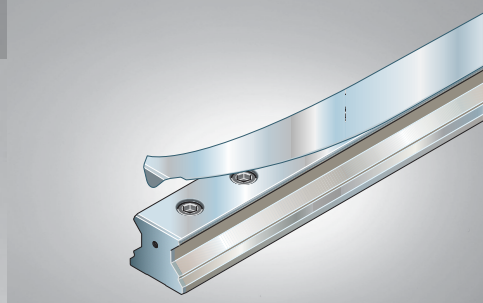
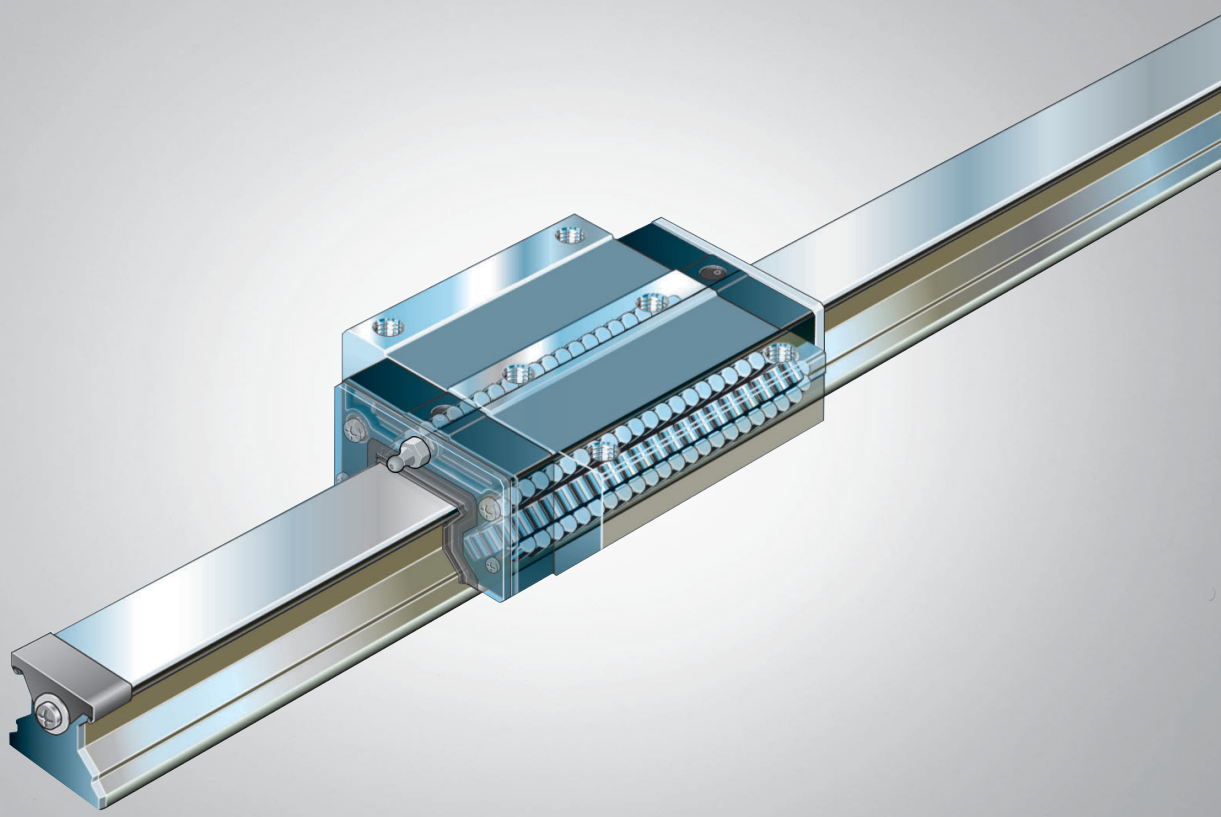
Rexroth
Bosch Group

Roller Rail Systems

RE 82 302/2003-04

The Drive & Control Company





Rexroth Linear Motion Technology

Ball Rail Systems	Standard Ball Rail Systems	
	Super Ball Rail Systems	
	Ball Rail Systems with Aluminum Runner Blocks	
	High Speed Ball Rail Systems	
	Corrosion-Resistant Ball Rail Systems	
	Wide Ball Rail Systems	
	Ball Rail Systems with Integrated Measuring System	
	Braking and Clamping Units for Ball Rail Systems	
	Rack and Pinion for Ball Rail Systems	
	Miniature Ball Rail Systems	
	Cam Roller Guides	
Roller Rail Systems	Standard Roller Rail Systems	
	Wide Roller Rail Systems	
	Heavy Duty Roller Rail Systems	
	Roller Rail Systems with Integrated Measuring System	
	Braking and Clamping Units for Roller Rail Systems	
	Rack and Pinion for Roller Rail Systems	
Linear Bushings and Shafts	Linear Bushings, Linear Sets	
	Shafts, Shaft Support Rails, Shaft Support Blocks	
	Ball Transfer Units	
	Traditional Engineering Components	
Screw Drives		
Linear Motion Systems	Linear Motion Slides	– Ball Screw Drive – Toothed Belt Drive
	Linear Modules	– Ball Screw Drive – Toothed Belt Drive – Rack and Pinion Drive – Pneumatic Drive – Linear Motor
	Compact Modules	– Ball Screw Drive – Toothed Belt Drive – Linear Motor
	Precision Modules	– Ball Screw Drive
	Ball Rail Tables	– Ball Screw Drive – Linear Motor
	Controllers, Motors, Electrical Accessories	
	Linear Actuators	

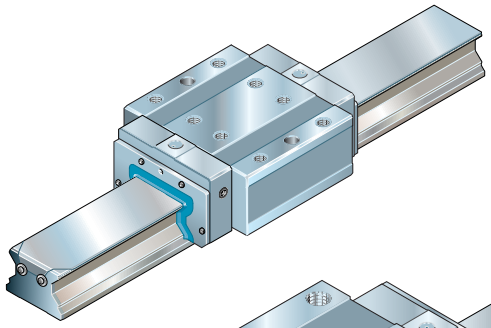
Rexroth Roller Rail Systems
Contents

Rexroth Roller Rail Systems
New Features at a Glance

New Roller Rail Systems

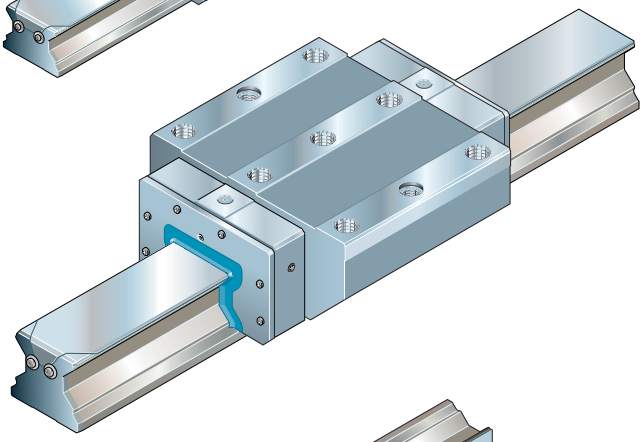
For high moment load capacities and maximum rigidity:

Rexroth Wide Roller Rail Systems
Sizes 55/85 and 65/100



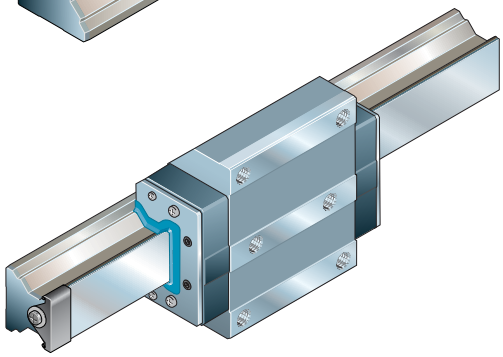
For heavy duty applications:

Rexroth Heavy Duty Roller Rail Systems
Size 125



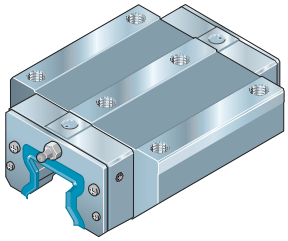
For special applications and environments:

Standard steel runner blocks for wall mounting



For hostile environments:

Standard steel runner blocks with aluminum end caps



Coatings

In certain accuracy classes, the runner blocks and guide rails are available with:

– hard chrome-plating (replaces zinc-iron coating)

Sizes

Standard-width runner block now also available in size 65.

Preload classes

Runner blocks in preload class 0.03 C on request.
Runner blocks in preload class 0.08 C are preferred.

Recommended preload-accuracy combination:

Preload class 0.08 C: H and P

Preload class 0.13 C: P and SP

New accessories for runner blocks

- Metal scraper with spacer plate
- Viton / NBR wiper seal
- Lubrication plate
- Front lubrication unit
- O-rings
- Mounting handle
- Set of end seals
- Set of end caps with end seals
- Set of aluminum end caps with end seals
- Transport and mounting arbor

New lubrication fittings:

- Reducers
- Connectors
- Extension pieces
- Swivel fittings
- Tube connectors

New accessories for guide rails

- Cover strip
- Mounting kit: tool and lift-off plate
- Expanding tool
- Strip clamp
- Two-piece mounting tool for fitting steel mounting hole plugs
- Adjusting shafts
- Mounting runner block

Rexroth Roller Rail Systems
General Product Overview

Rexroth Roller Rail Systems were specially developed for use in machine tools and industrial robots calling for compact, rolling-element linear motion guideways. They are available in various accuracy classes, each with extremely high load capacity and high rigidity.

These space-saving assemblies in 5 common sizes afford the same high load capacities in all four major planes of load application.

Make up your own compact linear motion guideways from interchangeable standard stock elements...

Rexroth fabricates its guide rails and runner blocks with such high precision that each individual component element can be replaced by another at any time. This makes infinite combinations possible.
Each element can be individually ordered and separately stocked.

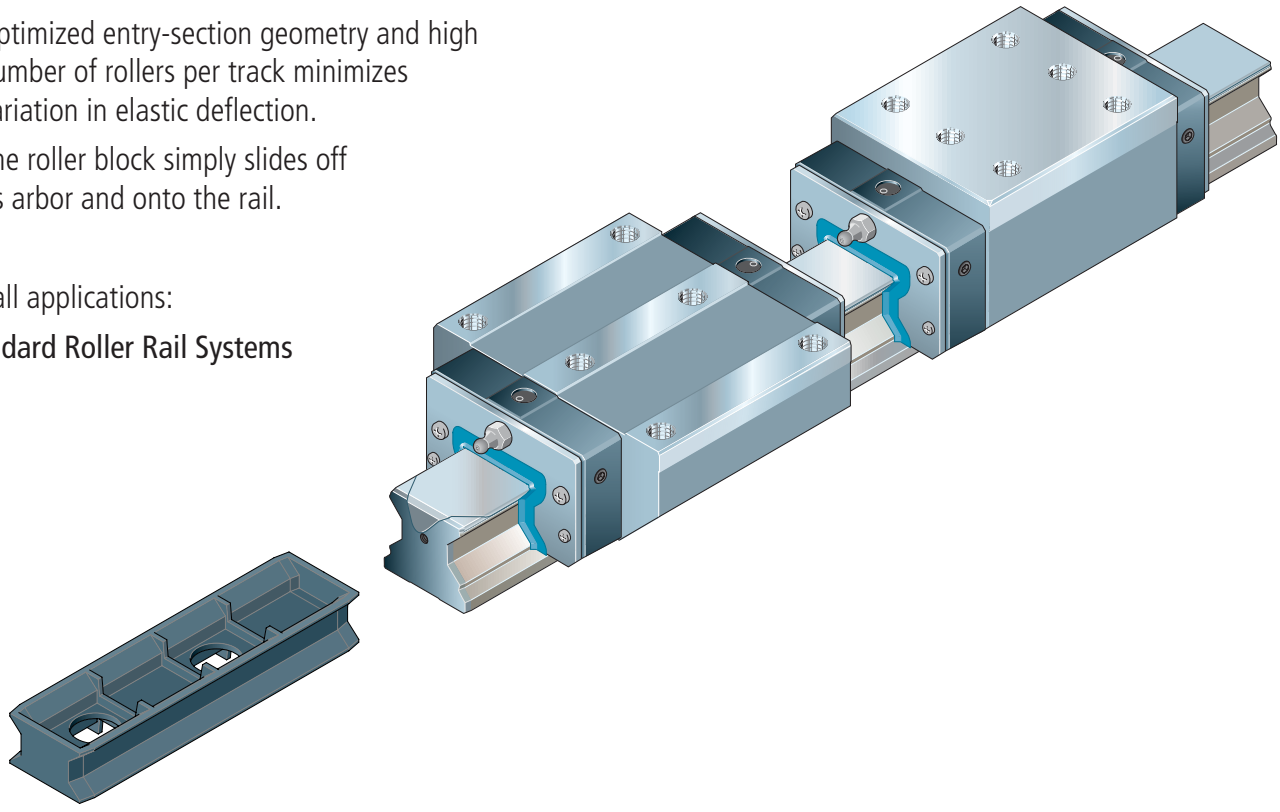
Both sides of the guide rail can be used as reference edges.

