6. Bestelsleutels

Ordering example

Standard ball runner blocks BSHP made of steel

Ordering ball runner blocks

The material number is composed of the code numbers for the individual options.
Each option (highlighted in gray) is coded in a material
The following ordering example applies to all ball

Explanation of option "Ball runner block with size"

The format of the ball runner blocks – in this example, a standard ball runner block FNS – is specified on the respective product page.
Coding in the material number: R1651 7

Format Size

Options and material numbers

Size	Ball runner blocks with size	Preload class				Accuracy class						Seals on ball runner blocks					
												without ball chain			with ball chain		
		C0	C1	C2	C3	N	H	P	XP	SP	UP	SS	LS[1]	DS	SS	LS[1]	DS
15	R1651 1	9				4	3	–	–	–	–	20	21	–	22	23	–
			1			4	3	2	8	1	9	20	21	–	22	23	–
				2		–	3	2	8	1	9	20	21	–	22	23	–
					3	–	–	–	8	1	9	20	21	–	22	23	–
20	R1651 8	9				4	3	–	–	–	–	20	21	–	22	23	–
			1			4	3	2	8	1	9	20	21	2Z	22	23	2Y
				2		–	3	2	8	1	9	20	21	2Z	22	23	2Y
					3	–	–	–	8	1	9	20	21	2Z	22	23	2Y
25	R1651 2	9				4	3	–	–	–	–	20	21	–	22	23	–
			1			4	3	2	8	1	9	20	21	2Z	22	23	2Y
				2		–	3	2	8	1	9	20	21	2Z	22	23	2Y
					3	–	–	–	8	1	9	20	21	2Z	22	23	2Y
30	R1651 7	9				4	3	–	–	–	–	20	21	–	22	23	–
			1			4	3	2	8	1	9	20	21	2Z	22	23	2Y
				2		–	3	2	8	1	9	20	21	2Z	22	23	2Y
					3	–	–	–	8	1	9	20	21	2Z	22	23	2Y
35	R1651 3	9				4	3	–	–	–	–	20	21	–	22	23	–
			1			4	3	2	8	1	9	20	21	2Z	22	23	2Y
				2		–	3	2	8	1	9	20	21	2Z	22	23	2Y
					3	–	–	–	8	1	9	20	21	2Z	22	23	2Y
45	R1651 4	9				4	3	–	–	–	–	20	–	–	22	–	–
			1			4	3	2	8	1	9	20	–	2Z	22	–	2Y
				2		–	3	2	8	1	9	20	–	2Z	22	–	2Y
					3	–	–	–	8	1	9	20	–	2Z	22	–	2Y
E.g.:	R1651 7		1				3					20					

1) Nur bei Genauigkeitsklassen N und H und bei XP in Vorspannungsklasse C1.

Vorspannungsklassen
C0 = Ohne Vorspannung (Spiel)
C1 = Leichte Vorspannung
C2 = Mittlere Vorspannung
C3 = Hohe Vorspannung

Dichtungen
SS = Standarddichtung
LS = Leichtlaufdichtung
DS = Doppellippige Dichtung

Ordering example

Options:
- Ball runner blocks FNS
- Size 30
- Preload class C1
- Accuracy class H
- With standard seal, without ball chain

Material number: R1651 713 20

Preload classes
C0 = Without preload (clearance)
C1 = Moderate preload
C2 = Average preload
C3 = High preload

Seals
SS = Standard seal
LS = Low-friction seal
DS = Double-lip seal

Key
gray numbers
= no preferred variant / combination
(partially longer delivery times)

Definition of the format of ball runner blocks

Criterion	Designation	Code (example) F	N	S
Width	Flange **(F)**	F		
	Slimline **(S)**	S		
	Wide (B)	B		
	Compact (C)	C		
Length	Normal **(N)**		N	
	Long **(L)**		L	
	Short **(K)**		K	
Height	Standard height **(S)**			S
	High **(H)**			H
	Low **(N)**			N

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Ordering guide rails in the recommended rail lengths

Ordering ball guide rails in the recommended rail lengths

The procedure shown in the following ordering examples applies to all ball guide rails. Recommended rail lengths are more cost effective.

