105041   | 50   | 50 H7 CR       | Hard chrome plated  | 12                            | 5  |
| <b>82</b> | <b>Compact shaft support blocks, aluminum, type R1058</b>  |      |                |                     |                               |  |
|           | R105801200   | 12   | WBA-12C-FO     |                     | 12                            | 3  |
|           | R105801600   | 16   | WBA-16C-FO     |                     | 12                            | 3  |
|           | R105802000   | 20   | WBA-20C-FO     |                     | 12                            | 3  |
|           | R105802500   | 25   | WBA-25C-FO     |                     | 12                            | 3  |
|           | R105803000   | 30   | WBA-30C-FO     |                     | 12                            | 3  |
|           | R105804000   | 40   | WBA-40C-FO     |                     | 12                            | 3  |

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|                  | R105805000  | 50                      | WBA-50C-FO              |  | 12                            | 3  |
| <b>83</b>        | <b>Shaft support blocks, aluminum, type R1057</b> |                         |                         |  |                               |  |
|                  | R105701000  | 10                      | WBA-10                  |  | 16                            | 3  |
|                  | R105701200  | 12                      | WBA-12                  |  | 16                            | 3  |
|                  | R105701600  | 16                      | WBA-16                  |  | 16                            | 3  |
|                  | R105702000  | 20                      | WBA-20                  |  | 16                            | 3  |
|                  | R105702500  | 25                      | WBA-25                  |  | 16                            | 3  |
|                  | R105703000  | 30                      | WBA-30                  |  | 16                            | 3  |
|                  | R105704000  | 40                      | WBA-40                  |  | 16                            | 3  |
|                  | R105705000  | 50                      | WBA-50                  |  | 16                            | 3  |
|                  | <b>Ball screw assemblies</b>                      |                         |                         |  |                               |  |
| <b>85</b>        | <b>Complete ball screw assemblies</b>             |                         |                         |  |                               |  |
| Screw Assemblies | 16x5R   | Nut FEM-E-S, R151201013 | Nut FEM-E-B, R150201065 | Diameter 16 mm, lead 5 mm, right-hand thread, L <sub>max</sub> = 1 500, Accuracy T5, T7, T9  | 3                             | 5  |
|                  |   | Nut FEM-E-S, R151204013 |                         |  |                               |  |
| Screw Assemblies | 16x10R  | Nut FEM-E-S, R151204013 | Nut FEM-E-B, R150204085 | Diameter 16 mm, lead 10 mm, right-hand thread, L <sub>max</sub> = 1 500, Accuracy T5, T7, T9 | 3                             | 5  |
|                  |   | Nut FEM-E-S, R151206013 |                         |  |                               |  |
| Screw Assemblies | 16x16R  | Nut FEM-E-S, R151206013 | Nut FEM-E-B, R150206065 | Diameter 16 mm, lead 16 mm, right-hand thread, L <sub>max</sub> = 1 500, Accuracy T5, T7, T9 | 3                             | 5  |
|                  |   | Nut FEM-E-S, R151211013 |                         |  |                               |  |
| Screw Assemblies | 20x5R   | Nut FEM-E-S, R151211013 | Nut FEM-E-B, R150211085 | Diameter 20 mm, lead 5 mm, right-hand thread, L <sub>max</sub> = 1 500, Accuracy T5, T7, T9  | 3                             | 5  |
|                  |   | Nut FEM-E-S, R151214013 |                         |  |                               |  |
| Screw Assemblies | 20x10R  | Nut FEM-E-S, R151214013 | Nut FEM-E-B, R150214065 | Diameter 20 mm, lead 10 mm, right-hand thread, L <sub>max</sub> = 1 500, Accuracy T5, T7, T9 | 3                             | 5  |
|                  |   | Nut FEM-E-S, R151217013 |                         |  |                               |  |
| Screw Assemblies | 20x20R  | Nut FEM-E-S, R151217013 | Nut FEM-E-B, R150217065 | Diameter 20 mm, lead 20 mm, right-hand thread, L <sub>max</sub> = 1 500, Accuracy T5, T7, T9 | 3                             | 5  |
|                  |   | Nut FEM-E-S, R151221013 |                         |  |                               |  |
| Screw Assemblies | 25x5R   | Nut FEM-E-S, R151221013 | Nut FEM-E-B, R150221085 | Diameter 25 mm, lead 5 mm, right-hand thread, L <sub>max</sub> = 2 500, Accuracy T5, T7, T9  | 3                             | 5  |
|                  |   | Nut FEM-E-S, R151221013 |                         |  |                               |  |
| Screw Assemblies | 25x10R  | Nut FEM-E-S, R151221013 | Nut FEM-E-B, R150221085 | Diameter 25 mm, lead 10 mm, right-hand thread, L <sub>max</sub> = 2 500, Accuracy T5, T7, T9 | 3                             | 5  |
|                  |   | Nut FEM-E-S, R151221013 |                         |  |                               |  |
| Screw Assemblies | 25x25R  | Nut FEM-E-S, R151221013 | Nut FEM-E-B, R150221085 | Diameter 25 mm, lead 25 mm, right-hand thread, L <sub>max</sub> = 2 500, Accuracy T5, T7, T9 | 3                             | 5  |
|                  |   | Nut FEM-E-S, R151221013 |                         |  |                               |  |