Accessories can be simply attached to the ends of the runner block.

– Uniform guide rail profile with or without cover strip allows unrestricted interchangeability of components across all runner block variants.
– Lube ports on all sides for maximum ease of maintenance.
– Novel lube duct design minimizes lubricant consumption.
– Innovative cage design allows for longer lubrication intervals.
– Smooth running thanks to optimized roller recirculation and guidance.
– Mounting of attachments to runner block from above or below.
– Improved rigidity under lift-off and side loading conditions through additional mounting screw holes at the center of the runner block.
– Optimized entry-section geometry and high number of rollers per track minimizes variation in elastic deflection.
– The roller block simply slides off its arbor and onto the rail.

For all applications:

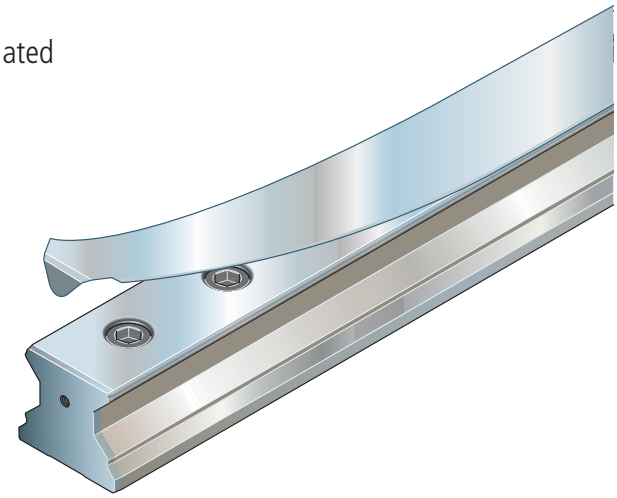
Standard Roller Rail Systems



General Product Overview

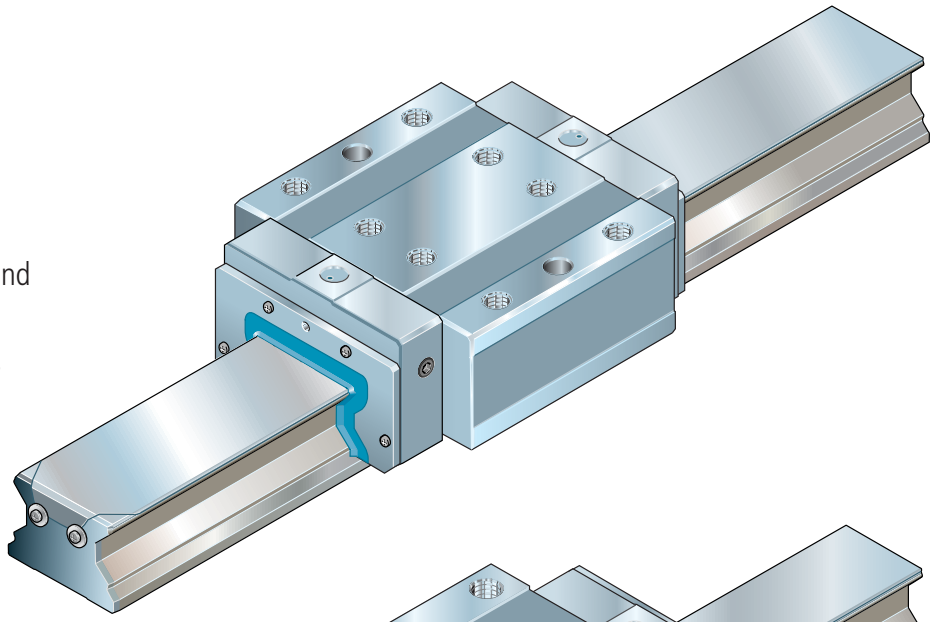
– Maximum rigidity under load from all directions
– High torque capacity
– Integrated all-round sealing
– End seal as standard
– Guide rails and runner blocks also available hard chrome-plated

Proven cover strip for guide rail mounting holes:
– A *single* cover for all holes
– Stainless spring steel to EN 10088
– Easy to fit – simply clip on and secure



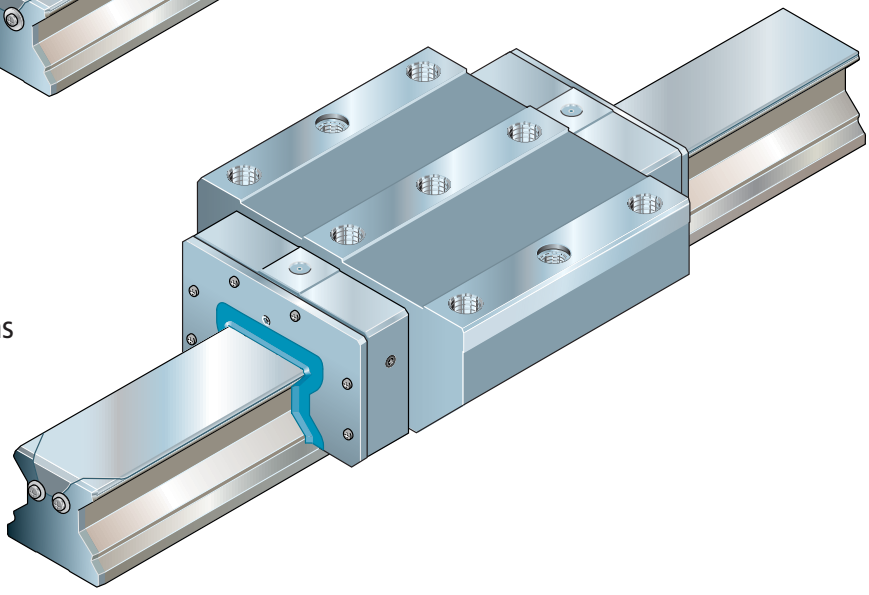
For high moment load capacities and maximum rigidity:

Rexroth Wide Roller Rail Systems



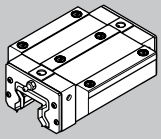
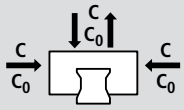
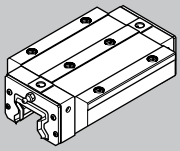
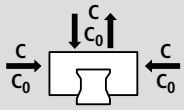
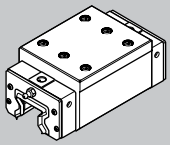
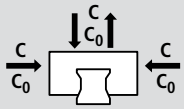
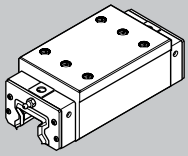
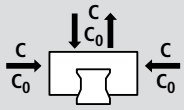
For heavy duty applications:

Rexroth Heavy Duty Roller Rail Systems



Rexroth Roller Rail Systems
Product Overview with Load Capacities and Rail Lengths

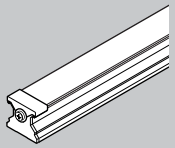
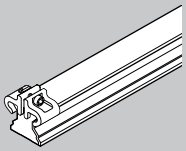
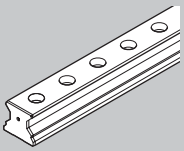
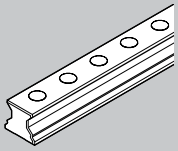
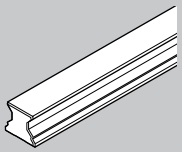
Standard Roller Rail Systems

		Page		
Standard steel runner blocks	 Standard width **1851-** Special versions: for wall mounting **1851-...-18** with aluminum end caps **1851-...-13** hard chrome-plated **1851-...-60**	**40** **48** **50** **54**		
	 Standard width, long **1853-** Special versions: for wall mounting **1853-...-18** with aluminum end caps **1853-...-13** hard chrome-plated **1853-...-60**	**42** **48** **51** **54**		
	 Slimline, high **1821-** Special versions: for wall mounting **1821-...-18** with aluminum end caps **1821-...-13** hard chrome-plated **1821-...-60**	**44** **49** **52** **55**		
	 Slimline, high, long **1824-** Special versions: for wall mounting **1824-...-18** with aluminum end caps **1824-...-13** hard chrome-plated **1824-...-60**	**46** **49** **53** **55**		

Size	25	35	45	55	65
	Load capacities				
C (N)	26900	56300	92300	128900	207000
C_0 (N)	53200	113500	184800	248600	382000
C (N)	33300	69700	119200	165000	265500
C_0 (N)	70000	149300	256600	345300	525600
C (N)	26900	56300	92300	128900	–
C_0 (N)	53200	113500	184800	248600	–
C (N)	33300	69700	119200	165000	265500
C_0 (N)	70000	149300	256600	345300	525600

Rexroth Roller Rail Systems
Product Overview with Load Capacities and Rail Lengths

Standard Roller Rail Systems

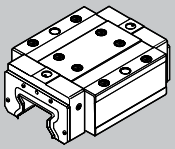
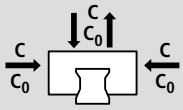
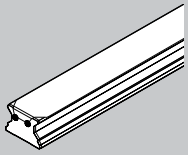
		Page
Standard guide rails	For mounting from above, with cover strip and screw-down protective caps **1805-.6.-** Special versions: hard chrome-plated **1845-.5.-** 	**58** **70**
	For mounting from above, with cover strip and strip clamp **1805-.3.-** 	**60**
	For mounting from above, for cover strip **1805-.2.-** Special versions: hard chrome-plated **1845-.8.-** 	**62** **72**
	For mounting from above, with plastic mounting hole plugs **1805-.5.-** for steel mounting hole plugs **1806-.5.-** Special versions: hard chrome-plated **1845-.1.-** 	**64** **66** **74**
	For mounting from below **1807-.0.-** Special versions: hard chrome-plated **1847-.1.-** 	**68** **76**

* For special applications.
Standard length up to 4000 mm

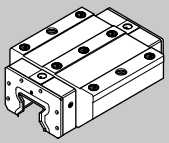
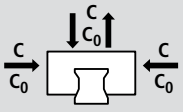
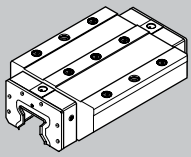
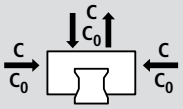
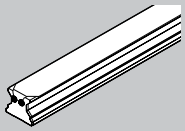
Size	25	35	45	55	65
	Maximum length per one-piece section (mm)				
	4000	6000*	6000*	6000*	6000*
	4000	4000	4000	4000	4000
	4000	6000*	6000*	6000*	6000*
	4000	6000*	6000*	6000*	6000*
	4000	4000	4000	4000	4000
	4000	6000*	6000*	6000*	6000*
	4000	4000	4000	4000	4000
	4000	4000	4000	4000	4000
	4000	4000	4000	4000	4000

Rexroth Roller Rail Systems
Product Overview with Load Capacities and Rail Lengths

Wide Roller Rail Systems

		Page	
Wide steel runner blocks	 Wide runner block **1872-** Special versions: hard chrome-plated **1872-...-60**	**88**	
Wide guide rails	 For mounting from above, with cover strip **1875-.6.-** Special versions: hard chrome-plated **1873-.53-**	**90** **92**	

Heavy Duty Roller Rail Systems

		Page	
Heavy duty steel runner blocks	 Standard width **1861-** Special versions: hard chrome-plated **1861-...-60**	**102**	
	 Standard width, long **1863-** Special versions: hard chrome-plated **1863-...-60**	**104**	
Heavy duty guide rails	 For mounting from above, with cover strip **1835-.6.-** Special versions: hard chrome-plated **1865-35.-**	**106** **108**	

Size			55/85	65/100	
			Load capacities		
C_0 (N)			165000	265500	
C_0 (N)			345300	525600	
			Maximum length per one-piece section (mm)		
			4000	6000	
			4000	4000	

Size			125		
			Load capacities		
C (N)			603000		
C_0 (N)			1324000		
C (N)			1020000		
C_0 (N)			1941900		
			Maximum length per one-piece section (mm)		
			2634		
			2634		

Rexroth Roller Rail Systems
Combination Options

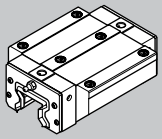
Rexroth profiled rail systems are no "off-the-peg" products. They can be assembled in any desired combination for optimal customization to the user's specific application, true to our motto:

Make up your own compact linear motion guideways from interchangeable standard stock elements...