Options and material numbers

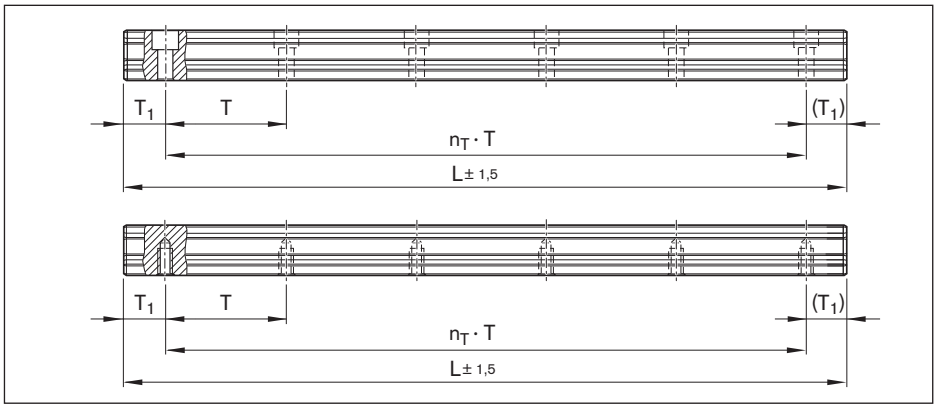
Size	Ball guide rail with size	Accuracy class					Number of partial sections ., Rail length L (mm), ...		Spacing T (mm)	Recommended rail length in accordance with formula $L = n_B \cdot T - 4$
		N	H	P	SP	UP	One-piece	Composite		Maximum number of holes per drill row n_B
15	R1605 13	4	3	2	1	9	31, ...	3., ...	60	64
20	R1605 83	4	3	2	1	9	31, ...	3., ...	60	64
25	R1605 23	4	3	2	1	9	31, ...	3., ...	60	64
30	R1605 73	4	3	2	1	9	31, ...	3., ...	80	48
35	R1605 33	4	3	2	1	9	61, ...	6., ...	80	48
45	R1605 43	4	3	2	1	9	61, ...	6., ...	105	36
55	R1605 53	4	3	2	1	9	61, ...	6., ...	120	32
65	R1605 63	4	3	2	1	9	61, ...	6., ...	150	25
E.g.:	R1605 73	3					31, 1676			

Excerpt from table with material numbers and recommended rail lengths for ordering example

From the desired rail length to the recommended length

$$L = \left(\frac{L_W}{T}\right)^{*} \cdot T - 4$$

* Round up quotient L_W/T to the nearest whole number!



Calculation example

$$L = \left(\frac{1660}{80\ \text{mm}}\right) \cdot 80\ \text{mm} - 4\ \text{mm}$$

$L = 21 \cdot 80\ \text{mm} - 4\ \text{mm}$

$L = 1676\ \text{mm}$

Basis: Number of holes

$$L = n_B \cdot T - 4\ \text{mm}$$

Basis: Number of spaces

$$L = n_T \cdot T + 2 \cdot T_{1S}$$

L	=	Recommended rail length	(mm)
L_W	=	Desired rail length	(mm)
T	=	Spacing	(mm)
T_{1S}	=	Preferred dimension	(mm)
n_B	=	Number of holes	(–)
n_T	=	Number of spaces	(–)

Notes on ordering examples

If preferred dimension T_{1S} is not used, it is possible to choose between:

- Select end spacing T_1 between T_{1S} and $T_{1\ min}$
- As an alternative, it is possible to choose end spacings T_1 to $T_{1\ max.}$

Ordering example 1 (to L_{max})

- Ball guide rail SNS size 30 with cover strip and strip clamps
- Accuracy class H
- Calculated rail length 1676 mm, (20 · T, preferred dimension T_{1S} = 38 mm; number of holes n_B = 21)

Ordering data

Material number, rail length (mm)
$T_1 / n_T \cdot T / T_1$ (mm)

R1605 733 31, 1676 mm
38 / 20 · 80 / 38 mm

Ordering example 2 (above L_{max})

- Ball guide rail SNS size 30 with cover strip and strip clamps
- Accuracy class H
- Calculated rail length 5116 mm, 2 partial sections (63 · T, preferred dimension T_{1S} = 38 mm; number of holes n_B = 64)

Ordering data

Material number with number of partial sections, rail length (mm)
$T_1 / n_T \cdot T / T_1$ (mm)

R1605 733 32, 5116 mm
38 / 63 · 80 / 38 mm

In the case of rail lengths above L_{max}, partial sections approved by Rexroth are joined together.