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|      | Screw Assemblies | 32x5R  | Nut FEM-E-S, R151231013 | Diameter 32 mm, lead 5 mm, right-hand thread, L <sub>max</sub> = 2 500, Accuracy T5, T7, T9  | 3                             | 5  |
|      |                  |        | Nut FEM-E-B, R150231085 |  |                               |  |
|      | Screw Assemblies | 32x10R | Nut FEM-E-S, R151234013 | Diameter 32 mm, lead 10 mm, right-hand thread, L <sub>max</sub> = 2 500, Accuracy T5, T7, T9 | 3                             | 5  |
|      |                  |        | Nut FEM-E-B, R150234086 |  |                               |  |
|      | Screw Assemblies | 32x20R | Nut FEM-E-S, R151237013 | Diameter 32 mm, lead 20 mm, right-hand thread, L <sub>max</sub> = 2 500, Accuracy T5, T7, T9 | 3                             | 5  |
|      |                  |        | Nut FEM-E-B, R150237065 |  |                               |  |
|      | Screw Assemblies | 32x32R | Nut FEM-E-S, R151239013 | Diameter 32 mm, lead 32 mm, right-hand thread, L <sub>max</sub> = 2 500, Accuracy T5, T7, T9 | 3                             | 5  |
|      |                  |        | Nut FEM-E-B, R150239065 |  |                               |  |
|      | Screw Assemblies | 40x5R  | Nut FEM-E-S, R151241013 | Diameter 40 mm, lead 5 mm, right-hand thread, L <sub>max</sub> = 3 500, Accuracy T5, T7, T9  | 3                             | 5  |
|      |                  |        | Nut FEM-E-B, R150241086 |  |                               |  |
|      | Screw Assemblies | 40x10R | Nut FEM-E-S, R151244013 | Diameter 40 mm, lead 10 mm, right-hand thread, L <sub>max</sub> = 3 500, Accuracy T5, T7, T9 | 3                             | 5  |
|      |                  |        | Nut FEM-E-B, R150244085 |  |                               |  |
|      | Screw Assemblies | 40x20R | Nut FEM-E-S, R151247013 | Diameter 40 mm, lead 20 mm, right-hand thread, L <sub>max</sub> = 3 500, Accuracy T5, T7, T9 | 3                             | 5  |
|      |                  |        | Nut FEM-E-B, R150247085 |  |                               |  |
|      | Screw Assemblies | 40x40R | Nut FEM-E-S, R151249013 | Diameter 40 mm, lead 40 mm, right-hand thread, L <sub>max</sub> = 3 500, Accuracy T5, T7, T9 | 3                             | 5  |
|      |                  |        | Nut FEM-E-C, R150249065 |  |                               |  |