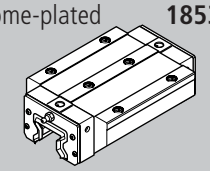
Modular design at its best.

Standard runner blocks

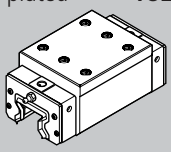
Runner block **1851...-10**
standard width
for wall mounting **1851-...-18**
with aluminum end caps **1851-...-13**
hard chrome-plated **1851-...-60**



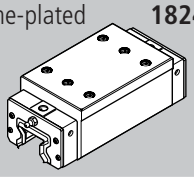
Runner block **1853...-10**
standard width, long
for wall mounting **1853-...-18**
with aluminum end caps **1853-...-13**
hard chrome-plated **1853-...-60**



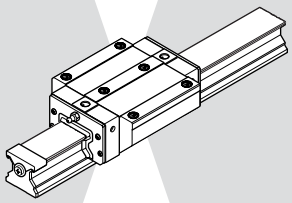
Runner block **1821-...-10**
slimline, high
for wall mounting **1821-...-18**
with aluminum end caps **1821-...-13**
hard chrome-plated **1821-...-60**



Runner block **1824-...-10**
slimline, high, long
for wall mounting **1824-...-18**
with aluminum end caps **1824-...-13**
hard chrome-plated **1824-...-60**

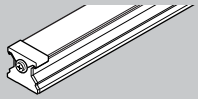


…can be combined with…
to form a complete guideway unit.

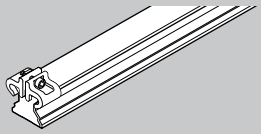


Standard guide rails

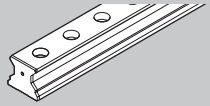
Guide rail **1805-.6.-**
for mounting from above, with cover strip and protective caps
hard chrome-plated **1845-.5.-**



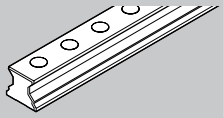
Guide rail **1805-.3.-**
for mounting from above, with cover strip and strip clamp



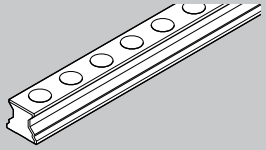
Guide rail **1805-.2.-**
for mounting from above, for cover strip
hard chrome-plated **1845-.8.-**



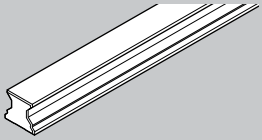
Guide rail **1805-.5.-**
for mounting from above, with plastic mounting hole plugs
hard chrome-plated **1845-.1.-**



Guide rail **1806-.5.-**
for mounting from above, for steel mounting hole plugs



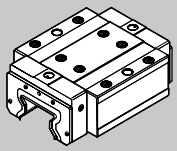
Guide rail **1807-.0.-**
for mounting from below
hard chrome-plated **1847-.1.-**

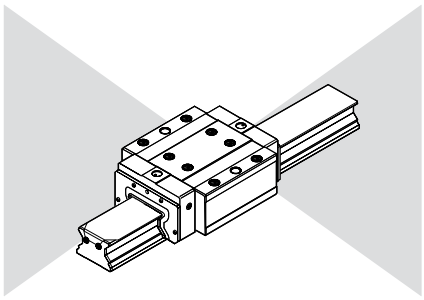


Combination Options

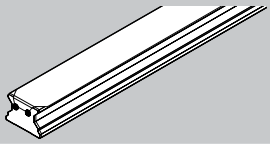
Wide runner blocks

Runner block **1872-...-10**
wide
hard chrome-plated **1872-...-60**



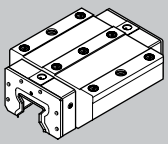


Guide rail **1875-.6.-**
wide, for mounting from above, with cover strip
hard chrome-plated **1873-.53-**

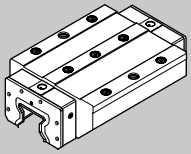


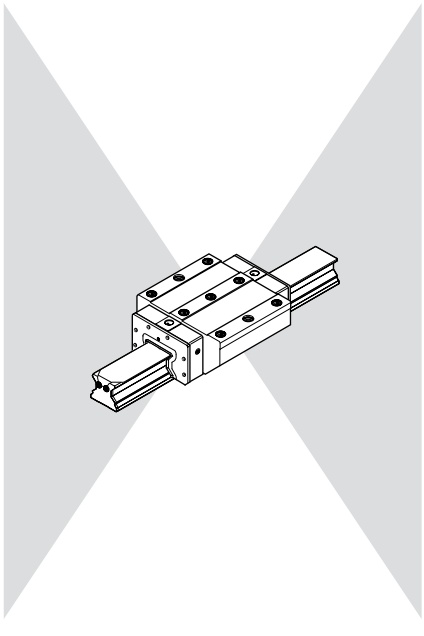
Heavy duty runner blocks

Runner block **1861-3..-10**
heavy duty, standard width
hard chrome-plated **1861-3..-60**

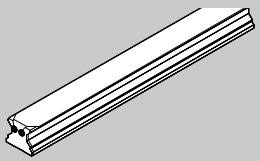


Runner block **1863-3..-10**
heavy duty, standard width, long
hard chrome-plated **1863-3..-60**





Guide rail **1835-36.-**
heavy duty, for mounting from above, with cover strip
hard chrome-plated **1865-353-**



Rexroth Roller Rail Systems
General Technical Data

Preload classes

To cater for the widest possible range of applications Rexroth Roller Rail Systems are provided in three different preload classes.

The following preload classes are available as standard:
0.08 C 0.13 C
0.03 C on request

To prevent any shortening of service life, the preload should not exceed 1/3 of the bearing load F.

General data

Velocity

$v_{max} = 2$ m/s

Speeds of up to 3 m/s are possible. Service life is limited by wear of plastic parts.

Acceleration

$a_{max} = 50$ m/s^2

Requirement: The Roller Rail System must always be preloaded, even when operated under load!

Operating temperature

$t_{max} = 100^{o}$C

Friction

The friction coefficient μ is approx. **0.001** (excluding seal friction).

Reference values for the frictional force in a sealed and lubricated complete runner block.

The values apply to all runner blocks in all preload classes.

Size	F_f [N]
25	30.0
35	40.0
45	60.0
55	70.0
65	90.0
55/85	70.0
65/100	90.0
125	600

F_f = frictional force

Calculations

Nominal life

Calculate the nominal travel life L or L_h according to formula (1), (2) or (3):

- at constant speeds

(1) $$L = \left(\frac{C}{F}\right)^{\frac{10}{3}} \cdot 10^5$$

(2) $$L_h = \frac{L}{2 \cdot s \cdot n \cdot 60}$$

L	=	nominal life	(m)
L_h	=	nominal life	(h)
C	=	dynamic load capacity	(N)
F	=	equivalent dynamic load	(N)
s	=	stroke length	(m)
n	=	stroke repetition rate (full cycles)	(min^{-1})

- at variable speeds

(3) $$L_h = \frac{L}{60 \cdot v_m}$$

(4) $$v_m = \frac{t_1 \cdot v_1 + t_2 \cdot v_2 + \ldots + t_n \cdot v_n}{100}$$

L	=	nominal life	(m)
L_h	=	nominal life	(h)
v_m	=	average speed	(m/min)
$v_1, v_2 \ldots v_n$	=	discrete speed steps	(m/min)
$t_1, t_2 \ldots t_n$	=	percentage of stroke covered at $v_1, v_2 \ldots v_n$	(%)

Equivalent dynamic loads on bearings for calculation of nominal life

If the bearings are subjected to variable loads, calculate the equivalent dynamic load F according to formula (5):

- under variable loads

(5) $$F = \sqrt[\frac{10}{3}]{F_1^{\frac{10}{3}} \cdot \frac{q_1}{100} + F_1^{\frac{10}{3}} \cdot \frac{q_2}{100} + \ldots + F_n^{\frac{10}{3}} \cdot \frac{q_n}{100}}$$

F	=	equivalent dynamic load	(N)
$F_1, F_2 \ldots F_n$	=	discrete dynamic load steps	(N)
$q_1, q_2 \ldots q_n$	=	percentage of stroke covered under $F_1, F_2 \ldots F_n$	(%)

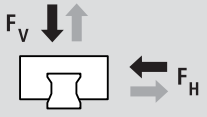
- under combined loads

If the bearings are subjected to combined loads (vertical and horizontal), calculate the equivalent dynamic load F according to formula (6):

Note:
The structure of Roller Rail Systems allows this simplified calculation.

(6) $$F = |F_V| + |F_H|$$

F	=	equivalent dynamic load	(N)
F_V	=	external dynamic load, vertical	(N)
F_H	=	external dynamic load, horizontal	(N)



Notes

If F_V and F_H involve several different load levels, they have to be calculated separately using formula (5).

An external load acting at an angle on the runner block is to be broken down into its F_V and F_H components, whose values are then to be used in formula (6).

Rexroth Roller Rail Systems
Calculations

Equivalent dynamic loads on bearings for calculation of nominal life

- **under combined loads in combination with a moment**

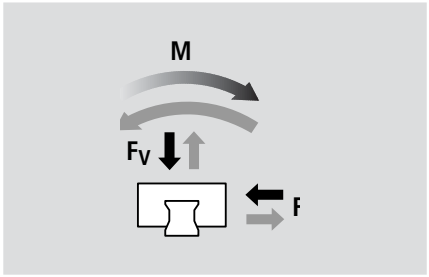
If the bearings are subjected to combined external loads (vertical and horizontal) in combination with a moment, calculate the equivalent dynamic load F according to formula (7):

Formula (7) is only applicable if a single guide rail is used.

$$(7)\quad F = |F_V| + |F_H| + C \cdot \frac{|M|}{M_t}$$

F	=	equivalent dynamic load	(N)
F_V, F_H	=	external dynamic loads	(N)
M	=	dynamic moment	(Nm)
C	=	dynamic load capacity *	(N)
M_t	=	permissible dynamic moment *	(Nm)

* see load capacity tables



Notes

If F_V and F_H involve several different load levels, they have to be calculated separately using formula (5).

An external load acting at an angle on the runner block is to be broken down into its F_V and F_H components, whose values are then to be used in formula (7).

Equivalent static load on bearing

If bearings are subjected to combined static loads (vertical and horizontal) in combination with a static moment, calculate the equivalent static load F_0 according to formula (8).

