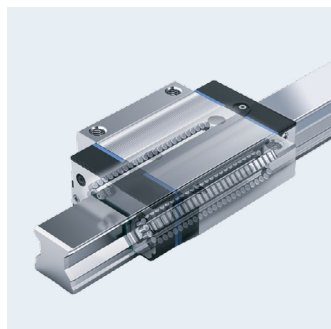
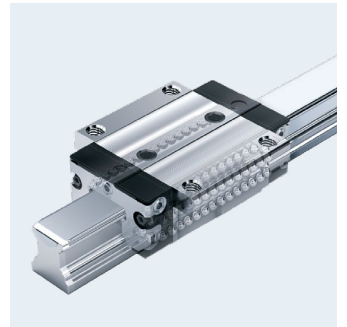


# GoTo Europe Focused Delivery Program

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.

## 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



# The GoTo product overviews according to technologies

## GoTo product overviews

 <p>The Drive &amp; Control Company <b>Rexroth</b> Bosch Group</p> <p>GoTo Europe Focused Delivery Program</p> <p>Product Overview Industrial and Mobile Hydraulics</p>	 <p>The Drive &amp; Control Company <b>Rexroth</b> Bosch Group</p> <p>GoTo Europe Focused Delivery Program</p> <p>Product Overview Electric Power, Control and Screwing Technology</p>	 <p>The Drive &amp; Control Company <b>Rexroth</b> Bosch Group</p> <p>GoTo Europe Focused Delivery Program</p> <p>Product Overview Linear Motion Technology</p>	 <p>The Drive &amp; Control Company <b>Rexroth</b> Bosch Group</p> <p>GoTo Europe Focused Delivery Program</p> <p>Product Overview Assembly Technology</p>
<p>► <b>Industrial and Mobile Hydraulics</b></p>	<p>► <b>Electric Drives and Controls, Tightening Technology</b></p>	<p>► <b>Linear Motion Technology</b></p>	<p>► <b>Assembly Technology</b></p>



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.

Our GoTo product overviews, whether in printed form or on the Internet, show you the complete portfolio. In addition, our webpages quickly provide you with additional information on the respective product, on the technical data as well as on ordering.

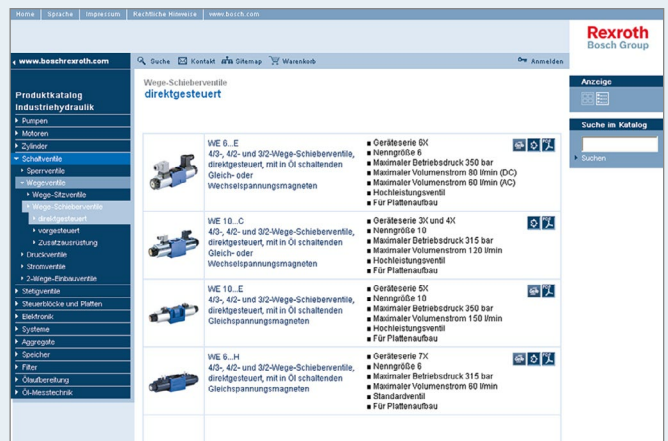
# Your product in just three steps



## 1. Select product



## 2. View product data



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

## 1. Select product

Use the GoTo product overviews to find the desired products.

## 2. View product data

Now visit the focused delivery program website – [www.boschrexroth.com/goto](http://www.boschrexroth.com/goto). It offers simple access to additional product information, including data sheets, part numbers, specifications, downloads and more.

## 3. Order product

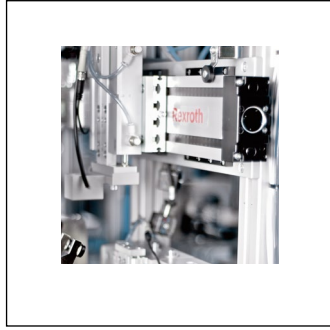
To order, contact Rexroth, your sales partner, or simply order online via our eShop: [www.boschrexroth.com/eshop](http://www.boschrexroth.com/eshop)

## 3. Order product





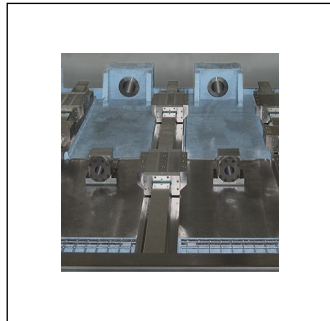
# Contents




---

<b>Linear Systems</b>	<b>8</b>
Linear Modules MKx	10
Compact Modules CKx	12
Feed Modules VKK	14
Electromechanical Cylinders EMC	16
Connection Elements	18

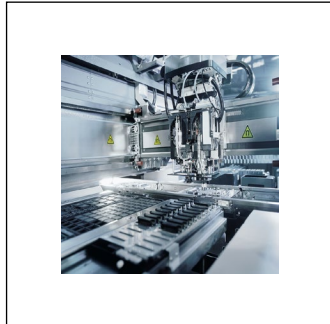
---




---

<b>Roller Rail Systems</b>	<b>19</b>
Roller Runner Blocks	20
Roller Guide Rails	24

---




---

<b>Ball Rail Systems</b>	<b>27</b>
Ball Runner Block	28
Ball Guide Rails	40

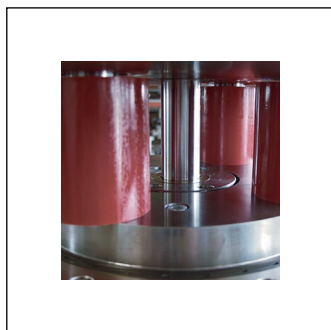
---




---

<b>Miniature Ball Rail Systems</b>	<b>51</b>
Miniature Ball Runner Block	52
Miniature Ball Guide Rails	54

---



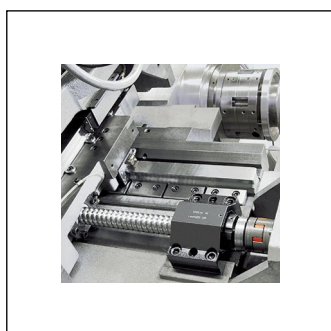
---

**Linear Bushing Guides 59**

Linear Bushings and Linear Sets 60

Precision Steel Shafts 81

Shaft Support Blocks 83



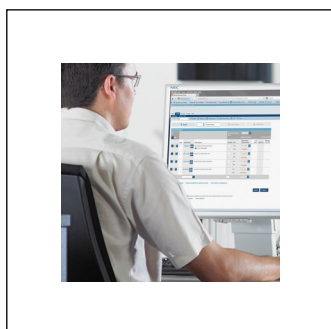
---

**Ball Screw Assemblies (BASA) 86**

Complete BASA 89

BASA Nut 91

BASA Precision Screws 93



---

**Ordering Information 95**

# Linear Systems – compact units for diverse applications

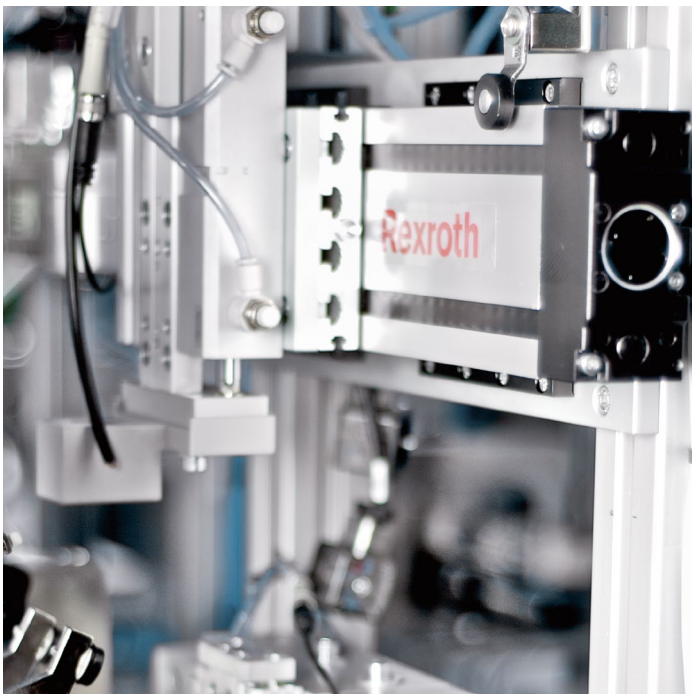
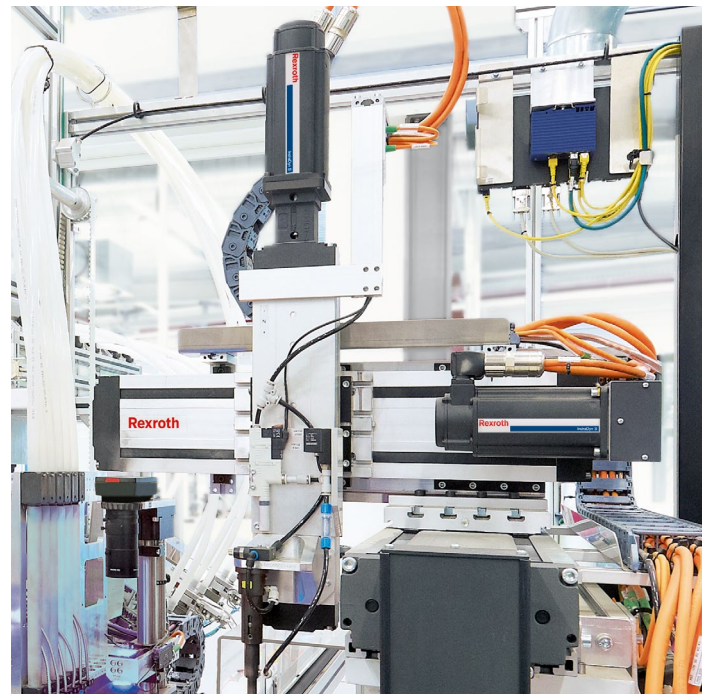


Image: VS Engineering SRL - Ettore Franceschi



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.

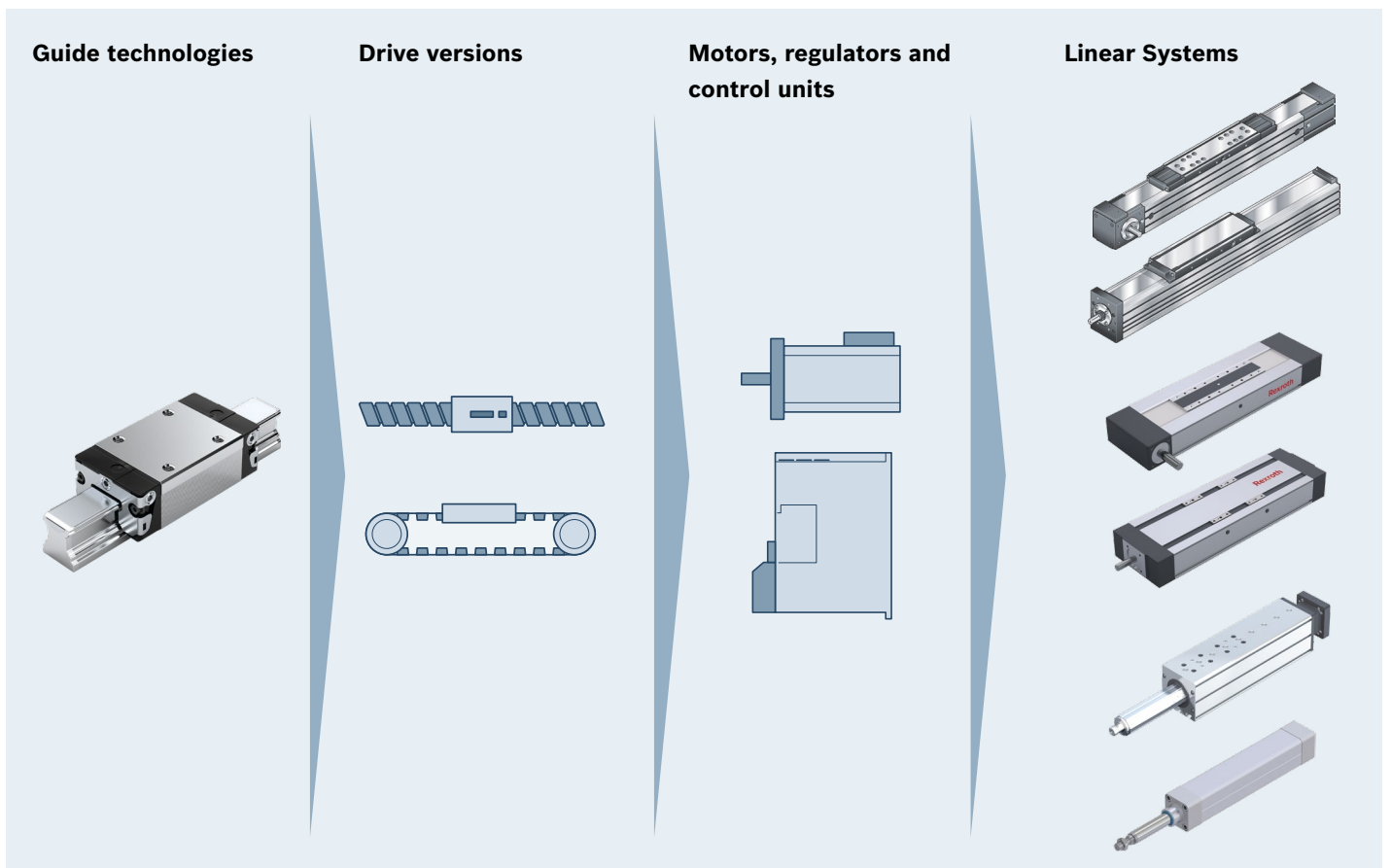
They help you to get ahead faster, more easily and much more efficiently. You can benefit especially from our comprehensive, long-standing expertise in the field of management technology and our associated development and manufacturing expertise. That is how, along with our special steel inserts technology 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.

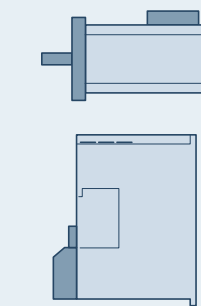
**Ball Screw Assemblies**

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 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**



**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)



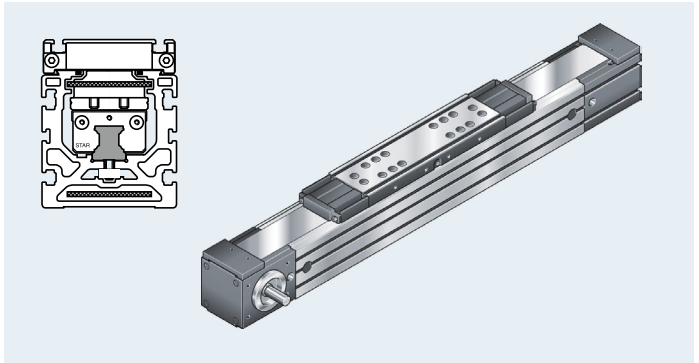
## Linear Modules MKx

Powerful linear axes as precise, ready-to-install guide systems with high performance features in a compact package - these are the key attributes of our linear modules. The integrated, play-free guidance systems with high load ratings provide optimal flow and, through the individual combination of different drives, also allow for the implementation of individual requirements, especially for moving large masses at high speed.

In terms of automation and handling, our ready-to-install modules offer distinct advantages versus self-made constructions using individual components. When configuring a linear module, you get a standard solution that has been proven many times in the field. Naturally every solution can be added on to, depending on your individual needs.

### Outstanding qualities

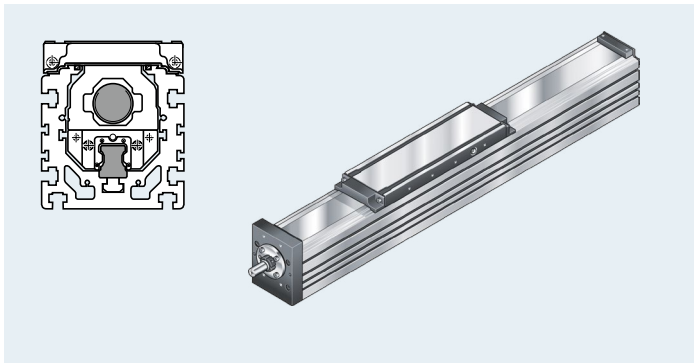
- ▶ **Precise, ready-to-install guide systems with high performance features in a compact format**
- ▶ **Extremely compact aluminum section** with excellent rigidity and integrated ball rail system
- ▶ Powerful **belt or ball screw drives** for reliable movements
- ▶ **High rigidity, therefore suitable for free-standing installation**
- ▶ Available **with a gear reducer or integrated gearbox** in different ratios including (a digital) **AC servo motor** with control units
- ▶ **Maintenance-free sealing system** thanks to gap seals and guiding of the toothed belt through the aluminum section (with closed axes)



### Linear Module MKR with belt drive

Linear Module for moving large masses at high speed with high load capacity and optimum flow. In order to implement processes with high moment loads. Toothed belt passed through the aluminum section.

Cover made of: Plastic strip (with MKR-065)  
Stainless-steel strip according to DIN EN 10088 (with MKR-080 and MKR-110)



### Linear Module MKK with Ball Screw Assembly

Linear Module with high feed forces, ideally suited for applications that require both high load capacity and high positioning accuracy.

Precision Ball Screw Assembly according to tolerance class 7 with backlash-free, cylindrical single nut.