**87 Flanged single nuts FEM-E-B, standard, type R1502**

|            |       |                        |                     |    |   |
|------------|-------|------------------------|---------------------|----|---|
| R150201063 | 16x5  | FEM-E-B 16x5Rx3-4      | Standard Axialspiel | 10 | 3 |
| R150204083 | 16x10 | FEM-E-B 16x10Rx3-3     | Standard Axialspiel | 10 | 3 |
| R150206063 | 16x16 | FEM-E-B 16x16Rx3-3     | Standard Axialspiel | 10 | 3 |
| R150211083 | 20x5  | FEM-E-B 20x5Rx3-4      | Standard Axialspiel | 10 | 3 |
| R150214063 | 20x10 | FEM-E-B 20x10Rx3-4     | Standard Axialspiel | 10 | 3 |
| R150217063 | 20x20 | FEM-E-B 20x20Rx3,5-3   | Standard Axialspiel | 10 | 3 |
| R150221083 | 25x5  | FEM-E-B 25x5Rx3-4      | Standard Axialspiel | 10 | 3 |
| R150224083 | 25x10 | FEM-E-B 25x10Rx3-4     | Standard Axialspiel | 10 | 3 |
| R150228063 | 25x25 | FEM-E-B 25x25Rx3,5-3   | Standard Axialspiel | 10 | 3 |
| R150231083 | 32x5  | FEM-E-B 32x5Rx3,5-4    | Standard Axialspiel | 10 | 3 |
| R150234084 | 32x10 | FEM-E-B 32x10Rx3,969-5 | Standard Axialspiel | 10 | 3 |
| R150237063 | 32x20 | FEM-E-B 32x20Rx3,969-3 | Standard Axialspiel | 10 | 3 |
| R150239063 | 32x32 | FEM-E-B 32x32Rx3,969-3 | Standard Axialspiel | 10 | 3 |
| R150241084 | 40x5  | FEM-E-B 40x5Rx3,5-5    | Standard Axialspiel | 10 | 3 |
| R150244083 | 40x10 | FEM-E-B 40x10Rx6-4     | Standard Axialspiel | 10 | 3 |
| R150247083 | 40x20 | FEM-E-B 40x20Rx6-3     | Standard Axialspiel | 10 | 3 |
| R150249063 | 40x40 | FEM-E-B 40x40Rx6-3     | Standard Axialspiel | 10 | 3 |