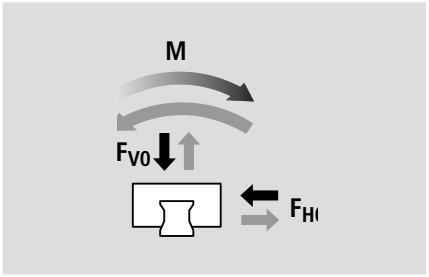
The equivalent static load F_0 must not exceed the static load capacity C_0.

Formula (8) is only applicable if a single guide rail is used.

$$(8)\quad F_0 = |F_{V0}| + |F_{H0}| + C_0 \cdot \frac{|M_0|}{M_{t0}}$$

F_0	=	equivalent static load	(N)
F_{V0}, F_{H0}	=	external static loads	(N)
M_0	=	static moment	(Nm)
C_0	=	static load capacity *	(N)
M_{t0}	=	permissible static moment *	(Nm)

* see load capacity tables



Note

An external load acting at an angle on the runner block is to be broken down into its F_{V0} and F_{H0} components, whose values are then to be used in formula (8).

Notes on Seals and Scrapers

Seals / scrapers

Additional seals and scrapers are intended to prevent dirt, chips, etc. from entering the runner block and to avoid premature termination of its useful life.

Standard version:

Internal universal seal and end seal

Universal seals and end seals are standard built-in features of Rexroth runner blocks.

They provide uniform sealing efficiency on guide rails with and without cover strip.

Wiper seals

Viton or NBR seals are optional accessories to be fitted by the customer.

For use in environments heavily soiled with fine dirt or metal particles, or where coolants and cutting fluids are used.

Replaceable.

A two-piece version is also available.

Metal scrapers

Metal scrapers with spacer plates are optional accessories to be fitted by the customer.

For use in environments with hot metal chips or welding splash.

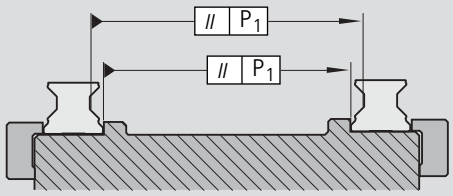
Rexroth Roller Rail Systems
General Mounting Instructions

Parallelism offset of mounted rails (tolerance)

measured on the guide rails and the runner blocks

The parallelism offset P_1 causes a slight rise in the preload on one side.

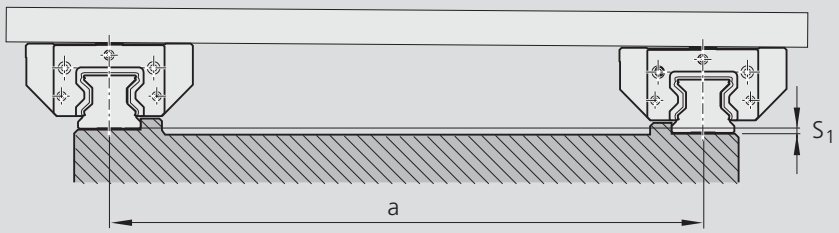
As long as the values specified in the table are met, the effect of this on the service life can generally be neglected.



Size	Parallelism offset P_1 (mm) Preload	
	0.08 C	0.13 C
25	0.007	0.005
35	0.010	0.007
45	0.012	0.009
55	0.016	0.011
65	0.022	0.016
55/85	0.016	0.011
65/100	0.022	0.016
125	–	0.026

Vertical offset

Provided the vertical offset is kept within the stated tolerances for S_1 and S_2, its influence on the service life can generally be neglected.



Permissible vertical offset in transverse direction S_1

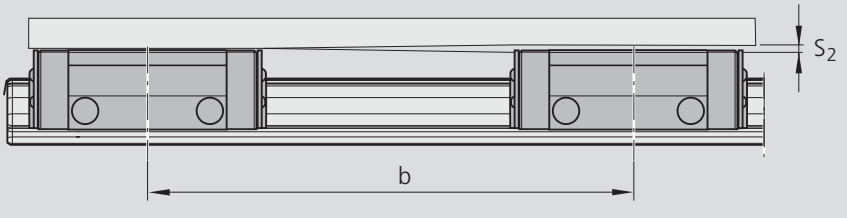
$$S_1 = a \cdot Y$$

S_1 = permissible vertical offset (mm)
a = distance between guide rails (mm)
Y = calculation factor

Calculation factor	for preload classes	
	Preload 0.08 C	Preload 0.13 C
Y	$1.7 \cdot 10^{-4}$	$1.2 \cdot 10^{-4}$

Permissible vertical offset in longitudinal direction S_2

The permissible vertical offset S_2 includes the tolerance max. difference in dimension H on the same guide rail, as given in the table on page 29.



Runner blocks 1851-, 1821-, 1861-

$$S_2 = b \cdot 4.3 \cdot 10^{-5}$$

Runner blocks 1853-, 1824-, 1863-, 1872- (long version)

$$S_2 = b \cdot 3.0 \cdot 10^{-5}$$

S_2 = permissible vertical offset (mm)
b = distance between runner blocks (mm)

General notes

The following installation notes apply to all Roller Rail Systems.

Rexroth roller rail systems are high quality, precision manufactured products and must therefore be handled with the utmost care in transit and during subsequent installation.

The same care must be taken with cover strips (see the relevant mounting instructions).

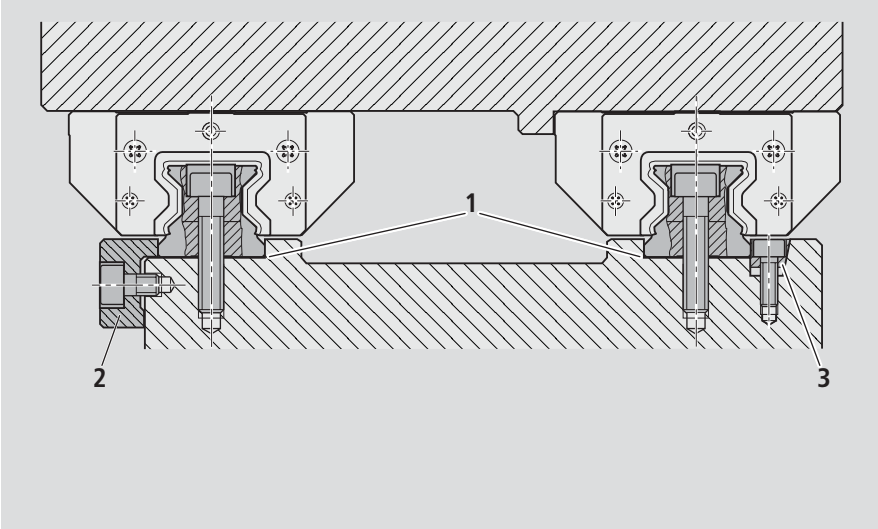
All steel parts are treated with anti-corrosion oil prior to shipment. It is not necessary to remove this oil provided the recommended lubricants are used.

Mounting instructions

Mounting the guide rails:

Guide rail with lateral retention:

- If a cover strip is fitted, unclip it. (Observe the mounting instructions!)
- Push both rails into contact with the reference edges (1) and tighten the screws lightly.
- Fix the rails in place with retaining strips (2) or wedge profiles (3).
- Apply the specified torque to tighten the guide rail screws.
- Mount the cover strip or the mounting hole plugs. (Observe the mounting instructions!)



Note

For guide rails without lateral retention, we recommend using a straightedge to make sure the rails are properly aligned and parallel during assembly.

Rexroth Roller Rail Systems
General Mounting Instructions

Mounting the runner block:

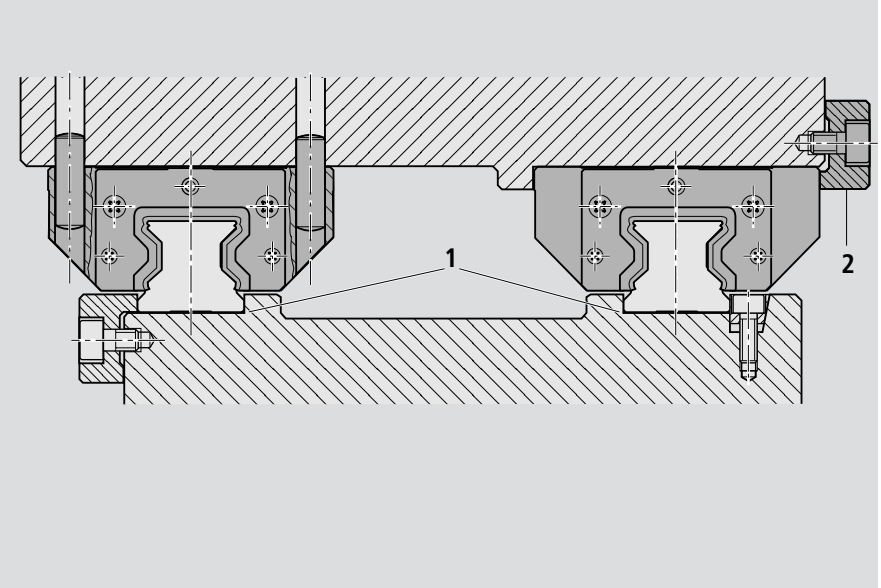
⚠ Before mounting the runner block, oil or grease the bevel on the end face of the guide rail and the sealing lips of the runner block.

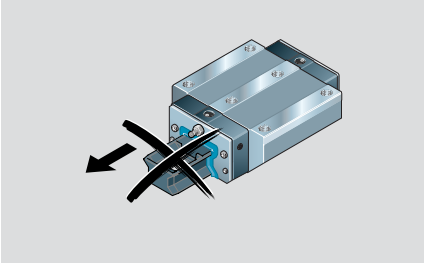
- Carefully slide the runner block onto the guide rail.
- Press the runner block on the first rail against the reference edge (1) and screw down.
- Screw down the runner block on the second rail and pin if required.

Do not drill holes for locating pins until after mounting.

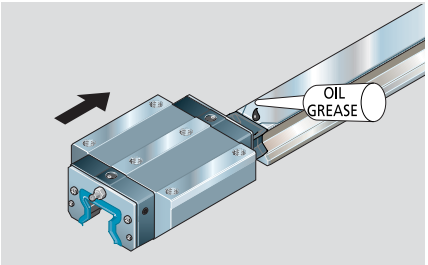
If the system has been properly installed, the runner block should slide easily on the rail.

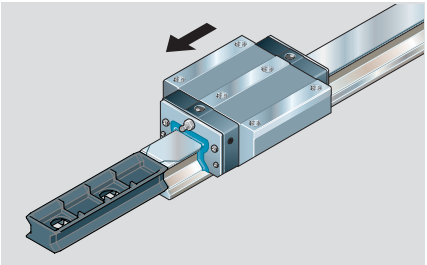
- Now apply the initial lubrication (see chapter "Lubrication").





⚠ Do not remove the transport and mounting arbor from the runner block until the runner is safely on the rail! Otherwise, the rollers may fall out!



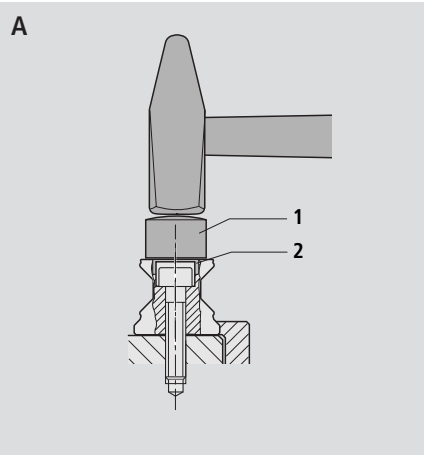


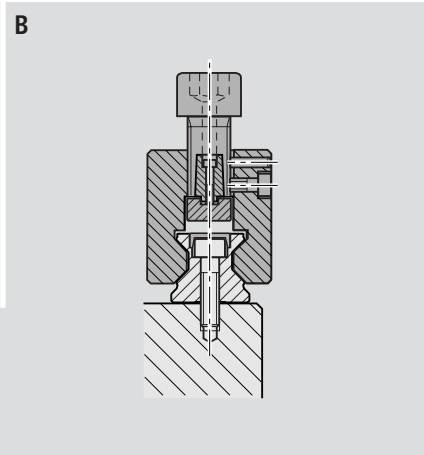
⚠ Use the mounting arbor again to remove runner blocks from the rail! When not installed on the guide rails, the runner blocks should always be kept on the arbor!