Cover made of: Plastic strip (with MKK-065)  
Stainless-steel strip according to DIN EN 10088 (with MKK-080 and MKK-110)

**Detailed information:**

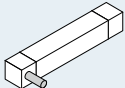
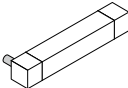
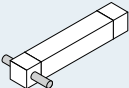
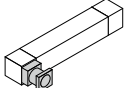
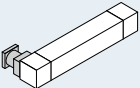
Linear Module catalog

**Technical data for MKR**

Size		MKR-065-NNG2	MKR-080-NNG2	MKR-110-NNG2
L <sub>max.</sub>	mm	3 000	3 000	3 000
Guide C	N	16 020	38 000	49 400
Motor MSK <sup>1)</sup>		030C, 040C	040C, 050C	060C, 076C

<sup>1)</sup> Optionally available

**Motor installation**

Models	MA01	MA02	MA03	MG01	MG02
					

For ordering information for the GoTo products, see page 96

**Detailed information:**

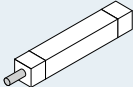
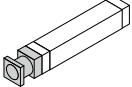
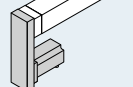
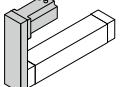
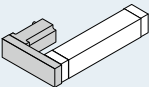
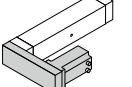
Linear Module catalog

**Technical data for MKK**

Size		MKK-065-NNG2		MKK-080-NNG2		MKK-110-NNG2		
BSA d <sub>0</sub> xP	mm	16x5	16x10	20x5	20x20	32x5	32x10	32x20
BSA C	N	12 300	9 600	14 300	13 300	21 500	31 700	19 700
L <sub>max.</sub>	mm	2 000	2 000	2 000	2 000	2 000	2 000	2 000
Guide C	N	16 020	16 020	38 000	38 000	46 500	46 500	46 500
Motor MSK <sup>1)</sup>		040C		040C, 050C		060C, 076C		

<sup>1)</sup> Optionally available

**Motor installation**

Models	OF01	MF01	RV01	RV02	RV03	RV04
						

For ordering information for the GoTo products, see page 96

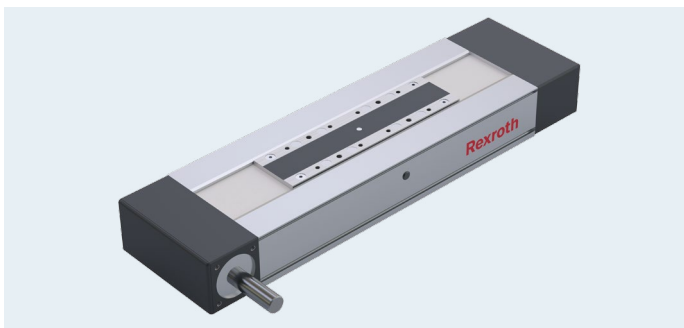
## Compact Modules CKx

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

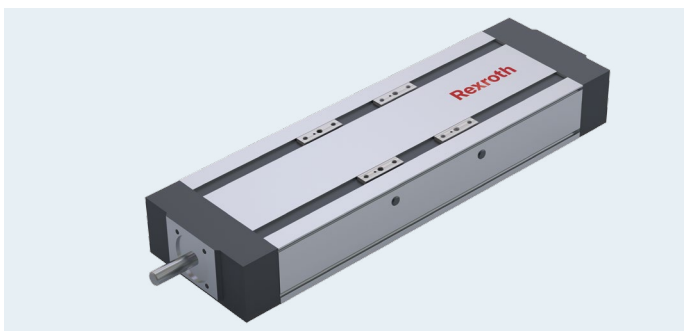
- ▶ **Particularly low profile** thanks to compact design with integrated rail systems and integrated runner block in the table section
- ▶ **Steel reinforcement technology** allows for the use of aluminum table parts to reduce the moving mass
- ▶ **High travel velocity** with high precision and smoothness
- ▶ **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.

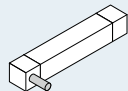
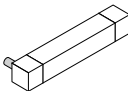
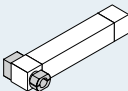
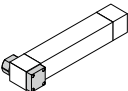
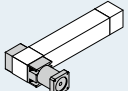
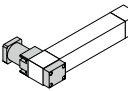
**Detailed information:**

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
						

For ordering information for the GoTo products, see page 97

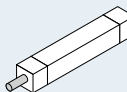
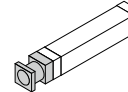
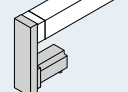
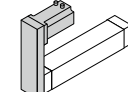
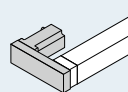
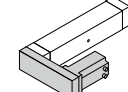
**Detailed information:**

Compact Module catalog

**Technical data for CKK**

Size		CKK-090-NNG1		CKK-110-NNG1			CKK-145-NNG1			CKK-200-NNG1			
BSA d <sub>0</sub> xP		12x5	12x10	16x5	16x10	16x16	20x5	20x20	25x10	32x5	32x10	32x20	32x32
BSA 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 97

## Feed Modules VKK

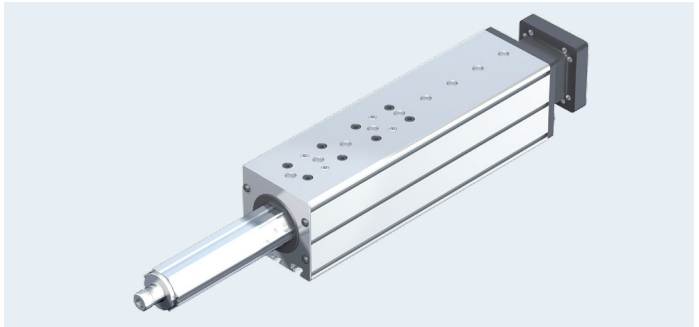
Rexroth Feed Modules VKK are precise, ready-to-install Linear Systems with high performance features in a compact format.

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.

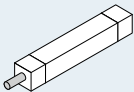
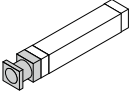
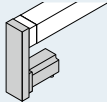
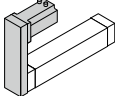
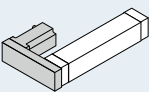
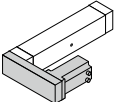
**Detailed information:**  
Feed Module VKK catalog

### Technical data

Size		VKK-050-NNG1			VKK-070-NNG1			VKK-100-NNG1		
BSA d <sub>0</sub> xP		12x5	12x10	16x5	16x10	16x16	20x5	20x20	25x10	
BSA 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, 360, 480	240, 280, 360, 480	280, 320, 400, 520, 600	280, 320, 400, 520, 600	280, 320, 400, 520, 600	360, 400, 480, 600, 680	360, 400, 480, 600, 680	360, 400, 480, 600, 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

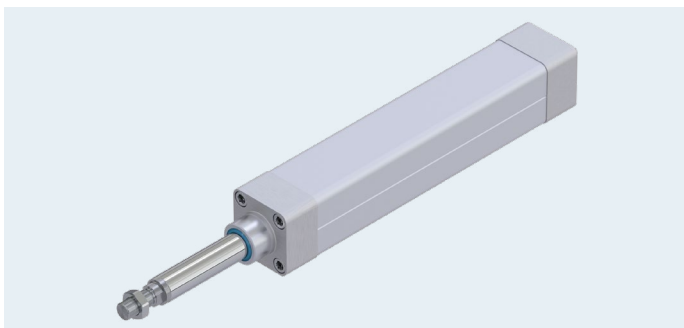
Models	OF01	MF01	RV01	RV02	RV03	RV04
						

## 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**

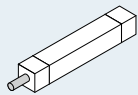
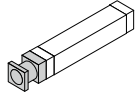
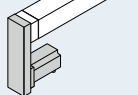
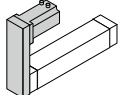
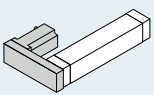
Size		EMC-032-NNG2			EMC-040-NNG2			EMC-050-NNG2			EMC-063-NNG2		
BSA d <sub>0</sub> x P	mm	12 x 5	12 x 10	16 x 5	16 x 10	16 x 16	20 x 5	20 x 10	20 x 20	25 x 5	25 x 10	25 x 25	
C	N	3 800	2 500	12 300	9 600	9 600	14 300	14 100	13 300	15 900	15 700	14 700	
F <sub>max</sub> <sup>1)</sup>	N	1 200	750	4 500	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			
BSA 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 99

## 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
	R039110257	Bracket, standard	CKx 110	CKx 110
	R039110259	Bracket, standard	CKx 145	CKx 145
	R039110176	Bracket, long right-side	CKx 145	CKx 110
	R039110177	Bracket, long right-side	CKx 145	CKx 145
	R039110182	Bracket, long left-side	CKx 145	CKx 110
	R039110183	Bracket, long left-side	CKx 145	CKx 145
	R039110264	Bracket	MKK_G-TT 065 <sup>1)</sup>	CKx 090
	R039110265	Bracket	MKx_N-TT 065 <sup>2)</sup>	CKx 090
	R039110266	Bracket	MKK_G-TT 065 <sup>1)</sup>	CKx 110
	R039110267	Bracket	MKx_N-TT 065 <sup>2)</sup>	CKx 110
	R039110268	Bracket	MKx_G-TT 080 <sup>1)</sup>	CKx 110
	R039110269	Bracket	MKx_N-TT 080 <sup>2)</sup>	CKx 110
	R039110270	Bracket	MKx_G-TT 080 <sup>1)</sup>	CKx 145
	R039110271	Bracket	MKx_N-TT 080 <sup>2)</sup>	CKx 145
	R039110272	Bracket	MKR_G-TT 110 <sup>1)</sup>	CKx 145
	R039110273	Bracket	MKx_N-TT 110 <sup>2)</sup>	CKx 145
	R039110274	Bracket	MKR_G-TT 110 <sup>1)</sup>	CKx 200
R039110275	Bracket	MKx_N-TT 110 <sup>2)</sup>	CKx 200	
<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	

<sup>1)</sup> Thread located in table section

<sup>2)</sup> Groove located in table section

# 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.

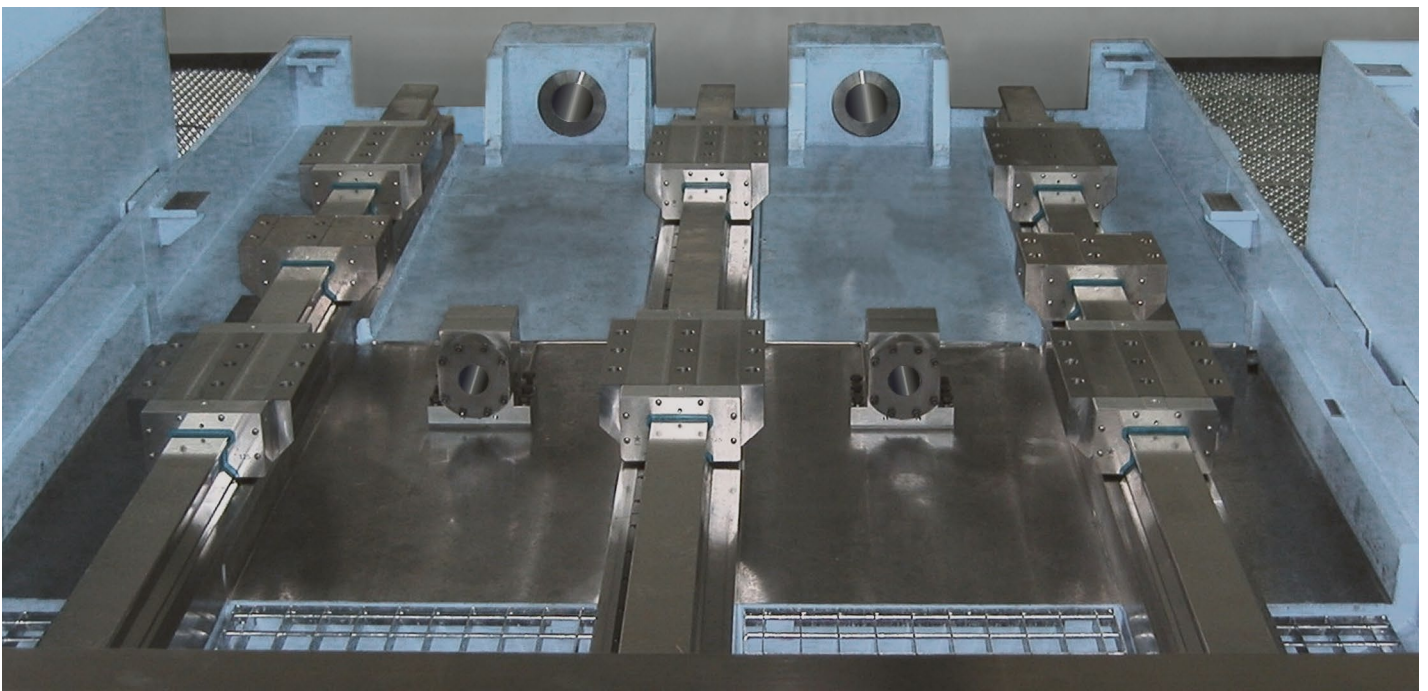
Further positive factors include exceptional precision and travel accuracy, regardless of the travel speed and load.

## **Roller Runner Blocks**

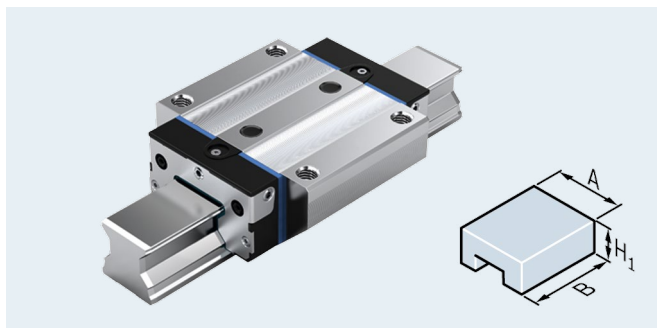
Rexroth Roller Runner Blocks have top rigidity in all load directions for best precision and high travel accuracy.

## **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
- ▶ RSHP model offers enhanced travel accuracy
- ▶ 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. Sizes 35 and 45 with RSHP version

### Detailed information:

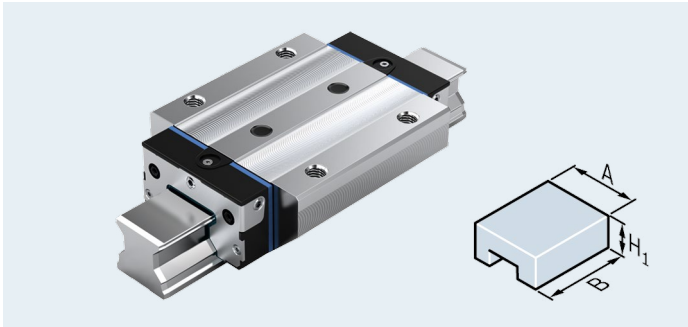
Roller Rail Systems catalog  
RSHP Roller Rail Systems catalog

### Technical data

Size		25 <sup>1)</sup>	35 RSHP	45 RSHP
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	3	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	0.8	2.15	4.05

<sup>1)</sup> RSHP version in preparation.

# Standard Roller Runner Blocks, steel, FLS, Type R1853



- ▶ For mounting from above and below
- ▶ High load-bearing capacity
- ▶ High rigidity
- ▶ RSHP model offers enhanced travel accuracy
- ▶ 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. Sizes 35 and 45 with RSHP version

### Detailed information:

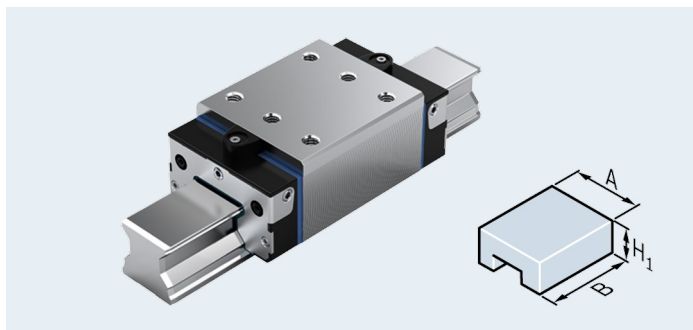
Roller Rail Systems catalog  
RSHP Roller Rail Systems catalog

## Technical data

Size		25 <sup>1)</sup>	35 RSHP	45 RSHP
C	N	33 300	74 900	132 300
M <sub>t</sub>	Nm	432	1 490	3 270
M <sub>L</sub>	Nm	420	1 220	2 690
v <sub>max</sub>	m/s	3	4	4
a <sub>max</sub>	m/s <sup>2</sup>	150	150	150
A	mm	70	100	120
B	mm	115.00	142.00	179.50
H <sub>1</sub>	mm	30	41	51
m	kg	1.1	2.70	5.15

<sup>1)</sup> RSHP version in preparation.

## Standard Roller Runner Blocks, steel, SNH, Type R1821



- ▶ For mounting from above
- ▶ High load-bearing capacity
- ▶ High rigidity
- ▶ RSHP model offers enhanced travel accuracy
- ▶ 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. Sizes 35 and 45 with RSHP version

### Detailed information:

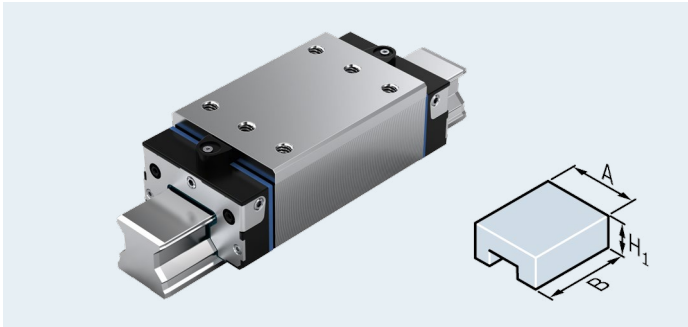
Roller Rail Systems catalog  
RSHP Roller Rail Systems catalog

### Technical data

Size		25 <sup>1)</sup>	35 RSHP	45 RSHP
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	3	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	0.6	1.85	3.35

<sup>1)</sup> RSHP version in preparation.