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| <b>88</b> | <b>Flanged single nuts FEM-E-S, standard, Type R1512</b> |       |                               |                       |                               |  |
|           | R153223003   | 8x2.5 | FEM-E-S 8x2.5                 | Standard backlash     | 10                            | 3  |
|           | R153246023   | 12x5  | FEM-E-S 12x5                  | Standard backlash     | 10                            | 3  |
|           | R151201023   | 16X5  | FEM-E-S 16X5RX3-4             | Standard backlash     | 10                            | 3  |
|           | R151204013   | 16X10 | FEM-E-S 16X10RX3-3            | Standard backlash     | 10                            | 3  |
|           | R151206013   | 16X16 | FEM-E-S 16X16RX3-2            | Standard backlash     | 10                            | 3  |
|           | R151211013   | 20X5  | FEM-E-S 20X5RX3-4             | Standard backlash     | 10                            | 3  |
|           | R151214013   | 20X10 | FEM-E-S 20X10RX3-4            | Standard backlash     | 10                            | 3  |
|           | R151217013   | 20X20 | FEM-E-S 20X20RX3,5-2          | Standard backlash     | 10                            | 3  |
|           | R151221013   | 25X5  | FEM-E-S 25X5RX3-4             | Standard backlash     | 10                            | 3  |
|           | R151224013   | 25X10 | FEM-E-S 25X10RX3-4            | Standard backlash     | 10                            | 3  |
|           | R151228013   | 25X25 | FEM-E-S 25X25RX3,5-2          | Standard backlash     | 10                            | 3  |
|           | R151231013   | 32X5  | FEM-E-S 32X5RX3,5-4           | Standard backlash     | 10                            | 3  |
|           | R151234013   | 32X10 | FEM-E-S 32X10RX3,969-5        | Standard backlash     | 10                            | 3  |
|           | R151237013   | 32X20 | FEM-E-S 32X20RX3,969-2        | Standard backlash     | 10                            | 3  |
|           | R151239013   | 32X32 | FEM-E-S 32X32RX3,969-2        | Standard backlash     | 10                            | 3  |
|           | R151241013   | 40X5  | FEM-E-S 40X5RX3,5-5           | Standard backlash     | 10                            | 3  |
|           | R151244013   | 40X10 | FEM-E-S 40X10RX6-4            | Standard backlash     | 10                            | 3  |
|           | R151247013   | 40X20 | FEM-E-S 40X20RX6-3            | Standard backlash     | 10                            | 3  |
|           | R151249013   | 40X40 | FEM-E-S 40X40RX6-2            | Standard backlash     | 10                            | 3  |
| <b>89</b> | <b>Precision ball screws SN-R, type R1511</b>            |       |                               |                       |                               |  |
|           | R153123500   | 8x2.5 | Precision screw 8x2.5 T5      | Cut, cut and annealed | 12                            | 5  |
|           | R153123700   | 8x2.5 | Precision screw 8x2.5 T7      | Cut, cut and annealed | 12                            | 5  |
|           | R153123900   | 8x2.5 | Precision screw 8x2.5 T9      | Cut, cut and annealed | 12                            | 5  |
|           | R153146510   | 12x5  | Precision screw 12x5 T5       | Cut, cut and annealed | 12                            | 5  |
|           | R153146710   | 12x5  | Precision screw 12x5 T7       | Cut, cut and annealed | 12                            | 5  |
|           | R153146910   | 12x5  | Precision screw 12x5 T9       | Cut, cut and annealed | 12                            | 5  |
|           | R151101500   | 16x5  | Precision screw 16x5Rx3 T5    | Cut, cut and annealed | 12                            | 5  |
|           | R151101700   | 16x5  | Precision screw 16x5Rx3 T7    | Cut, cut and annealed | 12                            | 5  |
|           | R151101900   | 16x5  | Precision screw 16x5Rx3 T9    | Cut, cut and annealed | 12                            | 5  |
|           | R151104500   | 16x10 | Precision screw 16x10Rx3 T5   | Cut, cut and annealed | 12                            | 5  |
|           | R151104700   | 16x10 | Precision screw 16x10Rx3 T7   | Cut, cut and annealed | 12                            | 5  |
|           | R151104900   | 16x10 | Precision screw 16x10Rx3 T9   | Cut, cut and annealed | 12                            | 5  |
|           | R151106510   | 16x16 | Precision screw 16x16Rx3 T5   | Cut, cut and annealed | 12                            | 5  |
|           | R151106710   | 16x16 | Precision screw 16x16Rx3 T7   | Cut, cut and annealed | 12                            | 5  |
|           | R151106910   | 16x16 | Precision screw 16x16Rx3 T9   | Cut, cut and annealed | 12                            | 5  |
|           | R151111500   | 20x5  | Precision screw 20x5Rx3 T5    | Cut, cut and annealed | 12                            | 5  |
|           | R151111700   | 20x5  | Precision screw 20x5Rx3 T7    | Cut, cut and annealed | 12                            | 5  |
|           | R151111900   | 20x5  | Precision screw 20x5Rx3 T9    | Cut, cut and annealed | 12                            | 5  |
|           | R151114500   | 20x10 | Precision screw 20x10Rx3 T5   | Cut, cut and annealed | 12                            | 5  |
|           | R151114700   | 20x10 | Precision screw 20x10Rx3 T7   | Cut, cut and annealed | 12                            | 5  |
|           | R151114900   | 20x10 | Precision screw 20x10Rx3 T9   | Cut, cut and annealed | 12                            | 5  |
|           | R151117510   | 20x20 | Precision screw 20x20Rx3,5 T5 | Cut, cut and annealed | 12                            | 5  |
|           | R151117710   | 20x20 | Precision screw 20x20Rx3,5 T7 | Cut, cut and annealed | 12                            | 5  |
|           | R151117910   | 20x20 | Precision screw 20x20Rx3,5 T9 | Cut, cut and annealed | 12                            | 5  |
|           | R151121500   | 25x5  | Precision screw 25x5Rx3 T5    | Cut, cut and annealed | 12                            | 5  |
|           | R151121700   | 25x5  | Precision screw 25x5Rx3 T7    | Cut, cut and annealed | 12                            | 5  |