Inserting the mounting hole plugs:

A After mounting the guide rails, tap the plastic mounting hole plugs (2) into the screw holes with the aid of a plastic pad (1) until flush with the surface of the rail.

B Steel mounting hole plugs: Always use the special mounting tool. The plugs must be flush with the rail surface before mounting the runner block! See mounting instructions.





Load on the screw connections between the guide rail and the mounting base

Rexroth high-performance profiled rail guideways permit the load limits for screw connections as specified in DIN 645-1 to be exceeded. The most critical point is the screw connection between the guide rail and the mounting base. Joints for which the lift-off loads (F) or moments (M_t) exceed the relevant load limits in the table must be separately recalculated.

The values shown here apply under the following conditions:

– Mounting screw quality 12.9
– Screws tightened with a torque wrench
– Screws lightly oiled
(for screws in quality 8.8, an approximation factor of 0.6 can be applied).

Standard roller rail systems

Guide rail	Size	Runner block 1821, 1851 F_{max} (N)	1821, 1851 $M_{t\,max}$ (Nm)	Runner block 1824, 1853 F_{max} (N)	1824, 1853 $M_{t\,max}$ (Nm)
1805 1806 1845	25	34300	360	39200	410
	35	64500	1030	73800	1180
	45	157800	3390	180400	3870
	55	216800	5400	247800	6100
	65			339400	10100
1807 1847	25	34300	360	39200	410
	35	64500	1030	73800	1180
	45	157800	3390	180400	3870
	55	216800	5400	247800	6100
	65			339400	10100

Wide roller rail systems

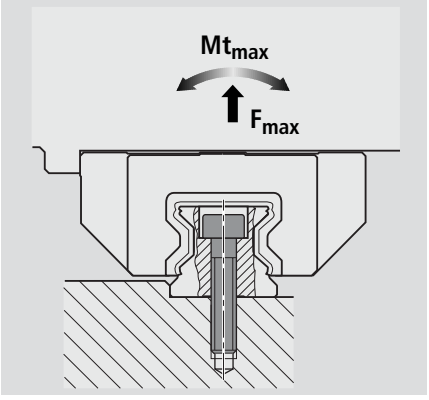
Guide rail	Size	Runner block 1872 F_{max} (N)	1872 $M_{t\,max}$ (Nm)
1875	55/85	360000	10100
1873	65/100	494000	16500

Heavy duty roller rail systems

Guide rail	Size	Runner block 1861 F_{max} (N)	1861 $M_{t\,max}$ (Nm)	1863 F_{max} (N)	1863 $M_{t\,max}$ (Nm)
1835 1865	125	1102500	66150	1260000	75600

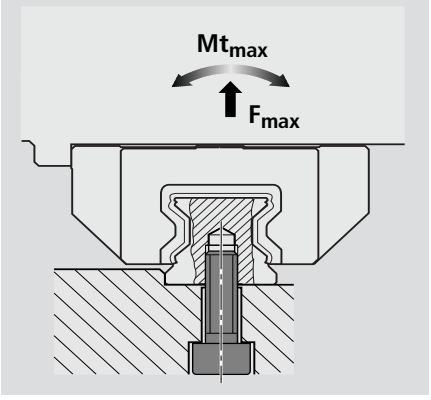
Guide rail mounted from above

1805-, 1806-, 1845-, 1835-, 1865-, 1875-, 1873-



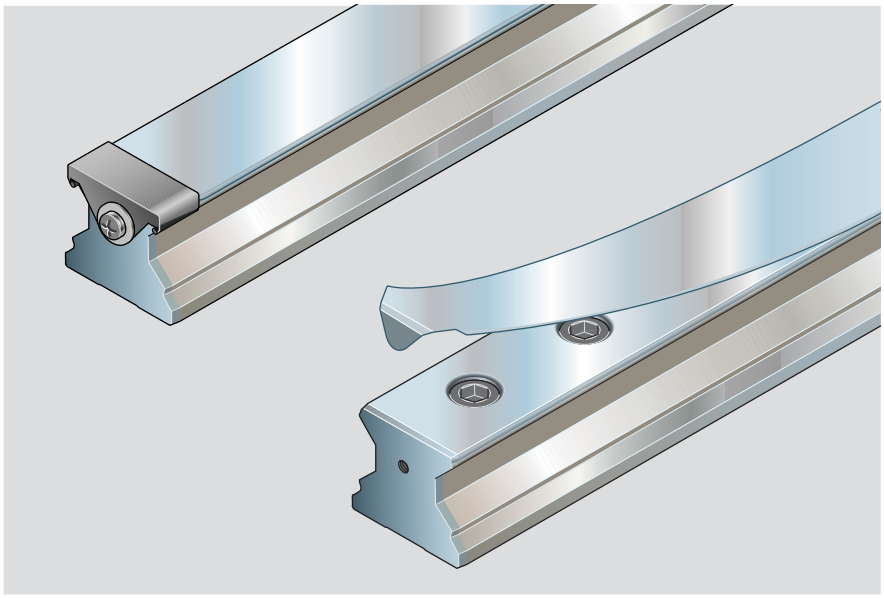
Guide rail mounted from below

1807-, 1847-



Rexroth Roller Rail Systems
Mounting Instructions for the Cover Strip

Detailed information on mounting cover strips can be found in our "Mounting Instructions for the Cover Strip", RDEFI 82 070.



Advantages of the cover strip

The cover strip is easy to clip on and remove.

– This considerably facilitates and speeds up the mounting process.
– The cover strip can be mounted and removed several times.

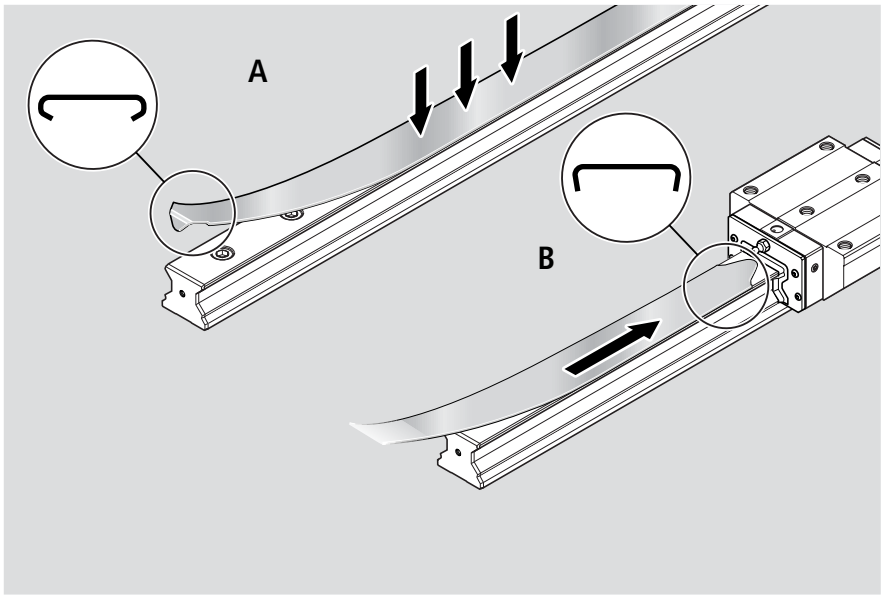
The cover strip is a precision-machined part that must be handled with great care. It must on no account be bent.

Versions / functions

A Snap-fit cover strip (standard)
- The cover strip is clipped on before the runner block is mounted and fits tightly.

B Sliding-fit cover strip
- For mounting or replacing a cover strip when the runner block or superstructure cannot be removed.
- A section of the snap-fit cover strip is very slightly widened and can then be easily slid under the runner block.

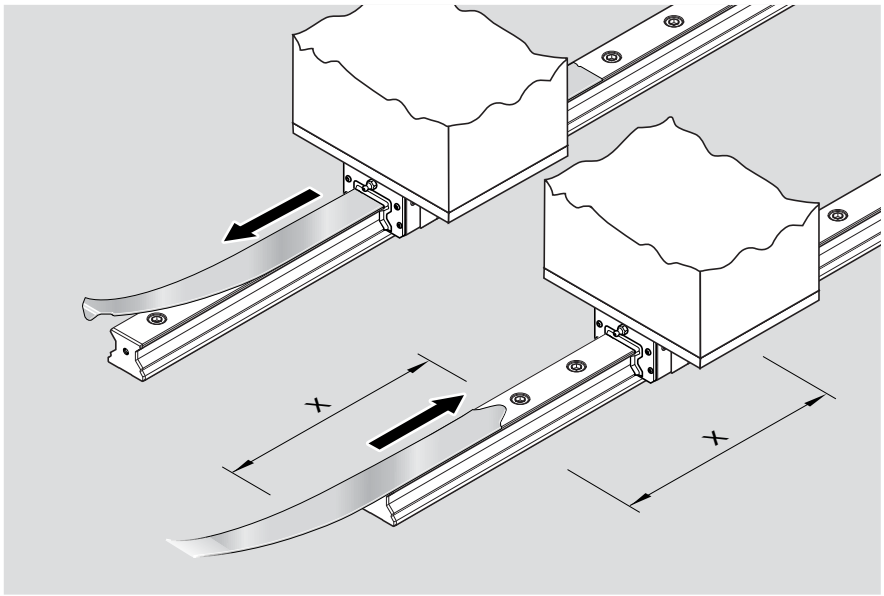
Observe the detailed mounting instructions.



A special expanding tool for cover strips can be used to create the sliding fit after installation in order to be able to remove a cover strip.

The main advantage is that the length **X** of the sliding fit can be optimized to suit the installation conditions.

Observe the detailed mounting instructions!



For part numbers see sections "Cover strip, Protective caps, Mounting hole plugs".

Shipment

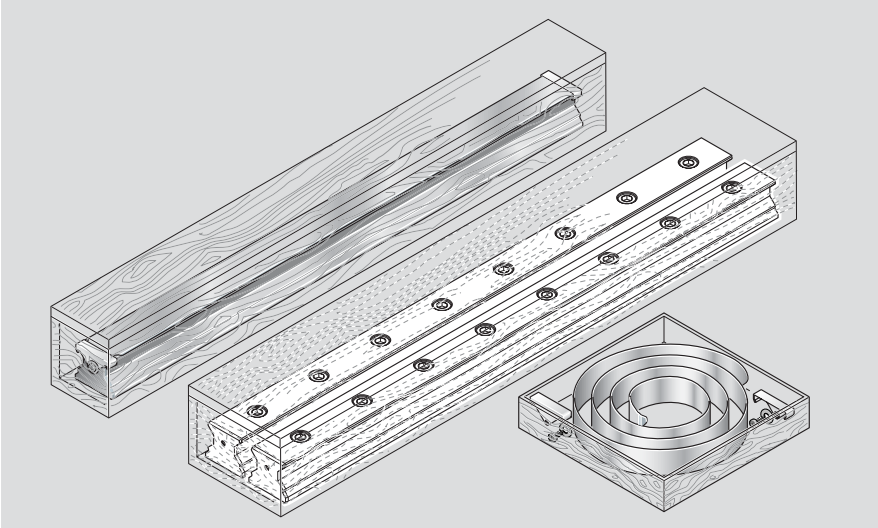
For one-piece guide rails:

Standard: One-piece roller guide rails are shipped with the cover strip clipped on, both ends angled down and with protective caps screwed on.

If required, guide rails can also be supplied with a separate cover strip.