# Standard Roller Runner Blocks, steel, SLH, Type R1824



- ▶ For mounting from above
- ▶ High load-bearing capacity
- ▶ High rigidity
- ▶ RSHP model offers enhanced travel accuracy
- ▶ 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. Sizes 35 and 45 with RSHP version

### Detailed information:

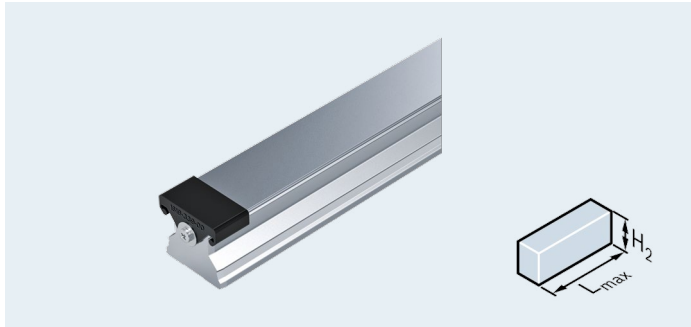
Roller Rail Systems catalog  
RSHP Roller Rail Systems catalog

## Technical data

Size		25 <sup>1)</sup>	35 RSHP	45 RSHP
C	N	33 300	74 900	132 300
M <sub>t</sub>	Nm	432	1 490	3 270
M <sub>L</sub>	Nm	420	1 220	2 690
v <sub>max</sub>	m/s	3	4	4
a <sub>max</sub>	m/s <sup>2</sup>	150	150	150
A	mm	48	70	86
B	mm	115	142	179
H <sub>1</sub>	mm	34	48	61
m	kg	0.9	2.35	4.45

<sup>1)</sup> RSHP version in preparation.

## 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:

RSHP Roller Rail Systems catalog

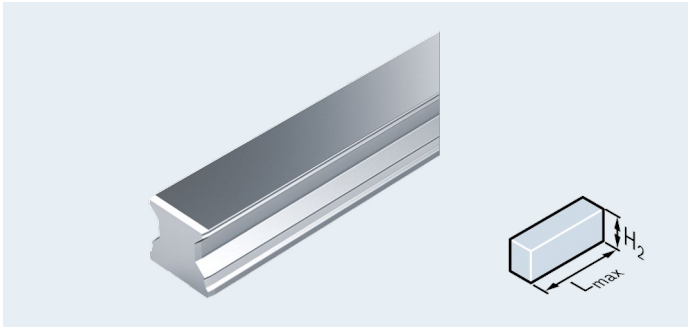
### Technical data

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

For ordering information for the GoTo products, see page 101



## 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:

RSHP Roller Rail Systems catalog

### Technical data

Size		25	35	45
$L_{\max}$	mm	3 986	3 996	3 986
$H_2$	mm	23.4	30.8	38.8
m	kg/m	3.1	6.3	10.3



# Ball Rail Systems

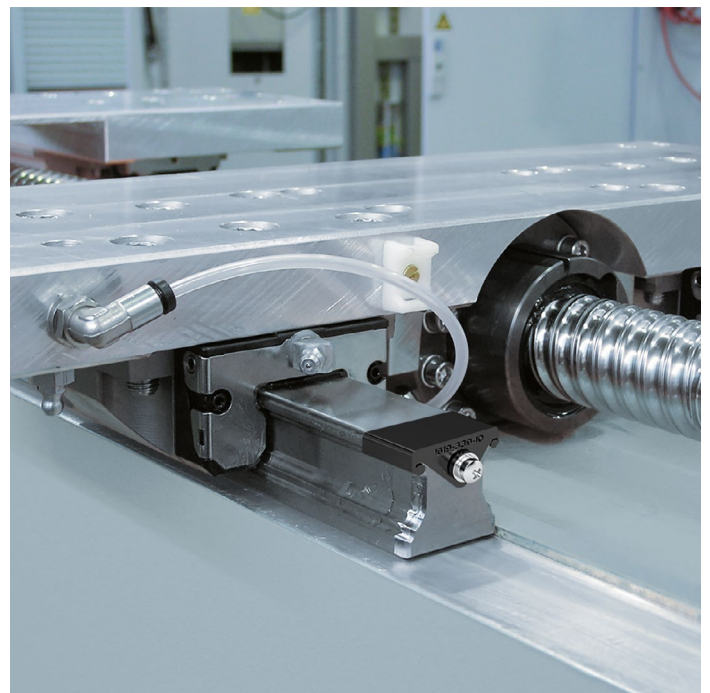
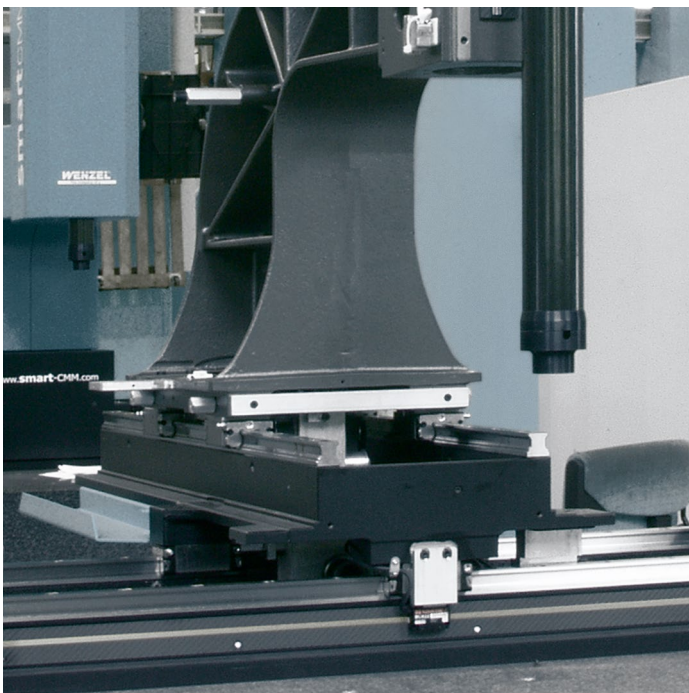
Rexroth Ball Rail Systems offer outstanding characteristics and are designed primarily for use in general machine construction and machine tools. Especially notable are their high performance and long life. The high-quality long-term lubrication concept and minimal-quantity lubrication systems combined 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

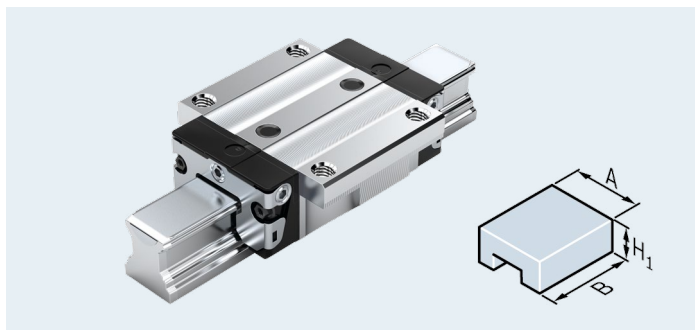
Ball Runner Blocks are available in many different sizes, design styles and versions, also including self-aligning models.

## 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:

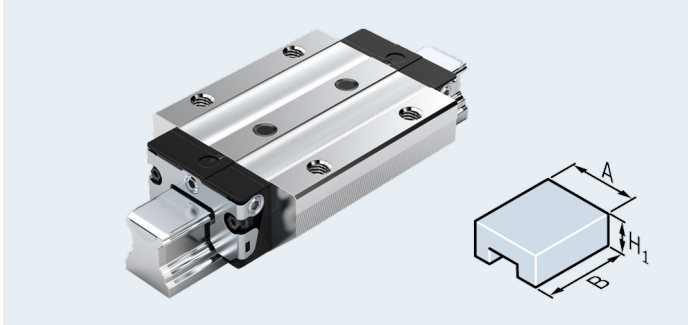
Ball Rail Systems catalog

## 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

For ordering information for the GoTo products, see page 102

# 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:

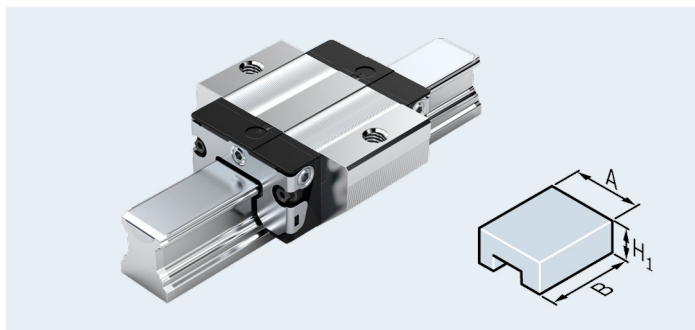
Ball Rail Systems catalog

## 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, Type 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

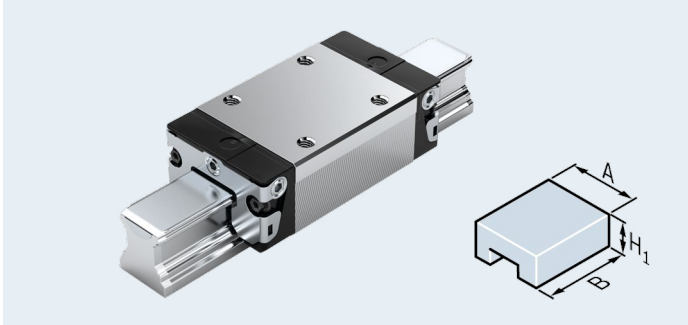
### Technical data

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.

For ordering information for the GoTo products, see page 103

# 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:

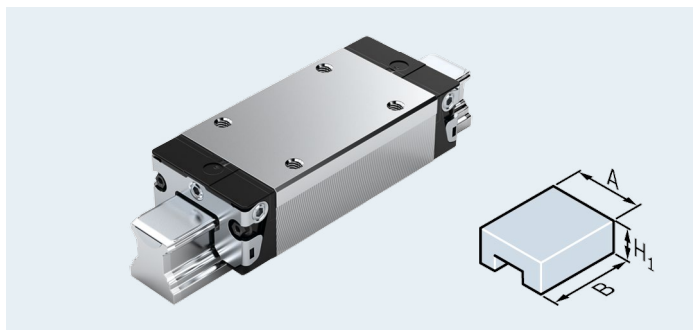
Ball Rail Systems catalog

## 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 104

# 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

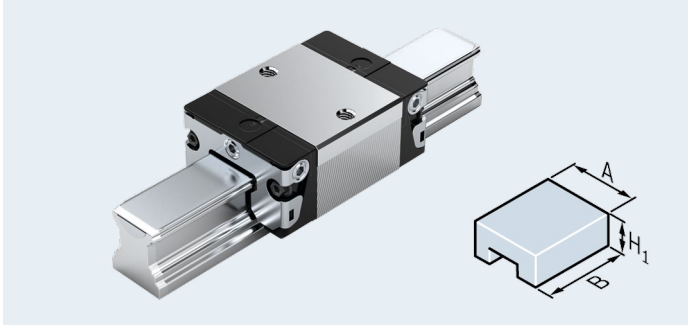
## Technical data

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.



# 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:

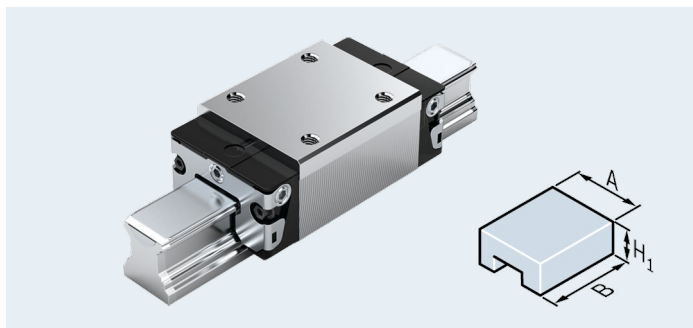
Ball Rail Systems catalog

## Technical data

Size		15	20	25	30	35
$C^{1)}$	N	6 720	15 400	19 800	25 600	36 600
$M_t^{1)}$	Nm	65	200	280	440	790
$M_L^{1)}$	Nm	29	83	130	200	340
A	mm	34	44	48	60	70
B	mm	44.7	57.3	67	75.3	84.9
$H_1$	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.

## 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

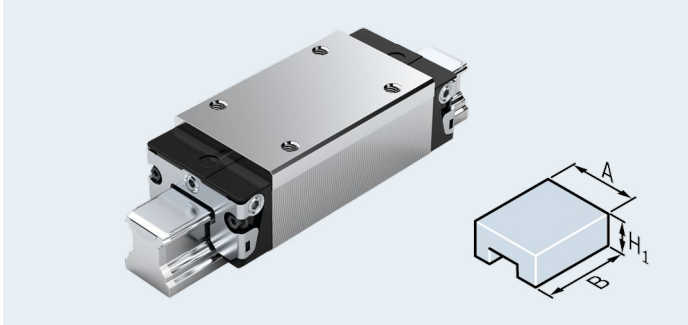
Size		15	25	30	35	45
C <sup>1)</sup>	N	9 860	28 600	36 500	51 800	86 400
M <sub>t</sub> <sup>1)</sup>	Nm	95	410	630	1 110	2 330
M <sub>L</sub> <sup>1)</sup>	Nm	68	290	440	720	1 540
A	mm	34	48	60	70	86
B	mm	58.2	86.2	97.7	110.5	137.6
H <sub>1</sub>	mm	23.9	33.9	38.35	47.4	60.3
m	kg	0.2	0.6	0.95	1.55	3

<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 105

Bosch Rexroth AG, R310EN 2060, 2017-04

# 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:

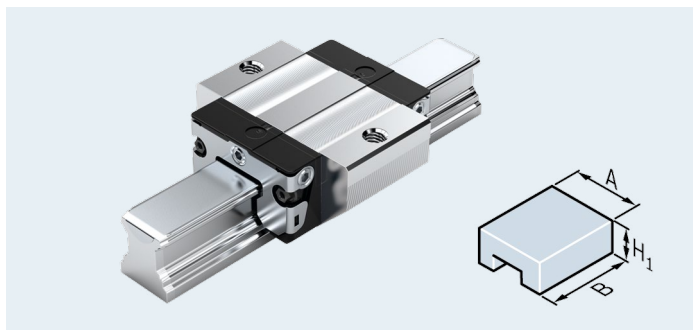
Ball Rail Systems catalog

## Technical data

Size		25	30	35	45
$C^{1)}$	N	37 300	46 000	66 700	111 000
$M_t^{1)}$	Nm	530	800	1 440	3 010
$M_L^{1)}$	Nm	530	740	1 290	2 730
A	mm	48	60	70	86
B	mm	107.9	119.7	139	174.1
$H_1$	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.

# 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

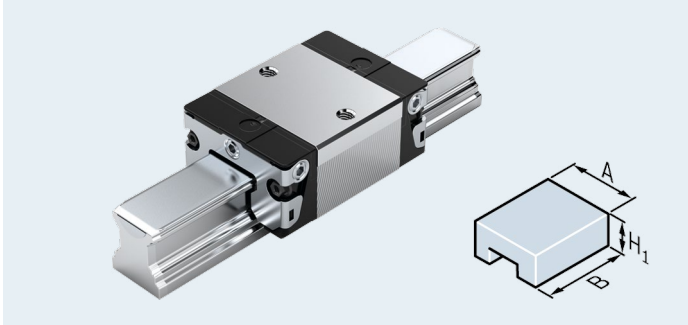
Size		15	20	25	30	35
C <sup>1)</sup>	N	3 900	10 100	11 400	15 800	21 100
F <sub>max</sub> <sup>1)</sup>	N	1 500	3 900	4 400	6 100	8 100
M <sub>t</sub> <sup>1)</sup>	Nm	39	130	170	270	450
M <sub>t max</sub> <sup>1)</sup>	Nm	15	50	65	105	175
A	mm	47	63	70	90	100
B	mm	44.7	57.3	67.0	75.3	84.9
H <sub>1</sub>	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 107

Bosch Rexroth AG, R310EN 2060, 2017-04

# 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 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:

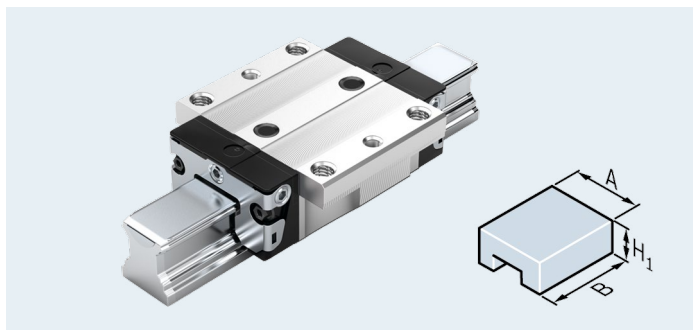
Ball Rail Systems catalog

## Technical data

Size		15	20	25	30	35
$C^{1)}$	N	3 900	10 100	11 400	15 800	21 100
$F_{\max}^{1)}$	N	1 500	3 900	4 400	6 100	8 100
$M_t^{1)}$	Nm	39	130	170	270	450
$M_{t \max}^{1)}$	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
$H_1$	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.