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|           | R151121900   | 25x5  | Precision screw 25x5Rx3 T9      | Cut, cut and annealed | 12                            | 5  |
|           | R151124500   | 25x10 | Precision screw 25x10Rx3 T5     | Cut, cut and annealed | 12                            | 5  |
|           | R151124700   | 25x10 | Precision screw 25x10Rx3 T7     | Cut, cut and annealed | 12                            | 5  |
|           | R151124900   | 25x10 | Precision screw 25x10Rx3 T9     | Cut, cut and annealed | 12                            | 5  |
|           | R151128510   | 25x25 | Precision screw 25x25Rx3,5 T5   | Cut, cut and annealed | 12                            | 5  |
|           | R151128710   | 25x25 | Precision screw 25x25Rx3,5 T7   | Cut, cut and annealed | 12                            | 5  |
|           | R151128910   | 25x25 | Precision screw 25x25Rx3,5 T9   | Cut, cut and annealed | 12                            | 5  |
|           | R151131500   | 32x5  | Precision screw 32x5Rx3,5 T5    | Cut, cut and annealed | 12                            | 5  |
|           | R151131700   | 32x5  | Precision screw 32x5Rx3,5 T7    | Cut, cut and annealed | 12                            | 5  |
|           | R151131900   | 32x5  | Precision screw 32x5Rx3,5 T9    | Cut, cut and annealed | 12                            | 5  |
|           | R151134510   | 32x10 | Precision screw 32x10Rx3,969 T5 | Cut, cut and annealed | 12                            | 5  |
|           | R151134710   | 32x10 | Precision screw 32x10Rx3,969 T7 | Cut, cut and annealed | 12                            | 5  |
|           | R151134910   | 32x10 | Precision screw 32x10Rx3,969 T9 | Cut, cut and annealed | 12                            | 5  |
|           | R151137510   | 32x20 | Precision screw 32x20Rx3,969 T5 | Cut, cut and annealed | 12                            | 5  |
|           | R151137710   | 32x20 | Precision screw 32x20Rx3,969 T7 | Cut, cut and annealed | 12                            | 5  |
|           | R151137910   | 32x20 | Precision screw 32x20Rx3,969 T9 | Cut, cut and annealed | 12                            | 5  |
|           | R151139510   | 32x32 | Precision screw 32x32Rx3,969 T5 | Cut, cut and annealed | 12                            | 5  |
|           | R151139710   | 32x32 | Precision screw 32x32Rx3,969 T7 | Cut, cut and annealed | 12                            | 5  |
|           | R151139910   | 32x32 | Precision screw 32x32Rx3,969 T9 | Cut, cut and annealed | 12                            | 5  |
|           | R151141500   | 40x5  | Precision screw 40x5Rx3,5 T5    | Cut, cut and annealed | 12                            | 5  |
|           | R151141700   | 40x5  | Precision screw 40x5Rx3,5 T7    | Cut, cut and annealed | 12                            | 5  |
|           | R151141700   | 40x5  | Precision screw 40x5Rx3,5 T9    | Cut, cut and annealed | 12                            | 5  |
|           | R151144500   | 40x10 | Precision screw 40x10Rx6 T5     | Cut, cut and annealed | 12                            | 5  |
|           | R151144700   | 40x10 | Precision screw 40x10Rx6 T7     | Cut, cut and annealed | 12                            | 5  |
|           | R151144900   | 40x10 | Precision screw 40x10Rx6 T9     | Cut, cut and annealed | 12                            | 5  |
|           | R151147500   | 40x20 | Precision screw 40x20Rx6 T5     | Cut, cut and annealed | 12                            | 5  |
|           | R151147700   | 40x20 | Precision screw 40x20Rx6 T7     | Cut, cut and annealed | 12                            | 5  |
|           | R151147900   | 40x20 | Precision screw 40x20Rx6 T9     | Cut, cut and annealed | 12                            | 5  |
|           | R151149510   | 40x40 | Precision screw 40x40Rx6 T5     | Cut, cut and annealed | 12                            | 5  |
|           | R151149710   | 40x40 | Precision screw 40x40Rx6 T7     | Cut, cut and annealed | 12                            | 5  |
|           | R151149910   | 40x40 | Precision screw 40x40Rx6 T9     | Cut, cut and annealed | 12                            | 5  |
| <b>91</b> | <b>Ball transfer units with sheet steel housing, type R0530 1.</b> |       |                                 |                       |                               |  |
|           | R053010810   | 8     | KU-B8-OFK 1                     |                       | 100                           | 1  |
|           | R053011210   | 12    | KU-B12-OFK 1                    |                       | 100                           | 1  |
|           | R053011510   | 15    | KU-B15-OFK 1                    |                       | 150                           | 1  |
|           | R053012210   | 22    | KU-B22-MFG 1                    |                       | 200                           | 1  |
|           | R053013010   | 30    | KU-B30-MFG 1                    |                       | 150                           | 1  |
|           | R053014510   | 45    | KU-B45-MFG 1                    |                       | 50                            | 1  |
|           | <b>Ball transfer units with plastic load balls, type R0531 1..</b> |       |                                 |                       |                               |  |
|           | R053110810   | 8     | KU-B8-P-OFK 1                   |                       | 20                            | 1  |
|           | R053111210   | 12    | KU-B12-P-OFK                    |                       | 50                            | 1  |
|           | R053111510   | 15    | KU-B15-P-OFK                    |                       | 50                            | 1  |