For composite guide rails:

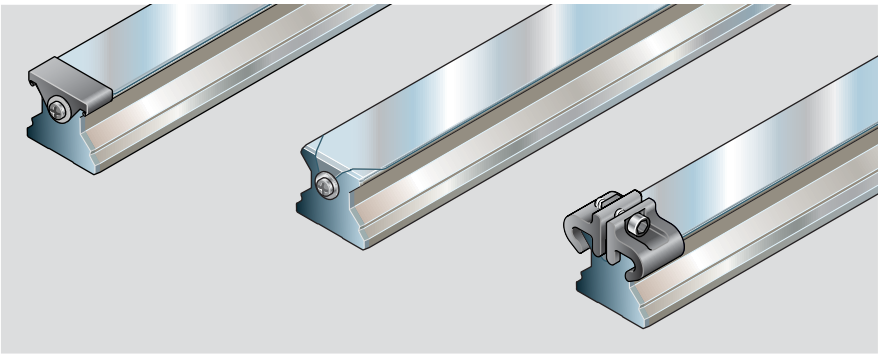
A one-piece cover strip to cover the total length is supplied, together with the protective caps and matching screws and washers, in a separate packing unit. The packing unit is marked with the same manufacturing job number as the labels on the guide rails. The cover strips have one angled-down and one straight end (strip tongue).



Securing the cover strip

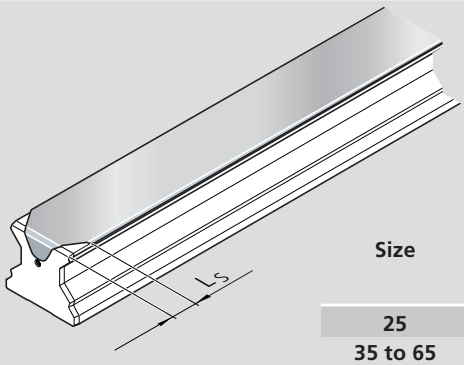
The following options are available for securing the cover strip:

- Protective cap
- Screw and washer
- Strip clamp (new)
- For further cover strip securing options see "Mounting Instructions for the Cover Strip" RDEFI 82 070.



⚠ **Limit the stroke to ensure the runner block will not run right to the rail end (bevel cut of the cover strip), otherwise the seals could be damaged.**

- Observe dimension L_S (minimum distance from the rail end)!



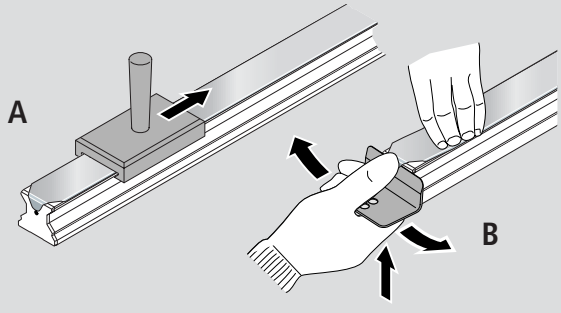
Size	L_S (mm)
25	approx. 10.0
35 to 65	approx. 12.0
55/85	approx. 13.0
65/100	approx. 12.5
125	approx. 21.5

Mounting kit for the cover strip

The mounting kit contains a mounting tool (A) as well as a lift-off plate (B) for removing the cover strip.

New: Mounting kits are now also available for wide and heavy duty guide rails.

For more detailed information and part number see section "Accessories for Guide Rails".



Rexroth Roller Rail Systems
Product Overview – Standard Steel Runner Blocks

Rexroth Roller Rail Systems were specially developed for use in machine tools and industrial robots calling for compact, rolling-element linear motion guideways. They are available in various accuracy classes, each with extremely high load capacity and high rigidity.

These space-saving assemblies in 5 common sizes afford the same high load capacities in all four major planes of load application.

Make up your own compact linear motion guideways from interchangeable standard stock elements...

Rexroth fabricates its guide rails and runner blocks with such high precision that each individual component element can be replaced by another at any time. This makes infinite combinations possible.
Each element can be individually ordered and separately stocked.

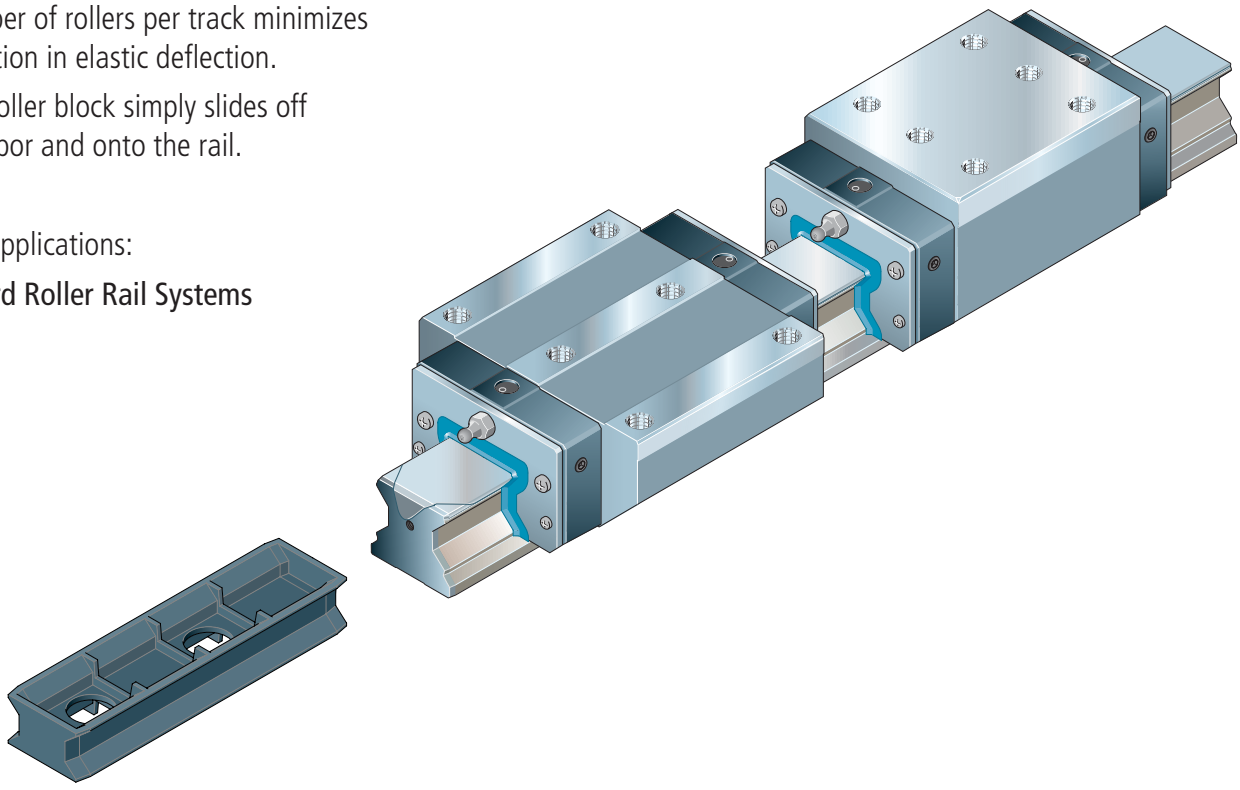
Both sides of the guide rail can be used as reference edges.

Accessories can be simply attached to the ends of the runner block.

– Uniform guide rail profile with or without cover strip allows unrestricted interchangeability of components across all runner block variants.
– Lube ports on all sides for maximum ease of maintenance.
– Novel lube duct design minimizes lubricant consumption.
– Innovative cage design allows for longer lubrication intervals.
– Smooth running thanks to optimized roller recirculation and guidance.
– Mounting of attachments to runner block from above or below.
– Improved rigidity under lift-off and side loading conditions through additional mounting screw holes at the center of the runner block.
– Optimized entry-section geometry and high number of rollers per track minimizes variation in elastic deflection.
– The roller block simply slides off its arbor and onto the rail.

For all applications:

Standard Roller Rail Systems

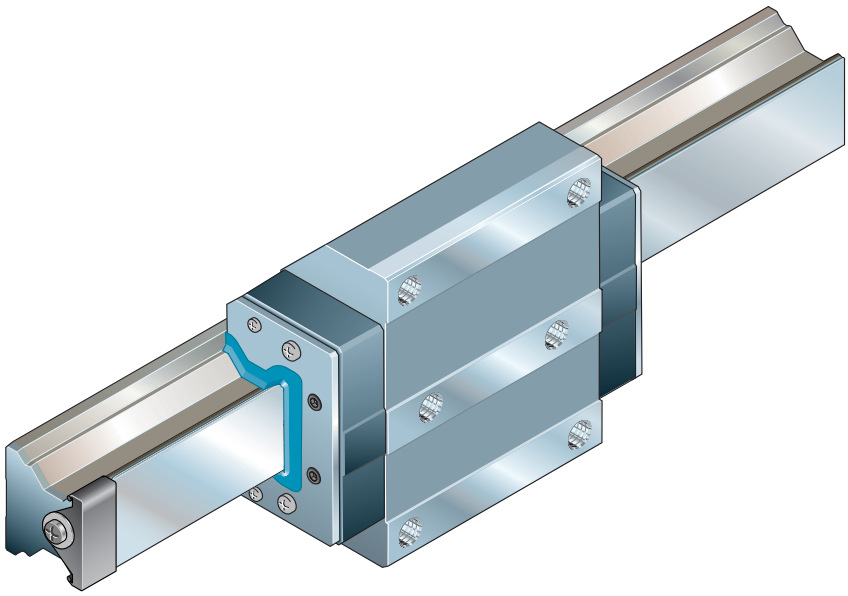


– Maximum rigidity under load from all directions
– High torque capacity
– Integrated all-round sealing
– End seal as standard

– Runner blocks in accuracy class H (preload 0.08 C) also available with surface protection:
  - hard chrome-plated

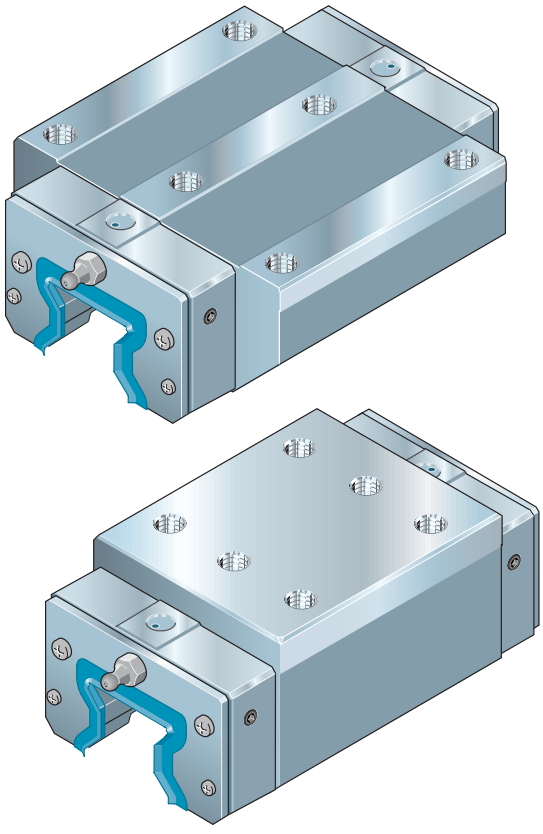
For special applications
and environments:

Standard steel runner block for wall mounting

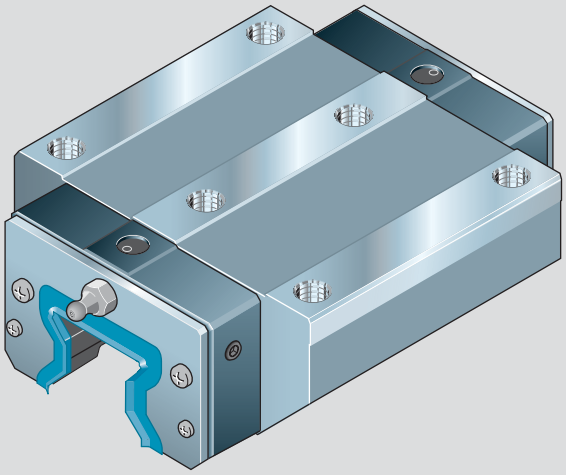


NEW
For hostile environments:

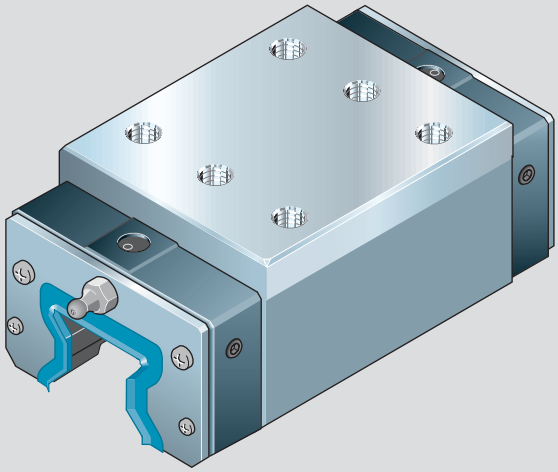
Standard steel runner block with aluminum end caps



Rexroth Roller Rail Systems
Product Description – Standard Steel Runner Blocks



Standard width

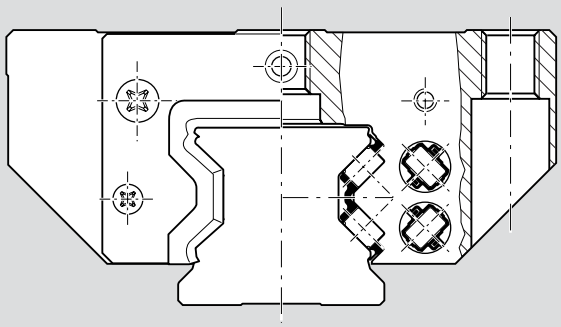


Slimline, high

The Roller Rail Systems consist of:

– guide rail, all surfaces ground, hardened bearing surfaces

– runner block of anti-friction bearing steel, hardened and ground raceways, with:
  - rollers made of anti-friction bearing steel
  - cage designed for optimum roller recirculation
  - fully sealed roller raceways
  - two end seals for better sealing and to protect plastic parts.

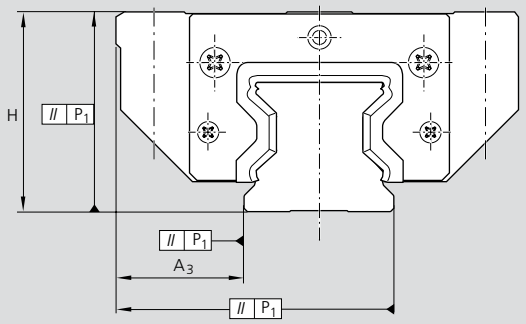


Technical Data – Standard Steel Runner Blocks

Accuracy classes and their tolerances

Rexroth Roller Rail Systems are available in up to 4 different accuracy classes.

For available versions see "Part number" tables.



Built-in interchangeability due to precision machining

Rexroth machines its guide rails and runner blocks, and the roller raceways in particular, with such high precision that each individual element is interchangeable.

Any runner block can be combined with any guide rail of the same size. It is also possible to install several different runner blocks on the same guide rail.

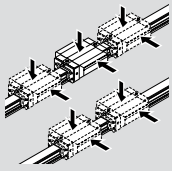
Standard steel runner blocks

Accuracy classes	Dimensional tolerances (µm)		Max. difference in dimensions H and A_3 on the same guide rail Δ H, Δ A_3 (µm)
	H	A_3	
UP	± 5	± 5	3
SP	± 10	± 7	5
P	± 20	± 10	7
H	± 40	± 20	15

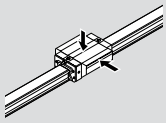
Special versions: hard chrome-plated

	H		A_3		Δ H, Δ A_3 (µm)	
	RB/GR	GR	RB/GR	GR	RB/GR	GR
SP	+ 17 – 8	+14 – 9	± 10	+ 6 – 11	8	5
P	+ 27 – 18	+ 24 – 19	± 13	+9 -14	10	7
H	+ 47 – 38	+ 44 – 39	± 23	+ 19 – 24	18	15

Measured at middle of runner block:



For any runner block / rail combination at any position on rail



For different runner blocks at same position on rail

Abbreviations

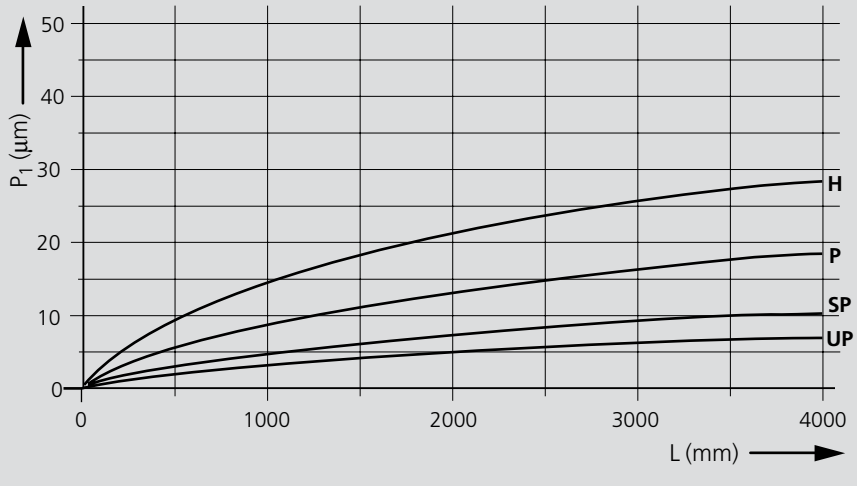
RB/GR = runner block and guide rail hard chrome-plated
GR = only the guide rail is hard chrome-plated

Parallelism offset P_1 of Roller Rail Systems when properly installed

Measured at middle of runner block

Values apply to roller rail systems without surface coating.

With hard chrome-plated guide rails, the values may increase by up to 2 µm.



Legend

P_1 = parallelism offset
L = rail length

Rexroth Roller Rail Systems
Technical Data – Standard Steel Runner Blocks

Rigidity of the Roller Rail System at 0.08 C preload

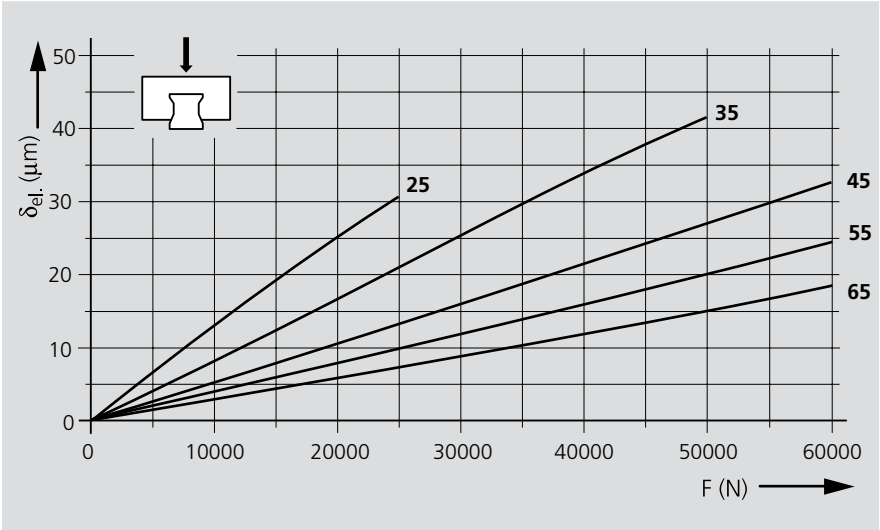
**Runner block 1851-
Standard width
(sizes 25 to 65)**

——————— measured values

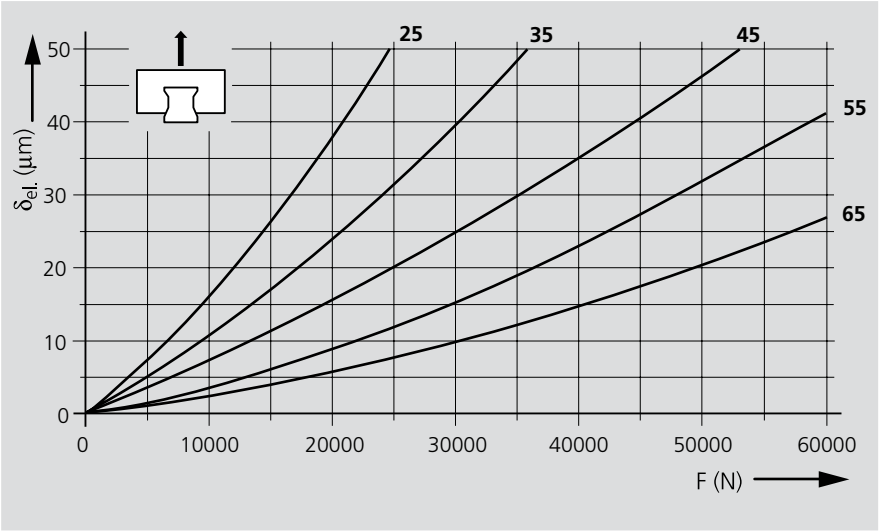
Runner block mounted using 6 screws:

- 4 outer screws of strength class 12.9
- 2 centerline screws of strength class 8.8

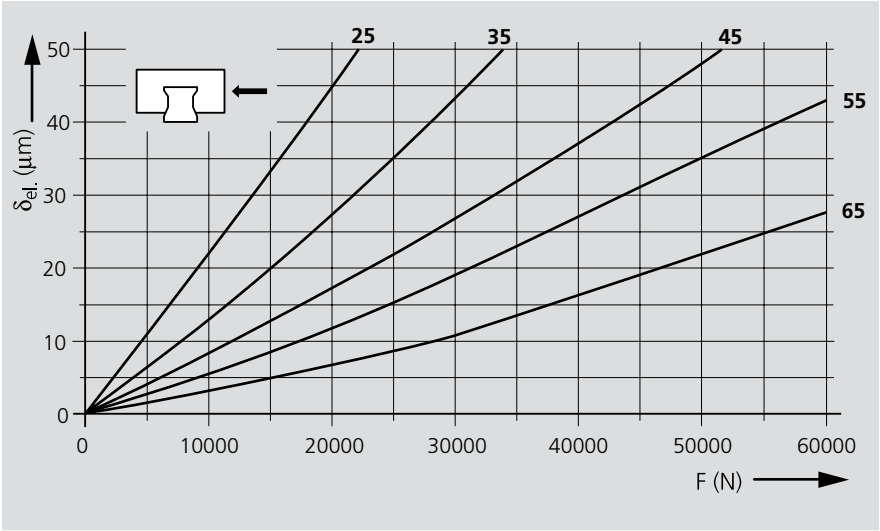
1. Down load



2. Lift-off load



3. Side load



Legend

$\delta_{el.}$ = elastic deflection
F = load

Rigidity of the Roller Rail System at 0.13 C preload

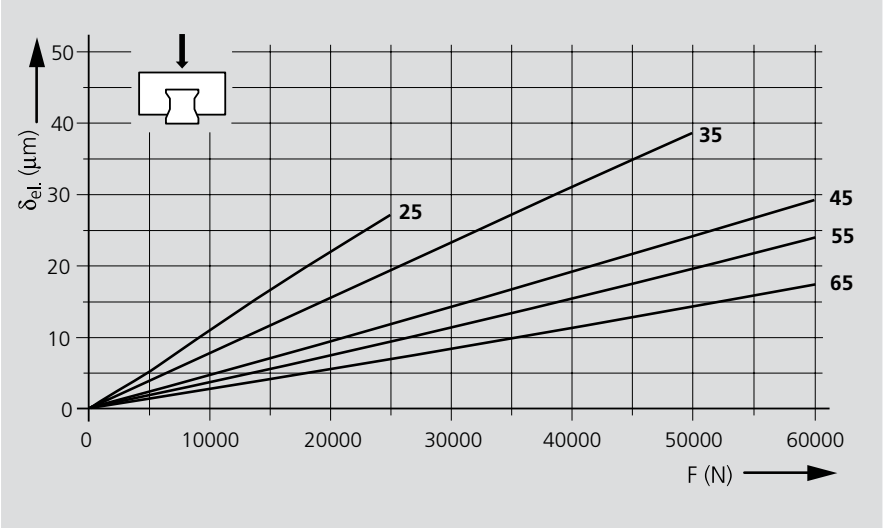
**Runner block 1851-
Standard width
(sizes 25 to 65)**