# 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

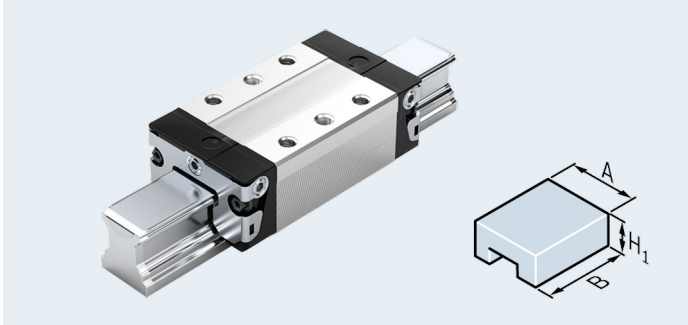
Size		15	20	25	30	35
$C^{1)}$	N	9 860	23 400	28 600	36 500	51 800
$F_{\max}^{1)}$	N	3 000	7 200	8 800	12 200	16 200
$M_t^{1)}$	Nm	95	300	410	630	1 110
$M_{t \max}^{1)}$	Nm	29	92	125	210	345
$M_L^{1)}$	Nm	68	200	290	440	720
$M_{L \max}^{1)}$	Nm	16	50	70	110	170
A	mm	47	63	70	90	100
B	mm	58.2	75	86.2	97.7	110.5
$H_1$	mm	19.9	25.35	29.9	35.35	40.4
m	kg	0.1	0.24	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 108

Bosch Rexroth AG, R310EN 2060, 2017-04

# 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:

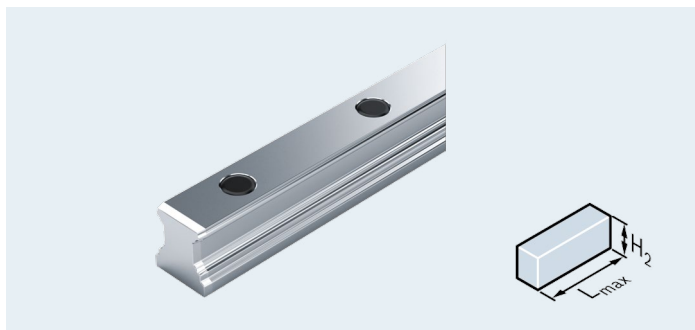
Ball Rail Systems catalog

## 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.

## 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:

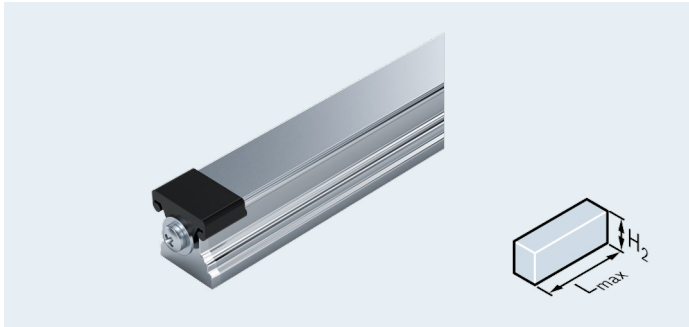
Ball Rail Systems catalog

### 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



## 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.

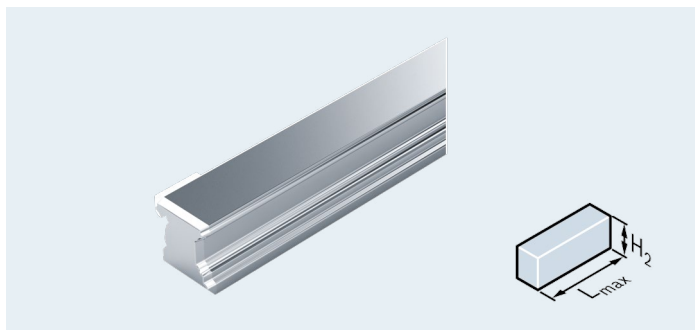
### Detailed information:

Ball Rail Systems catalog

### Technical data

Size		15	20	25	30	35	45
$L_{max}$	mm	3 836	3 836	3 836	3 836	3 836	3 776
$H_2$	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

## 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.

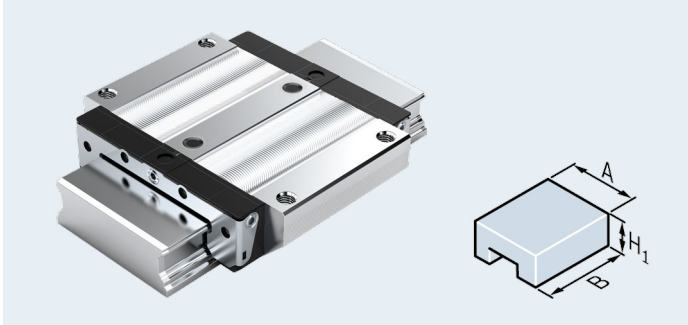
### Detailed information:

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

## 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:

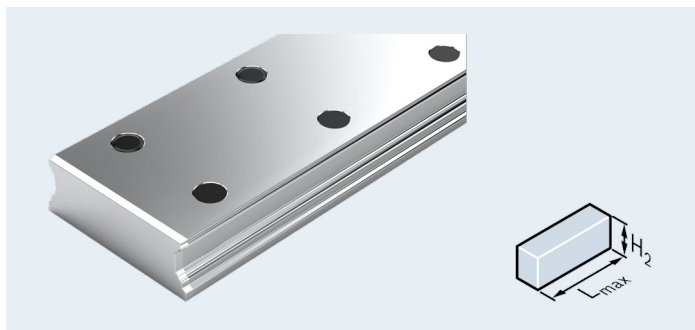
Ball Rail Systems catalog

### Technical data

Size		20/40	25/70	35/90
$C^{1)}$	N	14 900	36 200	70 700
$M_t^{1)}$	Nm	340	1 350	3 500
$M_L^{1)}$	Nm	140	490	1 470
A	mm	80	120	162
B	mm	73	105	142
$H_1$	mm	22.50	29.75	42.50
m	kg	0.4	1.2	3.7
$v_{max}$	m/s	5	5	3
$a_{max}$	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.

## 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

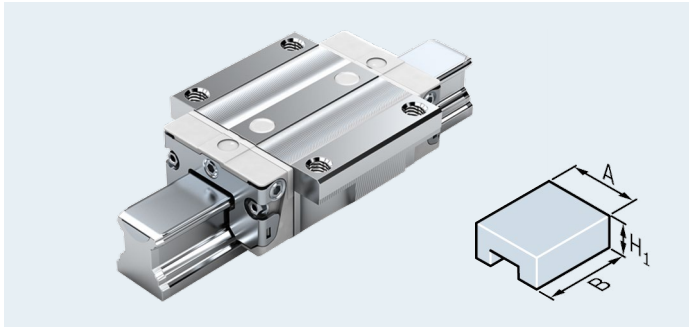
### Technical data

Size		20/40	25/70	35/90
$L_{max}$	mm	3 836	3 836	3 836
$H_2$	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 110

Bosch Rexroth AG, R310EN 2060, 2017-04

# Standard Ball Runner Blocks NRFNG, 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:

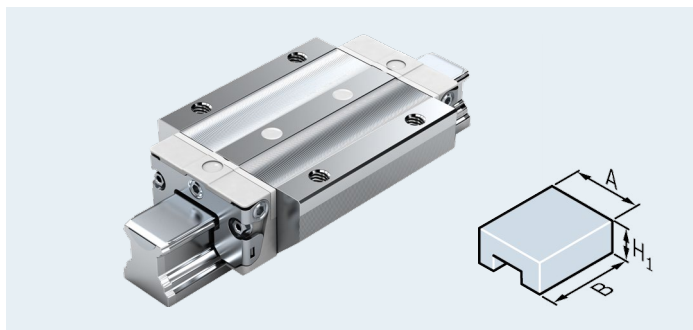
NRFNG Ball Rail Systems catalog

## 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.

## 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:

NRFG Ball Rail Systems catalog

### Technical data

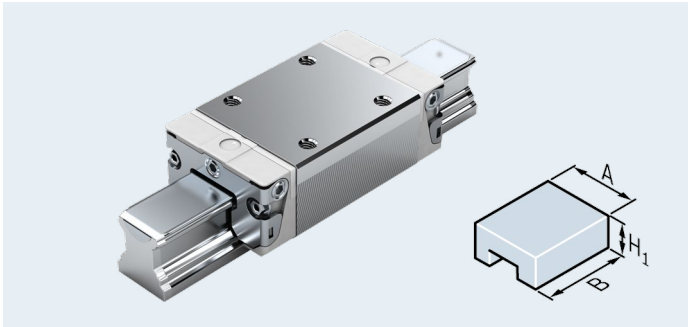
Size		15	20	25	30	35
C <sup>1)</sup>	N	8 500	16 000	20 000	26 300	36 500
M <sub>t</sub> <sup>1)</sup>	Nm	82	265	365	590	1 025
M <sub>L</sub> <sup>1)</sup>	Nm	64	190	290	420	710
A	mm	47	63	70	90	100
B	mm	72.6	91.0	107.9	119.7	139.0
H <sub>1</sub>	mm	19.90	25.35	29.90	35.35	40.40
m	kg	0.30	0.55	0.90	1.50	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 110

Bosch Rexroth AG, R310EN 2060, 2017-04

# Standard Ball Runner Blocks NRF, 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:

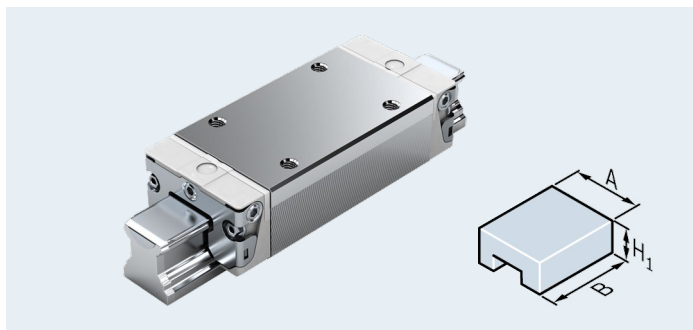
NRF, Ball Rail Systems catalog

## 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.

## Standard Ball Runner Blocks NRRFG, 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:

NRRFG Ball Rail Systems catalog

### Technical data

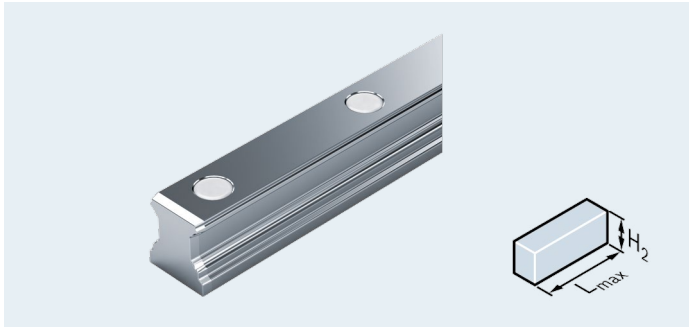
Size		15	20	25	30	35
C <sup>1)</sup>	N	8 500	16 000	20 000	26 300	36 500
M <sub>t</sub> <sup>1)</sup>	Nm	82	265	365	590	1 025
M <sub>L</sub> <sup>1)</sup>	Nm	64	190	290	420	710
A	mm	34	44	48	60	70
B	mm	72.6	91.0	107.9	119.7	139.0
H <sub>1</sub>	mm	19.90	25.35	29.90	35.35	40.40
m	kg	0.20	0.45	0.65	1.10	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 110



## 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:

NRFG Ball Rail Systems 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



# Miniature Ball Rail Systems

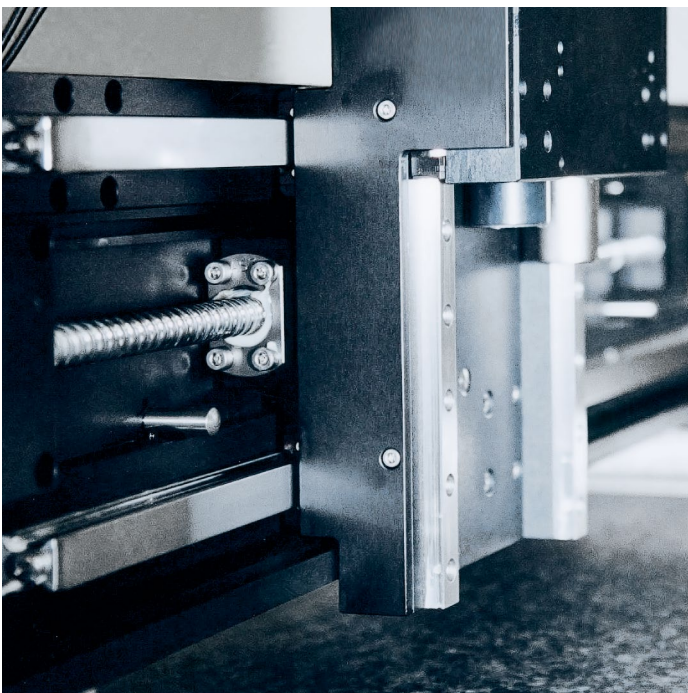
The miniature versions of the Ball Rail Systems were developed specifically for compact applications in medical and automation technology and for the electrical industry. These industries in particular often require rolling-element linear guides with extremely small dimensions but high load capacities. 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

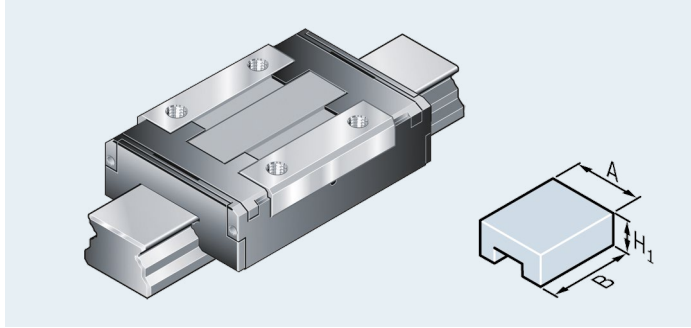
High load capacities in all load directions, including moments about all axes, due to the use of largest possible ball sizes.

## Miniature Ball Guide Rails

Utmost precision thanks to highly accurate machining.



# Miniature Ball Runner Block, 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:

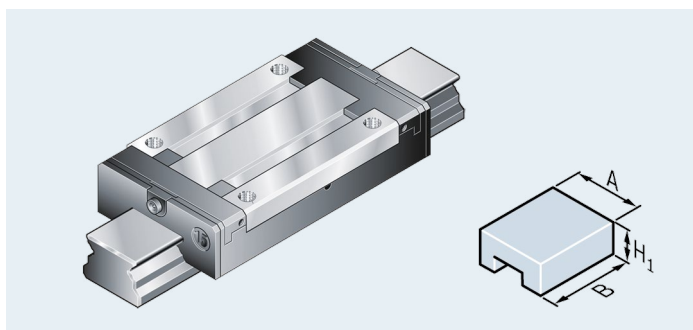
Miniature Ball Rail Systems catalog

## Technical data

Size		7	9	12	15	20
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 111

## 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.

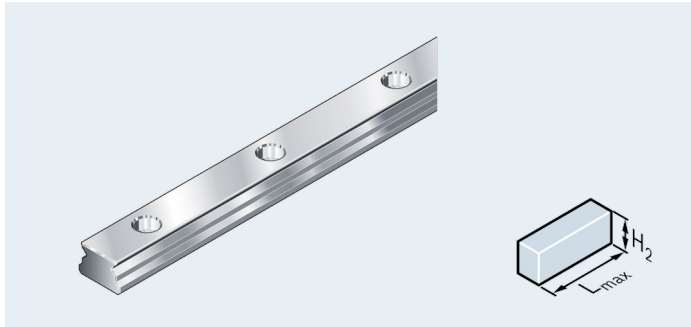
### Detailed information:

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

## 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

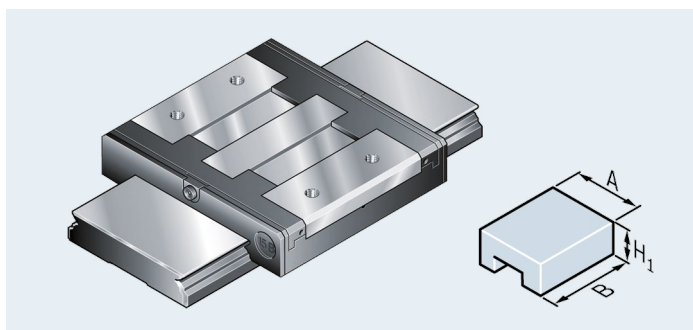
### Technical data

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 111

Bosch Rexroth AG, R310EN 2060, 2017-04

## 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.

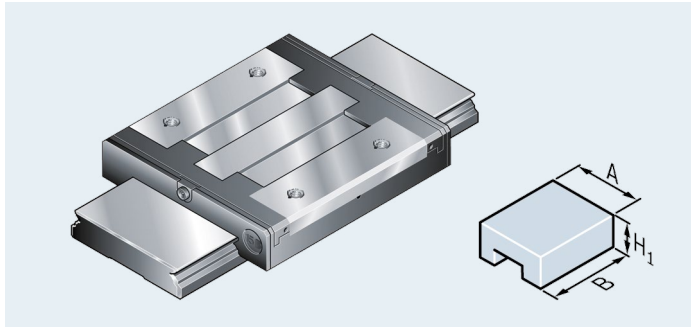
### Detailed information:

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

# 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

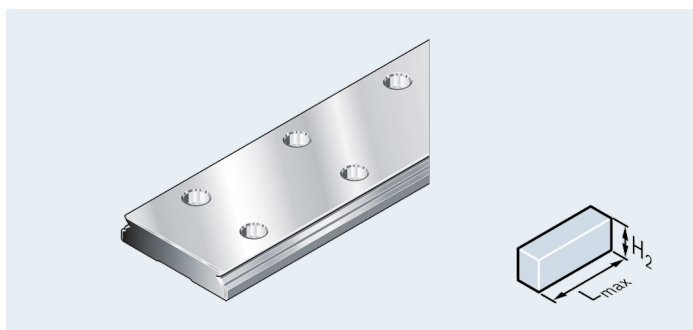
## Technical data

Size		<b>9</b>	<b>12</b>	<b>15</b>
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 112



## 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

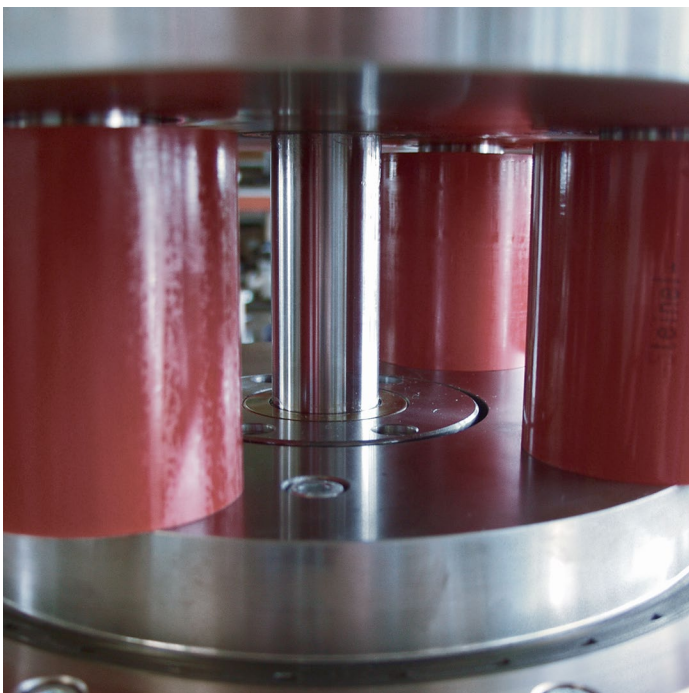


# Linear Bushings and Shafts

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

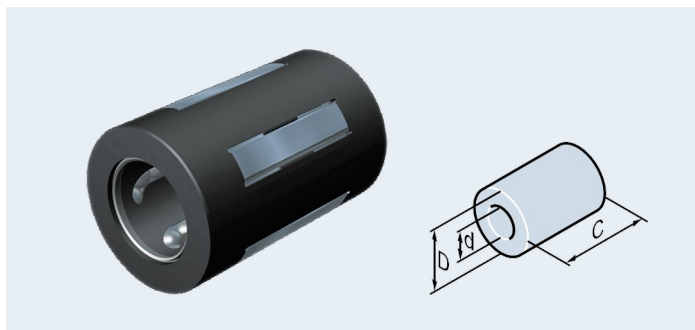
Utmost precision thanks to highly accurate machining. Ready-to-mount units for cost-effective implementation.

## 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:

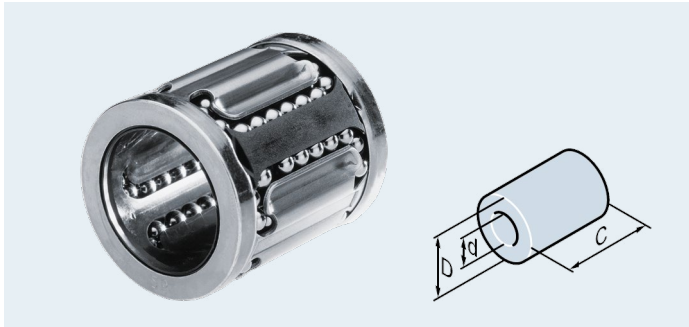
Linear Bushings catalog

### 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 112

## 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

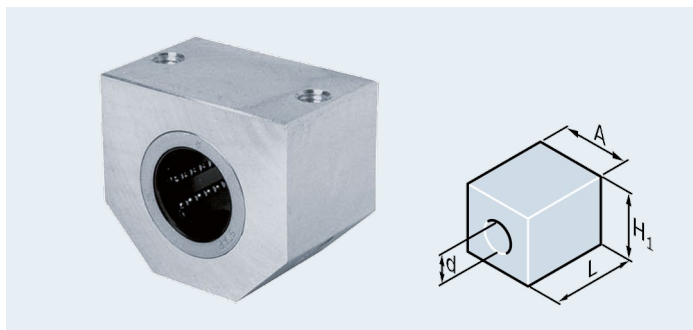
Space-saving Linear Bushings with small outside dimensions for especially compact constructions. High load capacities and long service life due to hardened segmental steel plates with ball conformity in the running track. Many pockets acting as lubricant reservoirs for extended lubrication intervals 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

## 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

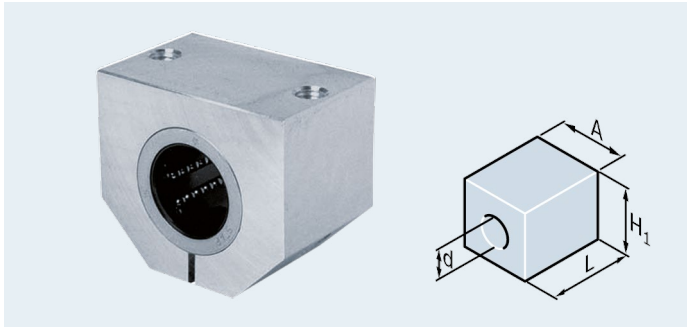
Shaft diameter d	mm	12	16	20	25	30	40	50
C <sup>1)</sup>	N	810	1 050	1 410	2 930	3 850	6 830	7 180
C <sup>1)</sup> corrosion-resistant	N	570	730	990	2 050	2 700	4 470	5 030
C <sub>0</sub> <sup>1)</sup>	N	490	570	900	1 950	2 790	4 650	5 350
C <sub>0</sub> <sup>1)</sup> corrosion-resistant	N	390	460	720	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 113

Bosch Rexroth AG, R310EN 2060, 2017-04

# 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:

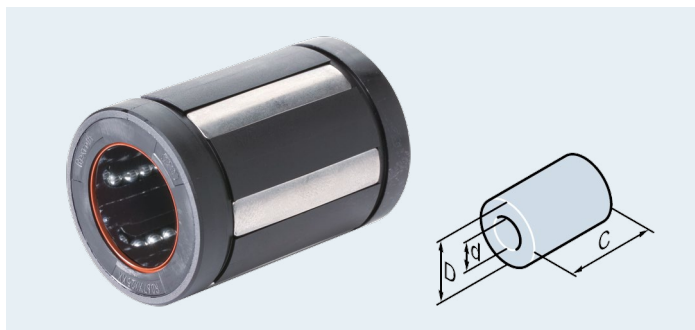
Linear Bushings catalog

## 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.

## 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

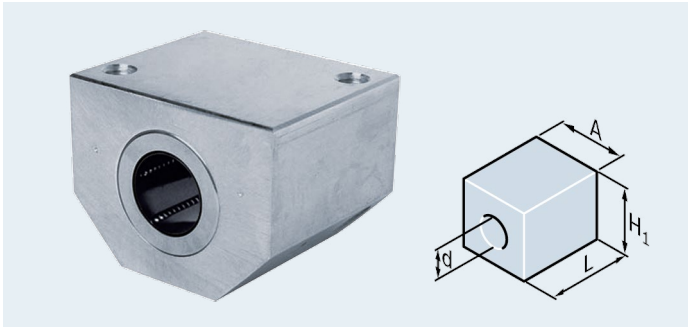
### Technical data

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).



# 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:

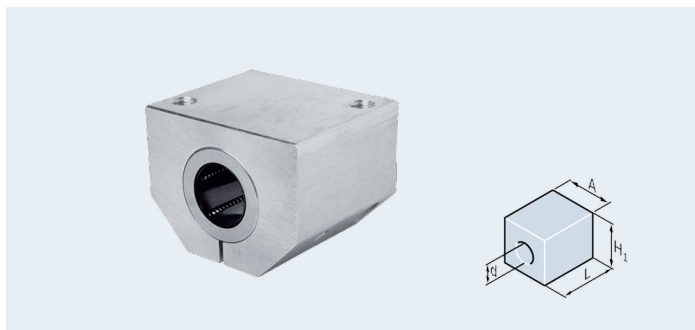
Linear Bushings catalog

## 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.

## 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

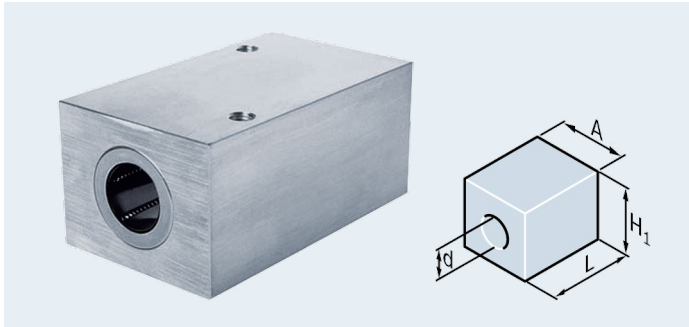
Shaft diameter d	mm	12	16	20	25	30	40	50
C <sup>1)</sup>	N	1 020	1 250	2 470	4 820	5 860	10 070	14 730
C <sub>0</sub> <sup>1)</sup>	N	490	620	1 340	2 790	3 570	5 570	8 280
H <sub>1</sub>	mm	35	42	50	60	70	90	105
L	mm	39	43	54	67	79	91	113
A	mm	42	53	60	78	87	108	132
m	kg	0.13	0.20	0.34	0.65	0.97	1.80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

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

For ordering information for the GoTo products, see page 114

Bosch Rexroth AG, R310EN 2060, 2017-04

# 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

The 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:

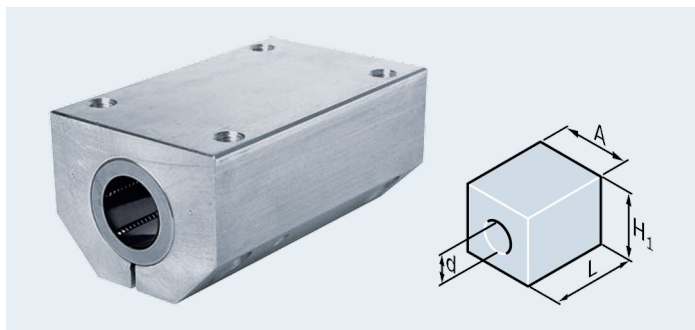
Linear Bushings catalog

## 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.

## 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

The 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:

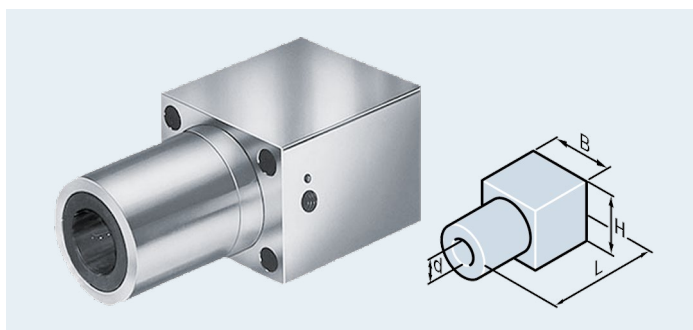
Linear Bushings catalog

### 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.

## 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

The 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:

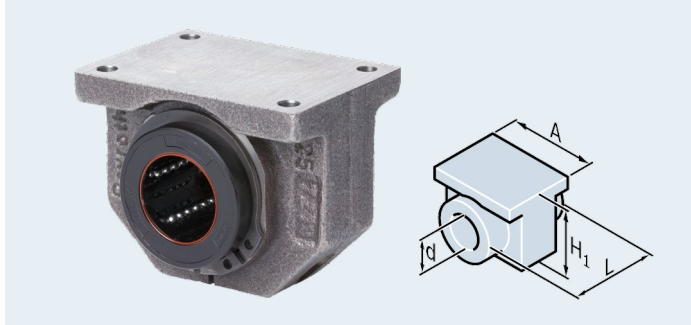
Linear Bushings catalog

### 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.

## 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

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

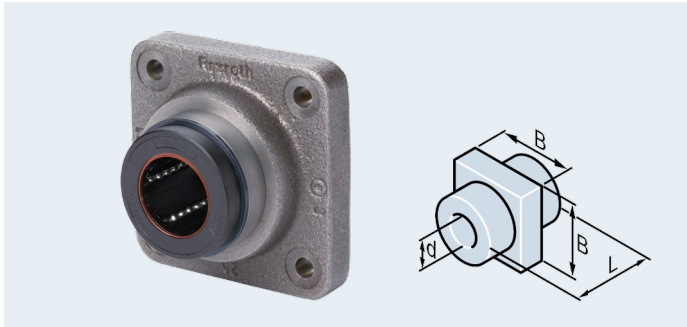
Shaft diameter d	mm	20	30	40
C <sup>1)</sup>	N	2 470	5 860	10 070
C <sub>0</sub> <sup>1)</sup>	N	1 340	3 570	5 570
H <sub>1</sub>	mm	50	70	90
L	mm	45	68	80
A	mm	60	74	84
m	kg	0.41	1.19	2.26

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

For ordering information for the GoTo products, see page 114

Bosch Rexroth AG, R310EN 2060, 2017-04

## 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

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.

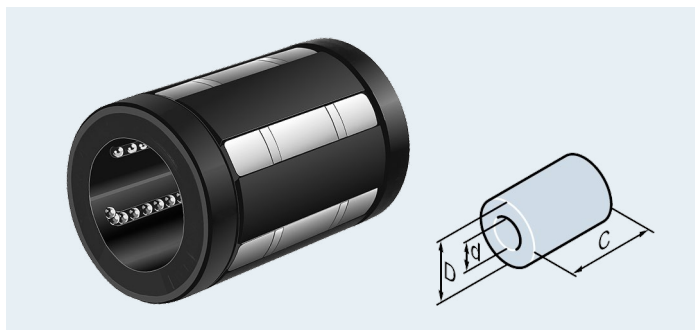
### Detailed information:

Linear Bushings catalog

### Technical data

Shaft diameter d	mm	16	20	25	30	40	50
C	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

## 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

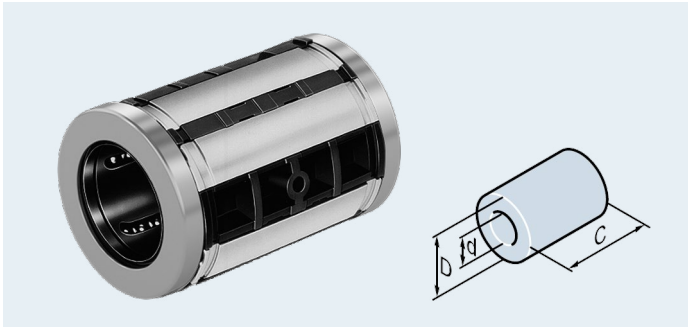
<sup>1)</sup> Up to 5 m/s possible (increased wear on the plastic parts).