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Ordering guide rails in the recommended rail lengths

Ordering ball guide rails in the recommended rail lengths

The procedure shown in the following ordering examples applies to all ball guide rails. Recommended rail lengths are more cost effective.

Options and material numbers

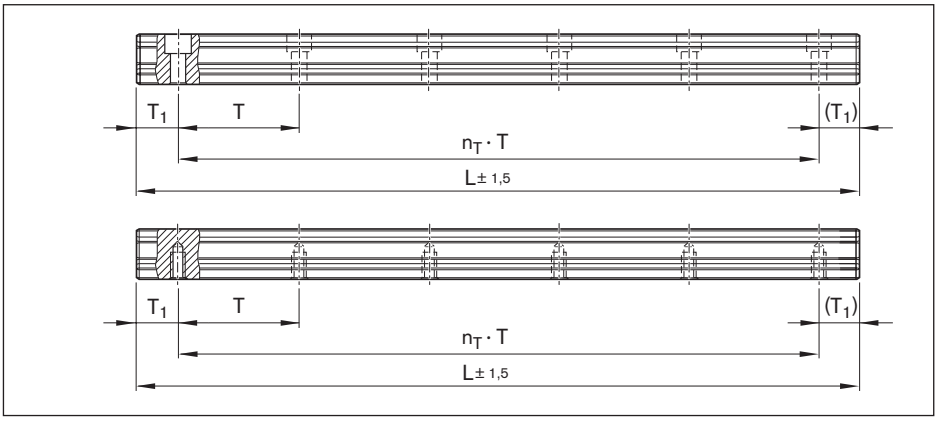
Size	Ball guide rail with size	Accuracy class			Number of partial sections ., Rail length L (mm), ...		Spacing T (mm)	Recommended rail length in accordance with formula $L = n_B \cdot T - 4$ mm
					One-piece	Composite		Maximum number of holes n_B
		N	H	P				
20/40[1)]	R1675 50	4	3	2	31, ...	3., ...	60	64
25/70	R1675 20	4	3	2	31, ...	3., ...	80	48
35/90	R1675 30	4	3	2	31, ...	3., ...	80	48
E.g.:	R1675 30		3		31, 1676			

Excerpt from table with material numbers and recommended rail lengths for ordering example

From the desired rail length to the recommended length

$$L = \left(\frac{L_W}{T}\right)^{*} \cdot T - 4$$

* Round up quotient L_W/T to the nearest whole number!



Calculation example

$$L = \left(\frac{1660\ \text{mm}}{80\ \text{mm}}\right) \cdot 80\ \text{mm} - 4\ \text{mm}$$

$L = 21 \cdot 80\ \text{mm} - 4\ \text{mm}$

$L = 1676\ \text{mm}$

Basis: Number of holes per drill row

$$L = n_B \cdot T - 4$$

Basis: Number of spaces

$$L = n_T \cdot T + 2 \cdot T_{1S}$$

L	=	Recommended rail length	(mm)
L_W	=	Desired rail length	(mm)
T	=	Spacing	(mm)
T_{1S}	=	Preferred dimension	(mm)
n_B	=	Number of holes per drill row	(–)
n_T	=	Number of spaces	(–)

Notes on ordering examples

If preferred dimension T_{1S} is not used, it is possible to choose between:

- Select end spacing T_1 between T_{1S} and $T_{1\ min}$
- As an alternative, it is possible to choose end spacings T_1 to $T_{1\ max.}$

Ordering example 1 (to L_{max})

- Ball guide rail BNS size 35/90 with plastic caps
- Accuracy class H
- Calculated rail length 1676 mm, (20 · T, preferred dimension T_{1S} = 38 mm; number of holes per drill row n_B = 21)

Ordering data

Material number, rail length (mm)
T_1 / n_T · T / T_1 (mm)

R1675 303 31, 1676 mm
38 / 20 · 80 / 38 mm

Ordering example 2 (above L_{max})

- Ball guide rail BNS size 35/90 with plastic caps
- Accuracy class H
- Calculated rail length 5116 mm, 2 sections (63 · T, preferred dimension T_{1S} = 38 mm; number of holes per drill row n_B = 64)

Ordering data

Material number with number of partial sections, rail length (mm)
T_1 / n_T · T / T_1 (mm)

R1675 303 32, 5116 mm
38 / 63 · 80 / 38 mm

In the case of rail lengths above L_{max}, factory-coordinated partial sections are joined together.

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