| Page   | Part no.   | Size | Description  | Specification | Maximum GoTo quantity (units) | Delivery time (working days) ex works in Germany |
|--|------------|------|--------------|---------------|-------------------------------|--|
|  | R053112210 | 22   | KU-B22-P-MFK |               | 100                           | 1  |
|  | R053113010 | 30   | KU-B30-P-MFK |               | 50                            | 1  |
| <b>Ball transfer units with reinforced steel housing, type R0535 1..</b>           |            |      |              |               |                               |  |
|  | R053511510 | 15   | KUS-B15-MFG  |               | 150                           | 1  |
|  | R053512210 | 22   | KUS-B22-MFG  |               | 100                           | 1  |
|  | R053513010 | 30   | KUS-B30-MFG  |               | 20                            | 1  |
|  | R053514510 | 45   | KUS-B45-MFG  |               | 20                            | 1  |
| <b>Ball transfer units with clip as fastening element, type R0536 1..</b>          |            |      |              |               |                               |  |
|  | R053611510 | 15   | KUK-B15-MFG  |               | 20                            | 1  |
|  | R053612210 | 22   | KUK-B22-MFG  |               | 150                           | 1  |
|  | R053613010 | 30   | KUK-B30-MFG  |               | 50                            | 1  |
| <b>Ball transfer units with solid steel housing without collar, type R0533 ...</b> |            |      |              |               |                               |  |
|  | R053371200 | 12   | KUM-A12-OFK  |               | 10                            | 1  |

**Abbreviations used**

|                 |                             |
|-----------------|-----------------------------|
| <b>RSF</b>      | Roller rail systems         |
| <b>KSF</b>      | Ball rail systems           |
| <b>Mini-KSF</b> | Miniature ball rail systems |
| <b>KBF</b>      | Linear bushing and shafts   |
| <b>BASA</b>     | Ball screw assemblies       |
| <b>EMC</b>      | Electromechanical Cylinders |

**Explanation of technical symbols used**

|                               |                  |  |
|-------------------------------|------------------|--|
| <b><math>a_{max}</math></b>   | m/s <sup>2</sup> | Maximum acceleration                                   |
| <b>C</b>                      | N                | Dynamic load capacity                                  |
| <b><math>C_{max}</math></b>   | N                | Maximum dynamic load capacity                          |
| <b><math>C_0</math></b>       | N                | Static load capacity (rating)                          |
| <b><math>C_{0 max}</math></b> | N                | Maximum static load capacity (rating)                  |
| <b><math>F_{max}</math></b>   | N                | Maximum dynamic load                                   |
| <b><math>J_s</math></b>       | kgm <sup>2</sup> | Mass moment of inertia of system without external load |
| <b><math>M_L</math></b>       | Nm               | Dynamic longitudinal moment load capacity              |
| <b><math>M_{L max}</math></b> | Nm               | Maximum permissible longitudinal load moment           |
| <b><math>M_p</math></b>       | Nm               | Maximum permissible drive torque                       |
| <b><math>M_t</math></b>       | Nm               | Dynamic torsional moment load capacity                 |
| <b><math>M_{t max}</math></b> | Nm               | Maximum permissible torsional moment                   |
| <b>m</b>                      | kg               | Mass   |
| <b><math>v_{max}</math></b>   | m/s              | Maximum travel speed                                   |

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