For ordering information for the GoTo products, see page 115

Bosch Rexroth AG, R310EN 2060, 2017-04



## 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.

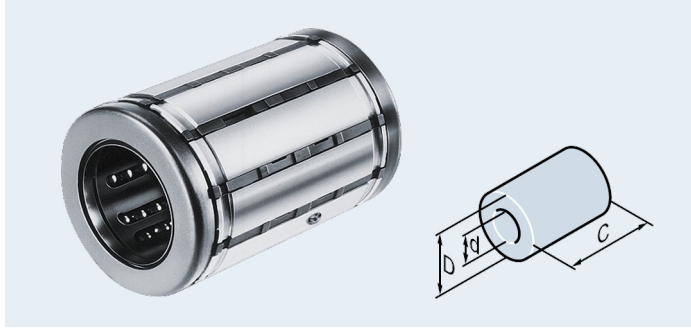
### Detailed information:

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

## 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

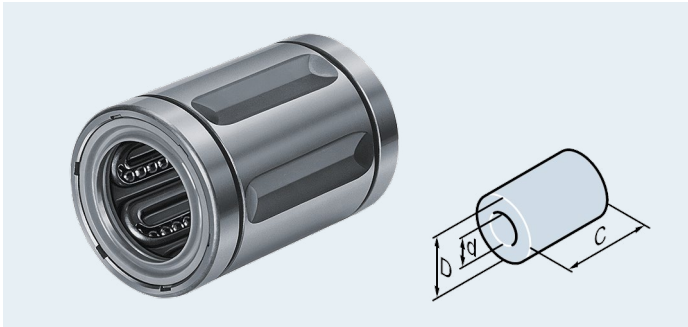
### Technical data

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

For ordering information for the GoTo products, see page 115

Bosch Rexroth AG, R310EN 2060, 2017-04

## 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.

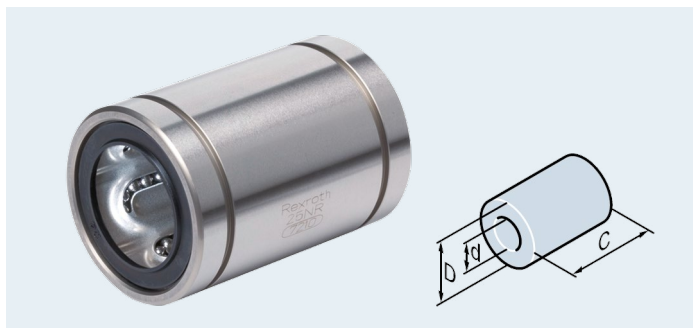
### Detailed information:

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

## 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:

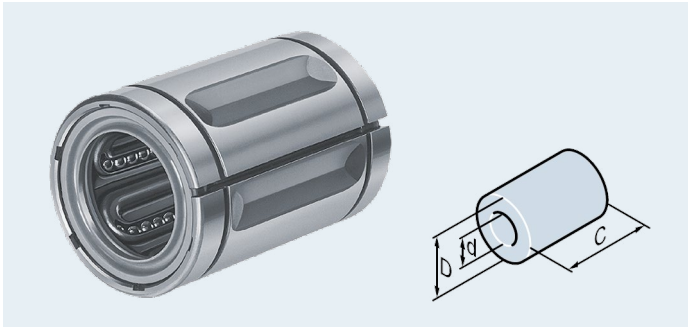
Linear Bushings catalog

### 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 115

## 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.

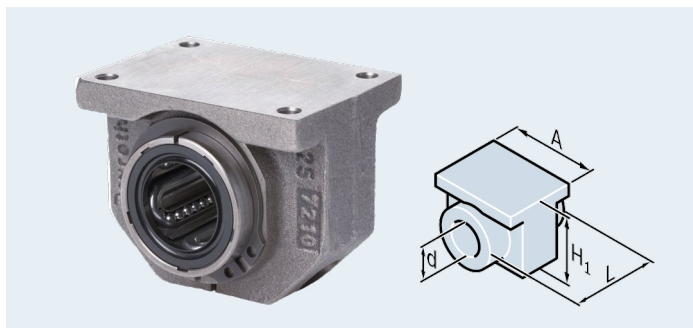
### Detailed information:

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

## 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.

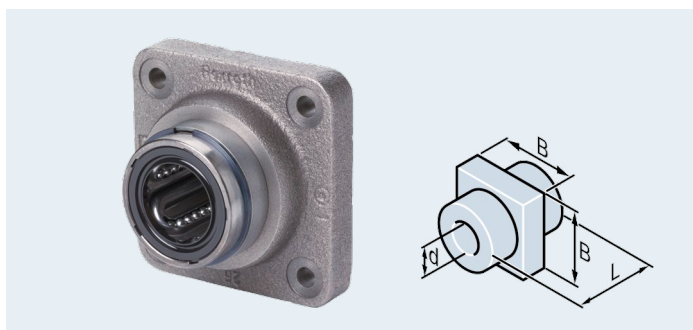
**Detailed information:**  
Linear Bushings catalog

### 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:

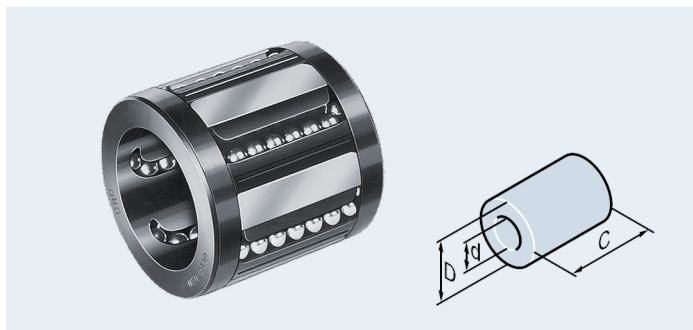
Linear Bushings catalog

### 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.

## 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

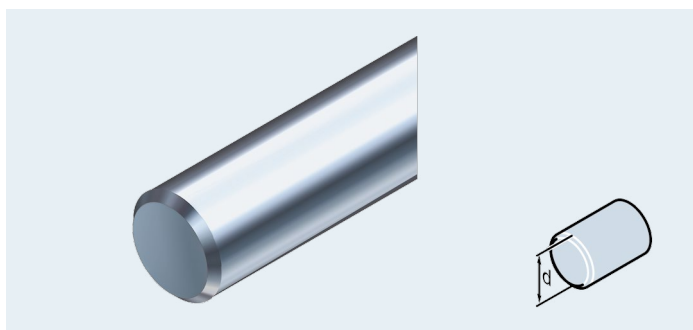
### Technical data

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 116



## 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:

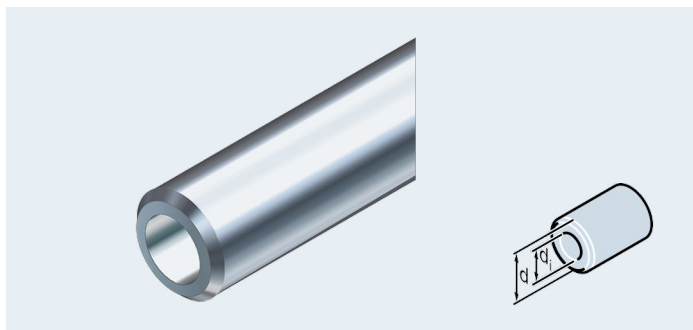
Linear Bushings catalog

### 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

## 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:

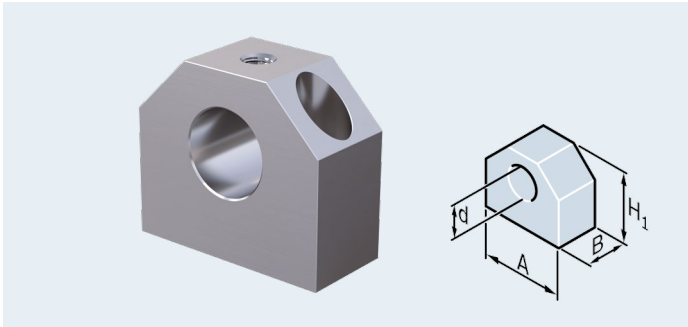
Linear Bushings catalog

### Technical data

Shaft diameter d	mm	25	30	40	50
Heat-treated steel		✓	✓	✓	✓
Hard chrome plated			✓	✓	✓
d <sub>i</sub> (approx.)	mm	14	19	26.5	29.6
m	kg/m	2.63	3.30	5.50	9.95
L <sub>max</sub>	mm	5 900	5 900	5 900	5 900

For ordering information for the GoTo products, see page 117

## 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.

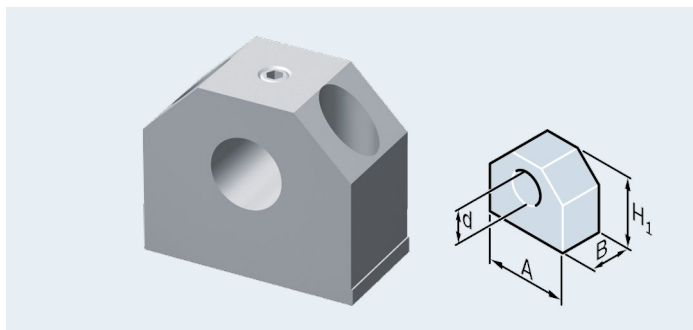
### Detailed information:

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

## 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



# 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.

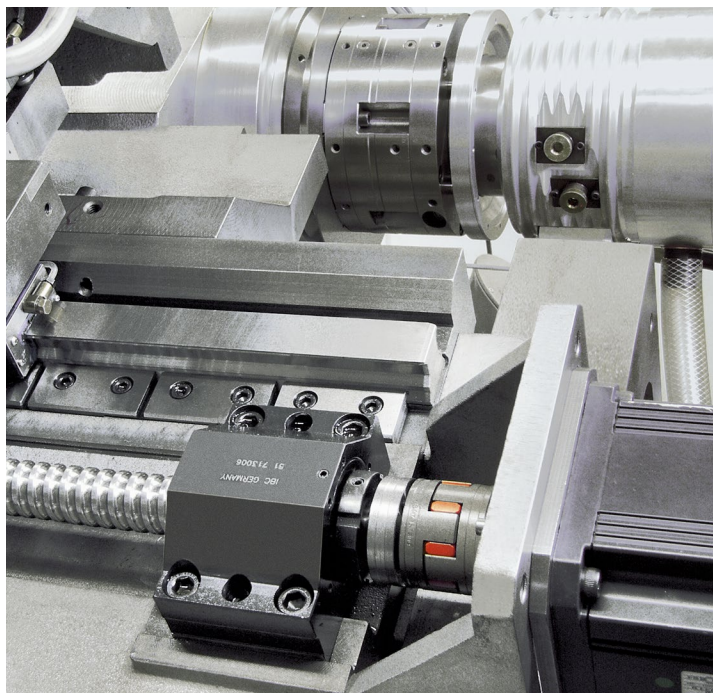
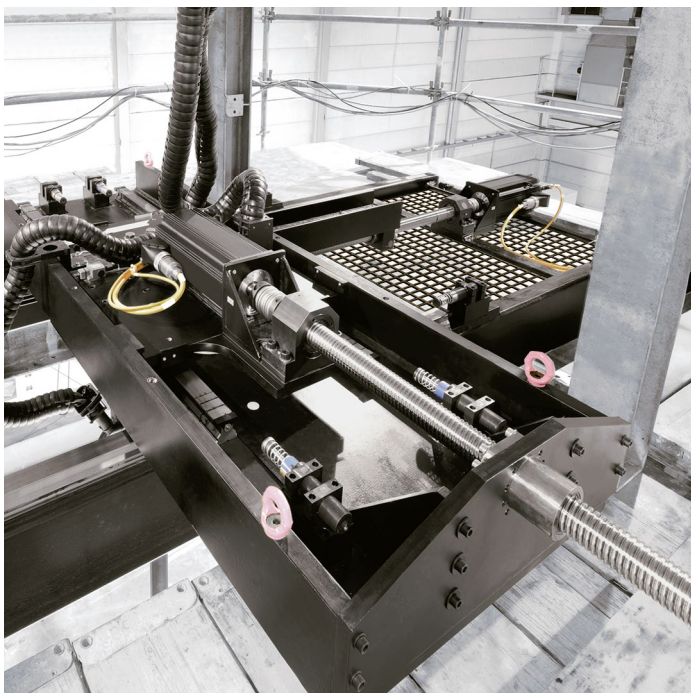
## Ball Nuts

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.

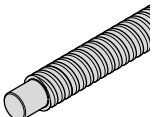
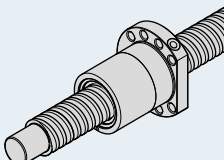
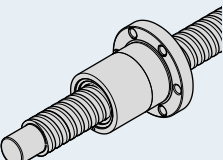
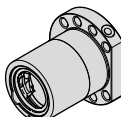
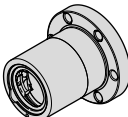
## Precision Ball Screws

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

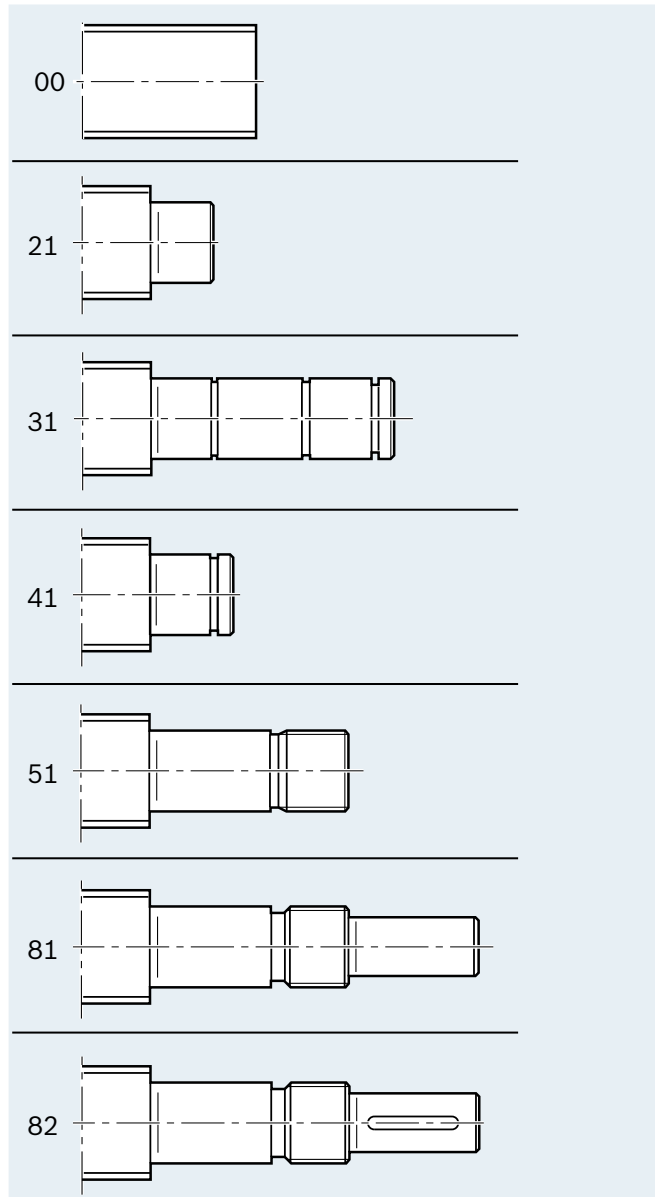
Sizes $d_0 \times P$	Complete BASA		BASA Nut	
	FEM-E-C	FEM-E-S	FEM-E-C	FEM-E-S
				
8 x 2.5R	-	-	-	✓
12 x 5R	-	-	-	✓
16 x 5R	✓	✓	✓	✓
16 x 10R	✓	✓	✓	✓
16 x 16R	✓	✓	✓	✓
20 x 5R	✓	✓	✓	✓
20 x 10R	✓	✓	✓	✓
20 x 20R	✓	✓	✓	✓
25 x 5R	✓	✓	✓	✓
25 x 10R	✓	✓	✓	✓
25 x 25R	✓	✓	✓	✓
32 x 5R	✓	✓	✓	✓
32 x 10R	✓	✓	✓	✓
32 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, 2 % pre-loading
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

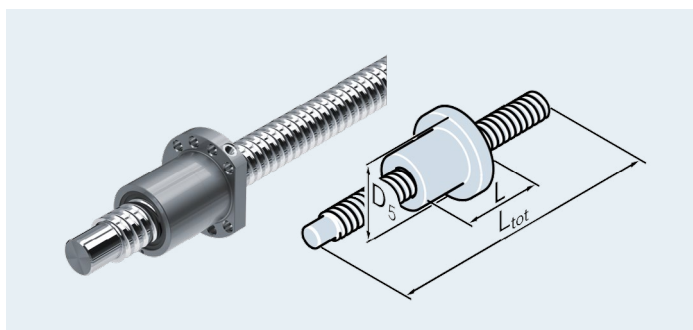


### Features

- Beveled screw ends



## Complete BASA with Flanged Single Nuts FEM-E-C, standard, type R1502



- ▶ Standard seals
- ▶ Connection dimensions as per DIN 69051, Part 5
- ▶ With backlash, reduced backlash, 2 % 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:

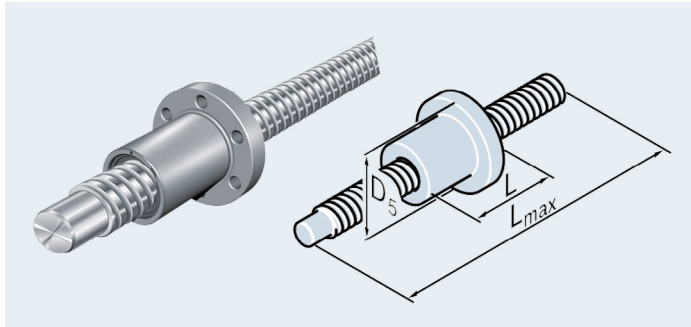
as per Screw Assemblies catalog

### Technical data

Size		16x5R	16x10R	16x16R	20x5R	20x10R	20x20R	25x5R	25x10R	25x25R
C	N	12 300	9 600	9 300	14 300	14 100	13 300	15 900	15 700	14 700
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	21 600	31 700	19 700	19 500	29 100	50 000	37 900	37 900
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

## Complete BASA with Flanged Single Nuts FEM-E-S, standard, type R1512



- ▶ Standard seals
- ▶ Rexroth connection dimensions
- ▶ With backlash, reduced backlash, 2 % 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:

as per Screw Assemblies catalog

### Technical data

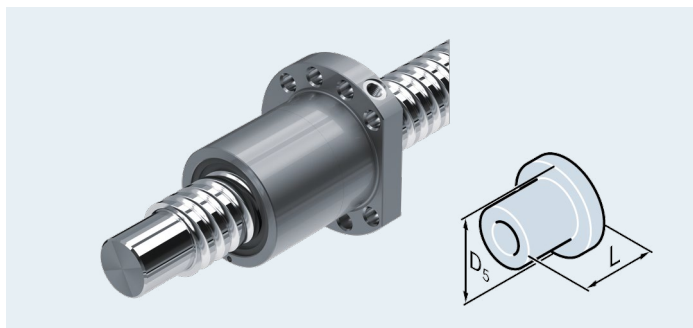
Size		16x5R	16x10R	16x16R	20x5R	20x10R	20x20R	25x5R	25x10R	25x25R
C	N	12 300	9 600	6 300	14 300	14 100	9 100	15 900	15 700	10 100
D <sub>5</sub>	mm	48	48	48	58	58	62	62	62	62
L <sub>max</sub>	mm	1 500	1 500	1 500	1 500	1 500	1 500	2 500	2 500	2 500
v <sub>max</sub>	m/s	30	60	96	30	60	120	30	60	150

Size		32x5R	32x10R	32x20R	32x32R	40x5R	40x10R	40x20R	40x40R
C	N	21 600	31 700	13 500	13 400	29 100	50 000	37 900	25 500
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 118

Bosch Rexroth AG, R310EN 2060, 2017-04

## Flanged Single Nuts FEM-E-C, standard, type R1502



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

### Features

- ▶ High axial load-bearing capacity
- ▶ Highly dynamic
- ▶ High rigidity
- ▶ For precision-rolled 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:

as per Screw Assemblies catalog

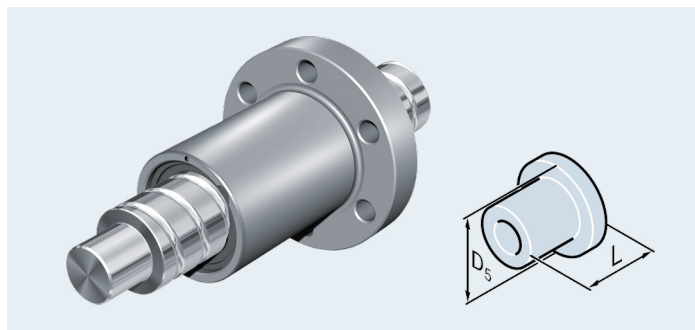
### Technical data

Size		16x5R	16x10R	16x16R	20x5R	20x10R	20x20R	25x5R	25x10R	25x25R
C	N	12 300	9 600	9 300	14 300	14 100	13 300	15 900	15 700	14 700
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	21 600	31 700	19 700	19 500	29 100	50 000	37 900	37000
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 119

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



- ▶ Standard seals
- ▶ Rexroth connection dimensions
- ▶ With backlash
- ▶ Reinforced seals optionally available

### Features

- ▶ High axial load-bearing capacity
- ▶ Highly dynamic
- ▶ High rigidity
- ▶ For precision-rolled 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:

as per Screw Assemblies catalog

### Technical data

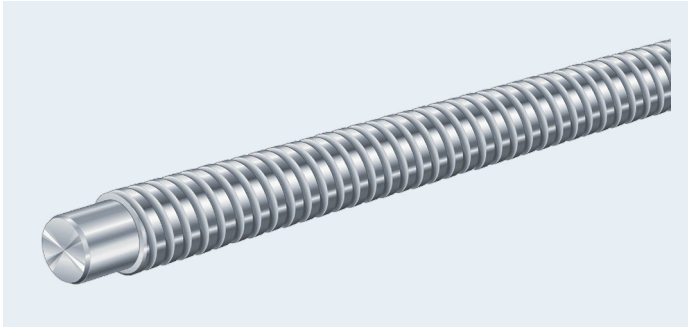
Size		8x2.5R	12x5	16x5R	16x10R	16x16R	20x5R	20x10R	20x20R
C	N	2 200	3 800	12 300	9 600	6 300	14 300	14 100	9 100
D <sub>5</sub>	mm	30	40	53	53	58	58	58	63
L	mm	16	28	38	45	45	40	60	60
v <sub>max</sub>	m/s	15	30	30	60	96	30	60	120
m	kg	0.05	0.12	0.24	0.25	0.39	0.28	0.36	0.6

Size		25x5R	25x10R	25x25R	32x5R	32x10R	32x20R	32x32R
C	N	15 900	15 700	10 100	21 600	31 700	13 500	13 400
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	29 100	50 000	37 900	25 500
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 120

# Rolled Precision Ball Screws SN-R, type R1511



► Rolled 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:

as per 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

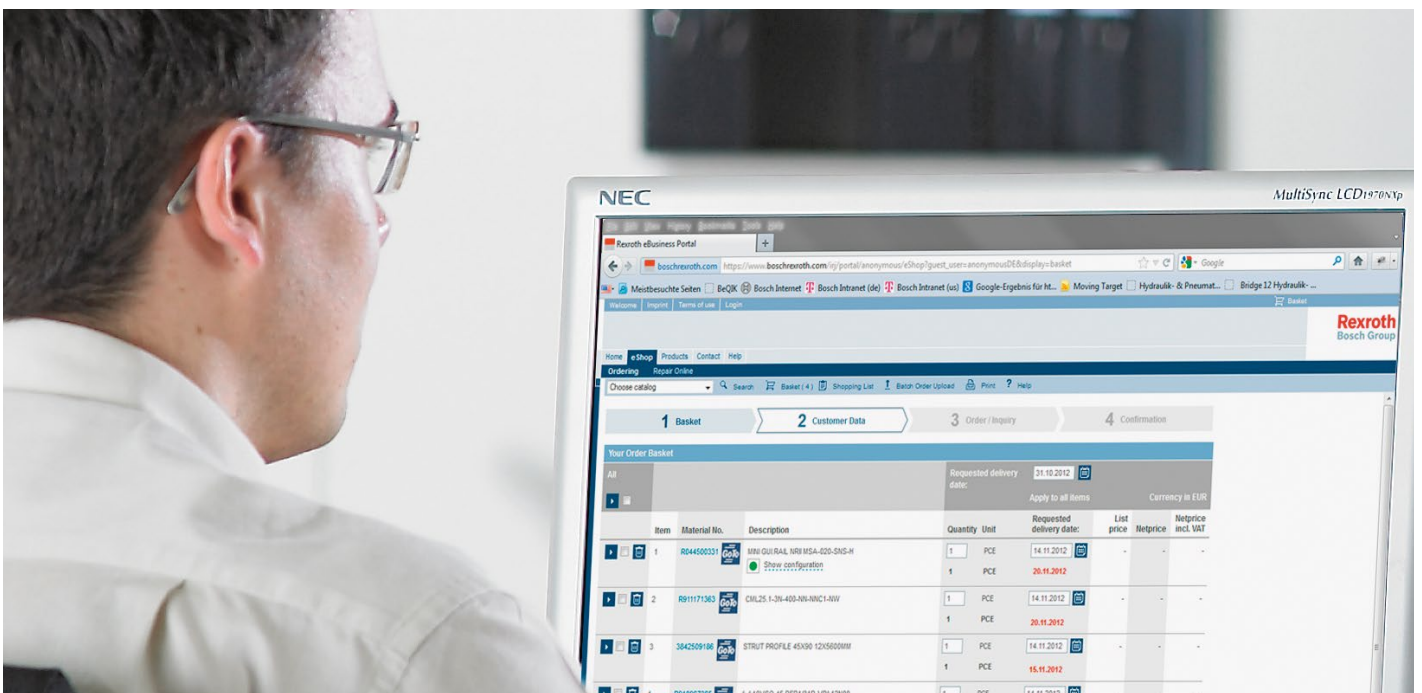
Size		32x32R	40x5R	40x10R	40x20R	40x40R
$J_S$	kgcm <sup>2</sup> /m	6.17	15.64	13.55	13.52	13.42
m	kg/m	5.5	8.78	8.15	8.14	8.11
$L_{max}$	mm	2 500	4 500	4 500	4 500	4 500

For ordering information for the GoTo products, see page 120



# 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) ex works in Germany
<b>Linear Systems <sup>1)</sup></b>						
11	<b>Linear Module MKR with belt drive</b>					
	R11400600G	065-NNG2	Section width Guide size Belt drive	65 mm 15 mm	Motor installation: MA01, MA02, MA03, MG01, MG02 Drive: i=3, i=5, i=7, i=10 Motor: without / MSK 030C, MSK 040C Switch: without: 000 with: 011, 015 with / without cable duct/ switching cam / cover	4 8
	R11401601G	080-NNG2	Section width Guide size Belt drive	80 mm 20 mm	Motor installation: MA01, MA02, MA03, MG01, MG02 Drives: i=1, i=5, i=10 Motor: without / MSK 040C, MSK 050C Switch: without: 000 with: 011, 015 with / without cable duct/ switching cam / cover	4 8
	R11402601G	110-NNG2	Section width Guide size Belt drive	110 mm 25 mm	Motor installation: MA01, MA02, MA03, MG01, MG02 Drives: i=1, i=5, i=10 Motor: without / MSK 060C, MSK 076C Switch: without: 000 with: 011, 015 with / without cable duct/ switching cam / cover	4 8
11	<b>Linear Module MKK with Ball Screw Assembly</b>					
	R11600600G	065-NNG2	Section width Guide size Screw Assembly	65 mm 15 mm 16x5 mm 16x10 mm	Motor installation: OF01, MF01, RV01, RV02, RV03 no drive Motor: without / MSK 040C Switch: without: 000 with: 011, 015 with / without cable duct/ switching cam / cover	4 8
	R11601601G	080-NNG2	Section width Guide width Screw Assembly	80 mm 20 mm 20x5 mm 20x20 mm	Motor installation: OF01, MF01, RV01, RV02, RV03 no drive Motor: without / MSK 040C, MSK 050C Switch: without: 000 with: 011, 015 with / without cable duct/ switching cam / cover	4 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
	R11602601G	110-NNG2	Section width 110 mm Guide width 25 mm Screw Assembly 32x5 mm 32x10 mm 32x20 mm	Motor installation: OF01, MF01, RV01, RV02, RV03 no drive Motor: without / MSK 060C, MSK 076C Switch: without: 000 with: 011, 015 with / without cable duct/ switching cam / cover	4	8
13	<b>Compact Module CKR with belt drive</b>					
	R03643000G	090-NNG1	Section width 90 mm Guide width 12 mm Belt drive	Motor installation: MA01, MA02, MA05, MA06, MG10, MG11 Drives: i=5, i=10 Motor: without / MSK 030C Switch: without: 000 with: 021, 022 with / without connecting plate with / without cable duct/ switching cam / cover	4	8
	R03644000G	110-NNG1	Section width 110 mm Guide width 15 mm Belt drive	Motor installation: MA01, MA02, MA05, MA06, MG10, MG11 Drives: i=5, i=10 Motor: without / MSK 030C Switch: without: 000 with: 021, 022 with / without connecting plate with / without cable duct/ switching cam / cover	4	8
	R03645000G	145-NNG1	Section width 145 mm Guide width 20 mm Belt drive	Motor installation: MA01, MA02, MA05, MA06, MG10, MG11 Drives: i=3, i=5, i=10 Motor: without / MSK 040C Switch: without: 000 with: 021, 022 with / without connecting plate with / without cable duct/ switching cam / cover	4	8
	R03646000G	200-NNG1	Section width 200 mm Guide width 25 mm Belt drive	Motor installation: MA01, MA02, MG01, MG02 Drives: i=3, i=5, i=10 Motor: without / MSK 060C Switch: without: 000 with: 015, 021, 022 with / without connecting plate with / without cable duct/ switching cam/cover	4	8

Page	Part no.	Size	Description	Specification	Maximum GoTo quantity (units)	Delivery time (working days) ex works in Germany
13	<b>Compact Module CKK with Ball Screw Assembly</b>					
	R03603000G	090-NNG1	Section width 90 mm Guide width 12 mm Screw Assembly 12x5 mm 12x10 mm	Motor installation: OF01, MF01 no drive Motor: without / MSK 030C Switch: without: 000 with: 021, 022 with / without connecting plate with / without cable duct/ switching cam/cover	4	8
	R03604000G	110-NNG1	Section width 110 mm Guide width 15 mm Screw Assembly 16x5 mm 16x10 mm 16x16 mm	Motor installation: OF01, MF01, RV01, RV02, RV03 no drive Motor: without / MSK 030C, MSK 040C Switch: without: 000 with: 021, 022 with / without connecting plate with / without cable duct/ switching cam/cover	4	8
	R03605000G	145-NNG1	Section width 145 mm Guide width 20 mm Screw Assembly 20x5 mm 20x10 mm 20x20 mm	Motor installation: OF01, MF01, RV01, RV02, RV03 no drive Motor: without / MSK 040C, MSK 050C Switch: without: 000 with: 021, 022 with / without connecting plate with / without cable duct/ switching cam/cover	4	8
	R03606000G	200-NNG1	Section width 200 mm Guide width 25 mm Screw Assembly 32x5 mm 32x10 mm 32x20 mm 32x32 mm	Motor installation: OF01, MF01, RV01, RV02, RV03 no drive Motor: without / MSK 060C Switch: without: 000 with: 015, 021, 022 with / without connecting plate with / without cable duct/ switching cam/cover	4	8
15	<b>Feed Module VKK</b>					
	R14622000G	050-NNG1	Section width 50 mm Guide width 15 mm Screw Assembly 12x5 mm 12x10 mm	Motor installation: OF01, MF01, RV01, RV02, RV03 no drive Motor: without / MSK 030C Switch: without: 000 with: 021, 022, 058, 059 Mounting flange: with: 003 without: 004 with / without cable duct/ switching cam	4	8

Page	Part no.	Size	Description	Specification	Maximum GoTo quantity (units)	Delivery time (working days) ex works in Germany
	R14623000G	070-NNG1	Section width 70 mm Guide width 15 mm Screw Assembly 16x5 mm 16x10 mm 16x16 mm	Motor installation: OF01, MF01, RV01, RV02, RV03 no drive Motor: without MSK 030C, MSK 040C Switch: without: 000 with: 021, 022, 058, 059 Mounting flange: with: 003 without: 004 with / without cable duct/ switching cam	4	8
	R14624000G	100-NNG1	Section width 100 mm Guide width 25 mm Screw Assembly 20x5 mm 20x10 mm 20x20 mm	Motor installation: OF01, MF01, RV01, RV02, RV03 no drive Motor: without MSK 050C Switch: without: 000 with: 021, 022, 058, 059 Mounting flange: with: 003 without: 004 with / without cable duct/ switching cam	4	8
17	<b>Electromechanical Cylinders EMC</b>					
	R15601001G	032-NNG2	Screw Assembly 12 x 5 12 x 10	Motor installation: OF01, MF01, RV01, RV02, RV03 Motor: without MSK 030 Housing: 001, 002, 003 Lubrication: 001, 002, 003 Switch: without: 000	6	8
	R15602001G	040-NNG2	Screw Assembly 16 x 5 16 x 10 16 x 16	Motor installation: OF01, MF01, RV01, RV02, RV03 Motor: without MSK 030, MSK 040 Housing: 001, 002, 003 Lubrication: 001, 002, 003 Switch: without: 000	6	8
	R15603001G	050-NNG2	Screw Assembly 20 x 5 20 x 10 20 x 20	Motor installation: OF01, MF01, RV01, RV02, RV03 Motor: without MSK 040, MSK 050 Housing: 001, 002, 003 Lubrication: 001, 002, 003 Switch: without: 000	6	8
	R15604001G	063-NNG2	Screw Assembly 25 x 5 25 x 10 25 x 25	Motor installation: OF01, MF01, RV01, RV02, RV03 Motor: without MSK 040, MSK 050, MSK 060 Housing: 001, 002, 003 Lubrication: 001, 002, 003 Switch: without: 000	6	8

Page	Part no.	Size	Description	Specification	Maximum GoTo quantity (units)	Delivery time (working days) ex works in Germany
	R15605001G	080-NNG2	Screw Assembly 32 x 5 32 x 10 32 x 20 32 x 32	Motor installation: OF01, MF01, RV01, RV02, RV03 Motor: without MSK 050, MSK 060, MSK 076 Housing: 001, 002, 003 Lubrication: 001, 002, 003 Switch: without: 000	6	8
	R15606001G	100-NNG2	Screw Assembly 40 x 5 40 x 10 40 x 20 40 x 40	Motor installation: OF01, MF01, RV01, RV02, RV03 Motor: without MSK 060, MSK 071, MSK 076 Housing: 001, 002, 003 Lubrication: 001, 002, 003 Switch: without: 000	6	8

## 18 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
R039110257	Bracket, standard	CKx 110 / CKx 110	4	3
R039110259	Bracket, standard	CKx 145 / CKx 145	4	3
R039110176	Bracket, long right-side	CKx 145 / CKx 110	4	3
R039110177	Bracket, long right-side	CKx 145 / CKx 145	4	3
R039110182	Bracket, long left-side	CKx 145 / CKx 110	4	3
R039110183	Bracket, long left-side	CKx 145 / CKx 145	4	3
R039110264	Bracket	MKK_G-TT 065 <sup>2)</sup> / CKx 090	4	3
R039110265	Bracket	MKx_N-TT 065 <sup>3)</sup> / CKx 090	4	3
R039110266	Bracket	MKK_G-TT 065 <sup>2)</sup> / CKx 110	4	3
R039110267	Bracket	MKx_N-TT 065 <sup>3)</sup> / CKx 110	4	3
R039110268	Bracket	MKx_G-TT 080 <sup>2)</sup> / CKx 110	4	3
R039110269	Bracket	MKx_N-TT 080 <sup>3)</sup> / CKx 110	4	3
R039110270	Bracket	MKx_G-TT 080 <sup>2)</sup> / CKx 145	4	3
R039110271	Bracket	MKx_N-TT 080 <sup>3)</sup> / CKx 145	4	3
R039110272	Bracket	MKR_G-TT 110 <sup>2)</sup> / CKx 145	4	3
R039110273	Bracket	MKx_N-TT 110 <sup>3)</sup> / CKx 145	4	3
R039110274	Bracket	MKR_G-TT 110 <sup>2)</sup> / CKx 200	4	3
R039110275	Bracket	MKx_N-TT 110 <sup>3)</sup> / CKx 200	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

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
	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
<b>Roller Rail Systems</b>						
20	<b>Standard Roller Runner Blocks, steel, FNS, Type R1851</b>					
	R185122210	25	RWA-025-FNS-C2-P-2	P class, preload C2	12	3
	R185123210	25	RWA-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
	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
21	<b>Standard Roller Runner Blocks, steel, FLS, Type R1853</b>					
	R185322210	25	RWA-025-FLS-C2-P-2	P class, preload C2	12	3
	R185323210	25	RWA-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
22	<b>Standard Roller Runner Blocks, steel, SNH, Type R1821</b>					
	R182122210	25	RWA-025-SNH-C2-P-2	P class, preload C2	12	3
	R182123210	25	RWA-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
23	<b>Standard Roller Runner Blocks, steel, SLH, Type R1824</b>					
	R182422210	25	RWA-025-SLH-C2-P-2	P class, preload C2	12	3
	R182423210	25	RWA-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
24	<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
25	<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

Page	Part no.	Size	Description	Specification	Maximum GoTo quantity (units)	Delivery time (working days) ex works in Germany
<b>Ball Rail Systems</b>						
28	<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
	R165182320	20	KWD-020-FNS-C2-H-1	H 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
	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
	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
	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
	R165149420	45	KWD-045-FNS-C0-N-1	N class, without preload	12	5
29	<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
	R165319420	15	KWD-015-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
	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
	R165389420	20	KWD-020-FLS-C0-N-1	N class, without preload	12	5
	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
	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
	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
	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
	R165349420	45	KWD-045-FLS-C0-N-1	N class, without preload	12	5
30	<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

Page	Part no.	Size	Description	Specification	Maximum GoTo quantity (units)	Delivery time (working days) ex works in Germany
31	<b>Standard Ball Runner Blocks, steel, SNS, Type R1622</b>					
	R162211220	15	KWD-015-SNS-C1-P-1	P class, preload C1	12	5
	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
	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
	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
	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
	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
	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
	R162249420	45	KWD-045-SNS-C0-N-1	N class, without preload	12	5
32	<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
	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
	R162319420	15	KWD-015-SLS-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
	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
	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
	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
	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
	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
	R162349420	45	KWD-045-SLS-C0-N-1	N class, without preload	12	5
33	<b>Standard Ball Runner Blocks, steel, SKS, Type R1666</b>					
	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
	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

Page	Part no.	Size	Description	Specification	Maximum GoTo quantity (units)	Delivery time (working days) ex works in Germany
	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
34	<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
	R162212420	15	KWD-015-SNS-C2-N-1	N class, preload C2	12	5
	R162312420	15	KWD-015-SLS-C2-N-1	N class, preload C2	12	5
	R165312420	15	KWD-015-FLS-C2-N-1	N class, preload C2	12	5
	R162282420	20	KWD-020-SNS-C2-N-1	N class, preload C2	12	5
	R162382420	20	KWD-020-SLS-C2-N-1	N class, preload C2	12	5
	R165182420	20	KWD-020-FNS-C2-N-1	N class, preload C2	12	5
	R165382420	20	KWD-020-FLS-C2-N-1	N class, preload C2	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
	R162222320	25	KWD-025-SNS-C2-N-1	N class, preload C2	12	5
	R162322420	25	KWD-025-SLS-C2-N-1	N class, preload C2	12	5
	R162422420	25	KWD-025-SLH-C2-N-1	N class, preload C2	12	5
	R165122420	25	KWD-025-FNS-C2-N-1	N class, preload C2	12	5
	R165322420	25	KWD-025-FLS-C2-N-1	N class, preload C2	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
	R162272420	30	KWD-030-SNS-C2-N-1	N class, preload C2	12	5
	R162372420	30	KWD-030-SLS-C2-N-1	N class, preload C2	12	5
	R162472420	30	KWD-030-SLH-C2-N-1	N class, preload C2	12	5
	R165172420	30	KWD-030-FNS-C2-N-1	N class, preload C2	12	5
	R165372420	30	KWD-030-FLS-C2-N-1	N class, preload C2	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

Page	Part no.	Size	Description	Specification	Maximum GoTo quantity (units)	Delivery time (working days) ex works in Germany
	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
	R162232420	35	KWD-035-SNS-C2-N-1	N class, preload C2	12	5
	R162332420	35	KWD-035-SLS-C2-N-1	N class, preload C2	12	5
	R162432420	35	KWD-035-SLH-C2-N-1	N class, preload C2	12	5
	R165132420	35	KWD-035-FNS-C2-N-1	N class, preload C2	12	5
	R165332420	35	KWD-035-FLS-C2-N-1	N class, preload C2	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
	R162242420	45	KWD-045-SNS-C2-N-1	N class, preload C2	12	5
	R162342420	45	KWD-045-SLS-C2-N-1	N class, preload C2	12	5
	R162442420	45	KWD-045-SLH-C2-N-1	N class, preload C2	12	5
	R165142420	45	KWD-045-FNS-C2-N-1	N class, preload C2	12	5
	R165342420	45	KWD-045-FLS-C2-N-1	N class, preload C2	12	5
35	<b>Standard Ball Runner Blocks, steel, SLH, Type R1624</b>					
	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
	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
	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
	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
	R162449420	45	KWD-045-SLH-C0-N-1	N class, without preload	12	5
36	<b>Super Ball Runner Blocks, steel, FKS, Type R1661</b>					
	R166111420	15	KWD-015-FKS-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
	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
37	<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
	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
38	<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
39	<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
40	<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	5
	R160510331	15	KSA-015-SNS-H	H class	12	5


Page	Part no.	Size	Description	Specification	Maximum GoTo quantity (units)	Delivery time (working days) ex works in Germany
	R160510431	15	KSA-015-SNS-N	N class	12	5
	R160580231	20	KSA-020-SNS-P	P class	12	5
	R160580331	20	KSA-020-SNS-H	H class	12	5
	R160580431	20	KSA-020-SNS-N	N class	12	5
	R160520231	25	KSA-025-SNS-P	P class	12	5
	R160520331	25	KSA-025-SNS-H	H class	12	5
	R160520431	25	KSA-025-SNS-N	N class	12	5
	R160570231	30	KSA-030-SNS-P	P class	12	5
	R160570331	30	KSA-030-SNS-H	H class	12	5
	R160570431	30	KSA-030-SNS-N	N class	12	5
	R160530231	35	KSA-035-SNS-P	P class	12	5
	R160530331	35	KSA-035-SNS-H	H class	12	5
	R160530431	35	KSA-035-SNS-N	N class	12	5
	R160540231	45	KSA-045-SNS-P	P class	12	5
	R160540331	45	KSA-045-SNS-H	H class	12	5
	R160540431	45	KSA-045-SNS-N	N class	12	5
41	<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	5
	R160516331	15	KSA-015-SNS-H	H class	12	5
	R160516431	15	KSA-015-SNS-N	N class	12	5
	R160586231	20	KSA-020-SNS-P	P class	12	5
	R160586331	20	KSA-020-SNS-H	H class	12	5
	R160586431	20	KSA-020-SNS-N	N class	12	5
	R160526231	25	KSA-025-SNS-P	P class	12	5
	R160526331	25	KSA-025-SNS-H	H class	12	5
	R160526431	25	KSA-025-SNS-N	N class	12	5
	R160576231	30	KSA-030-SNS-P	P class	12	5
	R160576331	30	KSA-030-SNS-H	H class	12	5
	R160576431	30	KSA-030-SNS-N	N class	12	5
	R160536261	35	KSA-035-SNS-P	P class	12	5
	R160536361	35	KSA-035-SNS-H	H class	12	5
	R160536461	35	KSA-035-SNS-N	N class	12	5
	R160546261	45	KSA-045-SNS-S	P class	12	5
	R160546361	45	KSA-045-SNS-H	H class	12	5
	R160546461	45	KSA-045-SNS-N	N class	12	5
42	<b>Standard Ball Guide Rails, steel, SNS, Type R1607, for mounting from below</b>					
	R160710231	15	KSA-015-SNS-P	P class	12	5
	R160710331	15	KSA-015-SNS-H	H class	12	5
	R160710431	15	KSA-015-SNS-N	N class	12	5
	R160780231	20	KSA-020-SNS-P	P class	12	5
	R160780331	20	KSA-020-SNS-H	H class	12	5
	R160780431	20	KSA-020-SNS-N	N class	12	5
	R160720231	25	KSA-025-SNS-P	P class	12	5
	R160720331	25	KSA-025-SNS-H	H class	12	5
	R160720431	25	KSA-025-SNS-N	N class	12	5
	R160770231	30	KSA-030-SNS-P	P class	12	5


Page	Part no.	Size	Description	Specification	Maximum GoTo quantity (units)	Delivery time (working days) ex works in Germany
	R160770331	30	KSA-030-SNS-H	H class	12	5
	R160770431	30	KSA-030-SNS-N	N class	12	5
	R160730231	35	KSA-035-SNS-P	P class	12	5
	R160730331	35	KSA-035-SNS-H	H class	12	5
	R160730431	35	KSA-035-SNS-N	N class	12	5
	R160740231	45	KSA-045-SNS-P	P class	12	5
	R160740331	45	KSA-045-SNS-H	H class	12	5
	R160740431	45	KSA-045-SNS-H	N class	12	5
43	<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
44	<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
45	<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
46	<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
47	<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
48	<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






Page	Part no.	Size	Description	Specification	Maximum GoTo quantity (units)	Delivery time (working days) ex works in Germany
	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
49	<b>Ball Guide Rails, Resist NR II, SNS, Type R2045 .0, with plastic mounting hole plugs</b>					
	R204510331	15	NRII KSA-015-SNS-H-MA-AK	H class	12	5
	R204580331	20	NRII KSA-020-SNS-H-MA-AK	H class	12	5
	R204520331	25	NRII KSA-025-SNS-H-MA-AK	H class	12	5
	R204570331	30	NRII KSA-030-SNS-H-MA-AK	H class	12	5
	R204530331	35	NRII KSA-035-SNS-H-MA-AK	H class	12	5
	<b>Miniature Ball Rail Systems</b>					
52	<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
	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
53	<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
54	<b>Miniature Ball Guide Rails, standard, without cover strip, SNS, Type R0445</b>					
	R044570231	7	MSA-007-SNS-P	P class	16	3

Page	Part no.	Size	Description	Specification	Maximum GoTo quantity (units)	Delivery time (working days) ex works in Germany
	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
55	<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
	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
56	<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
57	<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>						
61	<b>Compact Linear Bushings, closed, Type R0658</b>					
	R065820830	8	KBC-8-DD-NR	Corrosion-resistant, with seals	16	3



Page	Part no.	Size	Description	Specification	Maximum GoTo quantity (units)	Delivery time (working days) ex works in Germany
	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
62	<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
	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
63	<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
64	<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

Page	Part no.	Size	Description	Specification	Maximum GoTo quantity (units)	Delivery time (working days) ex works in Germany
	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
65	<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
66	<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
67	<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
68	<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
69	<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

Page	Part no.	Size	Description	Specification	Maximum GoTo quantity (units)	Delivery time (working days) ex works in Germany
	R108362520	25	LSAFT-A-25-DD	With seals	12	3
	R108363020	30	LSAFT-A-30-DD	With seals	12	3
70	<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
71	<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
	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
72	<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
73	<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
74	<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
75	<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

Page	Part no.	Size	Description	Specification	Maximum GoTo quantity (units)	Delivery time (working days) ex works in Germany
	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
76	<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
	R060202030	20	KBM-20-DD-NR	Corrosion-resistant, with seals	12	3
	R060202530	25	KBM-25-DD-NR	Corrosion-resistant, with seals	12	3
77	<b>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
78	<b>Linear Sets with Standard Linear Bushings, adjustable, cast-iron housing, type R1066</b>					
	R106622500	25	LSGE-M-25-DD	With seals	12	3
	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
79	<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
80	<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

Page	Part no.	Size	Description	Specification	Maximum GoTo quantity (units)	Delivery time (working days) ex works in Germany
	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
81	<b>Precision Steel Shafts, solid, type R1000</b> (Delivery time only for shafts cut-to-size with or without chamfer)					
	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
82	<b>Precision Steel Shafts, tubular, type R1001</b> (Delivery time only for shafts cut-to-size with or without chamfer)					
	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
83	<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

Page	Part no.	Size	Description	Specification	Maximum GoTo quantity (units)	Delivery time (working days) ex works in Germany
	R105802500	25	WBA-25C-FO		12	3
	R105803000	30	WBA-30C-FO		12	3
	R105804000	40	WBA-40C-FO		12	3
	R105805000	50	WBA-50C-FO		12	3
84	<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>					
89	<b>Complete Ball Screw Assemblies</b>					
	Screw Assemblies	16x5R	Nut FEM-E-S, R151201013	Diameter 16 mm, lead 5 mm, right-hand thread, L <sub>max</sub> = 1 500, Accuracy T5, T7, T9	3	5
			Nut FEM-E-C, R150201065			
	Screw Assemblies	16x10R	Nut FEM-E-S, R151204013	Diameter 16 mm, lead 10 mm, right-hand thread, L <sub>max</sub> = 1 500, Accuracy T5, T7, T9	3	5
			Nut FEM-E-C, R150204085			
	Screw Assemblies	16x16R	Nut FEM-E-S, R151206013	Diameter 16 mm, lead 16 mm, right-hand thread, L <sub>max</sub> = 1 500, Accuracy T5, T7, T9	3	5
			Nut FEM-E-C, R150206065			
	Screw Assemblies	20x5R	Nut FEM-E-S, R151211013	Diameter 20 mm, lead 5 mm, right-hand thread, L <sub>max</sub> = 1 500, Accuracy T5, T7, T9	3	5
			Nut FEM-E-C, R150211085			
	Screw Assemblies	20x10R	Nut FEM-E-S, R151214013	Diameter 20 mm, lead 10 mm, right-hand thread, L <sub>max</sub> = 1 500, Accuracy T5, T7, T9	3	5
			Nut FEM-E-C, R150214065			
	Screw Assemblies	20x20R	Nut FEM-E-S, R151217013	Diameter 20 mm, lead 20 mm, right-hand thread, L <sub>max</sub> = 1 500, Accuracy T5, T7, T9	3	5
			Nut FEM-E-C, R150217065			
	Screw Assemblies	25x5R	Nut FEM-E-S, R151221013	Diameter 25 mm, lead 5 mm, right-hand thread, L <sub>max</sub> = 2 500, Accuracy T5, T7, T9	3	5
			Nut FEM-E-C, R150221085			
	Screw Assemblies	25x10R	Nut FEM-E-S, R151221013	Diameter 25 mm, lead 10 mm, right-hand thread, L <sub>max</sub> = 2 500, Accuracy T5, T7, T9	3	5
			Nut FEM-E-C, R150221085			

Page	Part no.	Size	Description	Specification	Maximum GoTo quantity (units)	Delivery time (working days) ex works in Germany
	Screw Assemblies	25x25R	Nut FEM-E-S, R151221013	Diameter 25 mm, lead 25 mm, right-hand thread, L <sub>max</sub> = 2 500, Accuracy T5, T7, T9	3	5
			Nut FEM-E-C, R150221085			
	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-C, 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-C, 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-C, 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-C, 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-C, 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-C, 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-C, 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			
91	<b>Flanged Single Nuts FEM-E-C, standard, type R1502</b>					
	R150201065	16X5	FEM-E-C 16X5RX3-4	Standard backlash	10	3
	R150204085	16X10	FEM-E-C 16X10RX3-3	Standard backlash	10	3
	R150206065	16X16	FEM-E-C 16X16RX3-3	Standard backlash	10	3
	R150211085	20X5	FEM-E-C 20X5RX3-4	Standard backlash	10	3
	R150214065	20X10	FEM-E-C 20X10RX3-4	Standard backlash	10	3
	R150217065	20X20	FEM-E-C 20X20RX3,5-3	Standard backlash	10	3
	R150221085	25X5	FEM-E-C 25X5RX3-4	Standard backlash	10	3
	R150224085	25X10	FEM-E-C 25X10RX3-4	Standard backlash	10	3
	R150228065	25X25	FEM-E-C 25X25RX3,5-3	Standard backlash	10	3
	R150231085	32X5	FEM-E-C 32X5RX3,5-4	Standard backlash	10	3
	R150234086	32X10	FEM-E-C 32X10RX3,969-5	Standard backlash	10	3
	R150237065	32X20	FEM-E-C 32X20RX3,969-3	Standard backlash	10	3
	R150239065	32X32	FEM-E-C 32X32RX3,969-3	Standard backlash	10	3

Page	Part no.	Size	Description	Specification	Maximum GoTo quantity (units)	Delivery time (working days) ex works in Germany
	R150241086	40X5	FEM-E-C 40X5RX3,5-5	Standard backlash	10	3
	R150244085	40X10	FEM-E-C 40X10RX6-4	Standard backlash	10	3
	R150247085	40X20	FEM-E-C 40X20RX6-3	Standard backlash	10	3
	R150249065	40X40	FEM-E-C 40X40RX6-3	Standard backlash	10	3
92	<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
93	<b>Rolled 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



Page	Part no.	Size	Description	Specification	Maximum GoTo quantity (units)	Delivery time (working days) ex works in Germany
	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
	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

**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







**Bosch Rexroth AG**

Ernst-Sachs-Straße 100  
97424 Schweinfurt, Deutschland  
Phone +49 9721 937-0  
Fax +49 9721 937-275  
info@boschrexroth.de  
www.boschrexroth.com

**Find your local contact person here:**

[www.boschrexroth.com/contact](http://www.boschrexroth.com/contact)

**Detailed information:**

[www.boschrexroth.com/goto](http://www.boschrexroth.com/goto)