——————— measured values

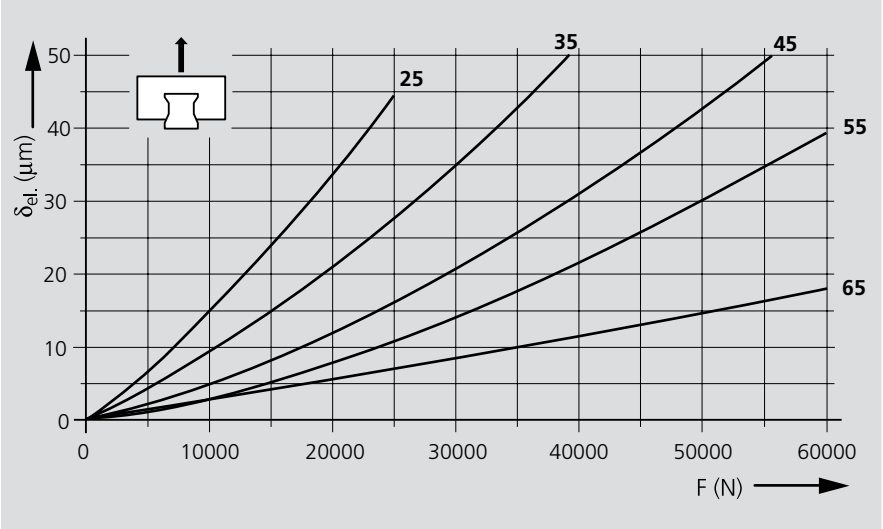
Runner block mounted using 6 screws:

- 4 outer screws of strength class 12.9
- 2 centerline screws of strength class 8.8

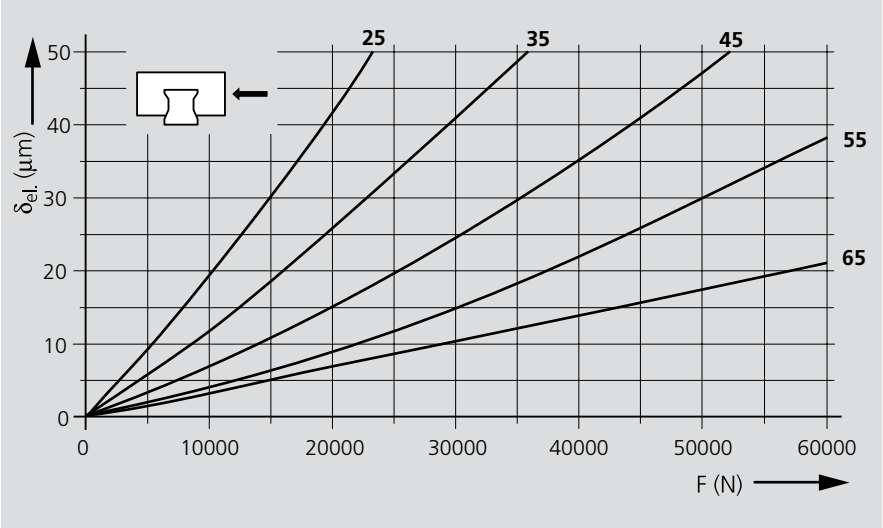
1. Down load



2. Lift-off load



3. Side load



Legend

$\delta_{el.}$ = elastic deflection
F = load

Rexroth Roller Rail Systems
Technical Data – Standard Steel Runner Blocks

Rigidity of the Roller Rail System at 0.08 C preload

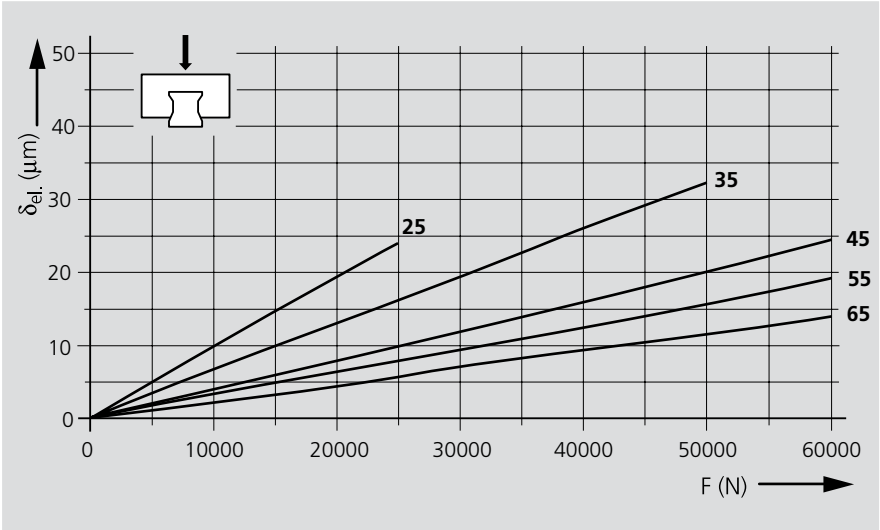
**Runner block 1853-
Standard width, long
(sizes 25 to 65)**

——————— measured values

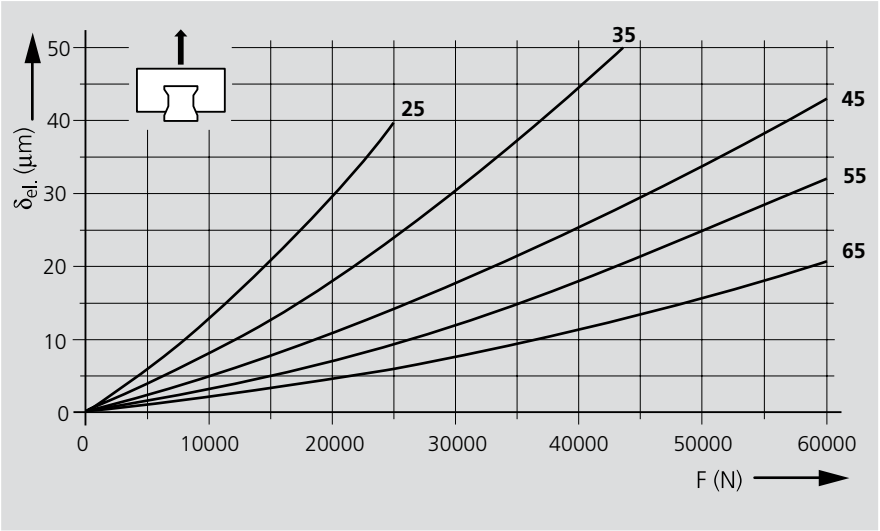
Runner block mounted using 6 screws:

- 4 outer screws of strength class 12.9
- 2 centerline screws of strength class 8.8

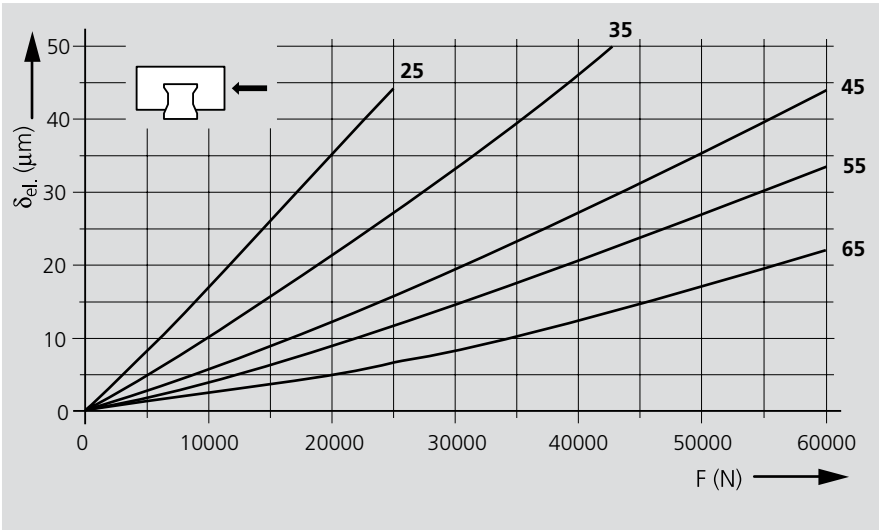
1. Down load



2. Lift-off load



3. Side load



Legend

$\delta_{el.}$ = elastic deflection
F = load

Rigidity of the Roller Rail System at 0.13 C preload

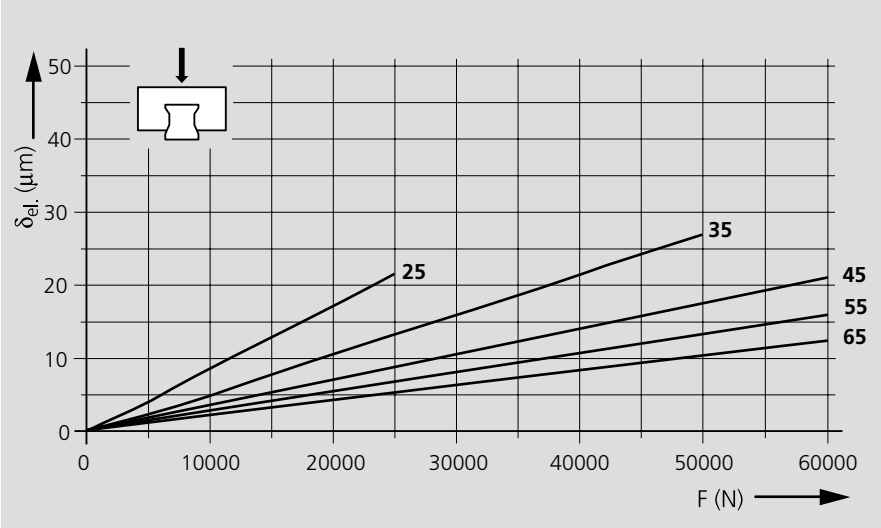
**Runner block 1853-
Standard width, long
(sizes 25 to 65)**

——————— measured values

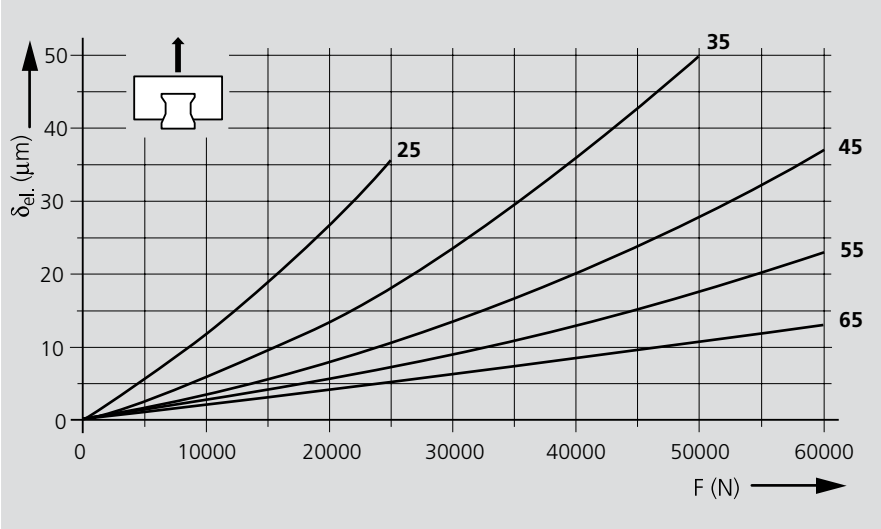
Runner block mounted using 6 screws:

- 4 outer screws of strength class 12.9
- 2 centerline screws of strength class 8.8

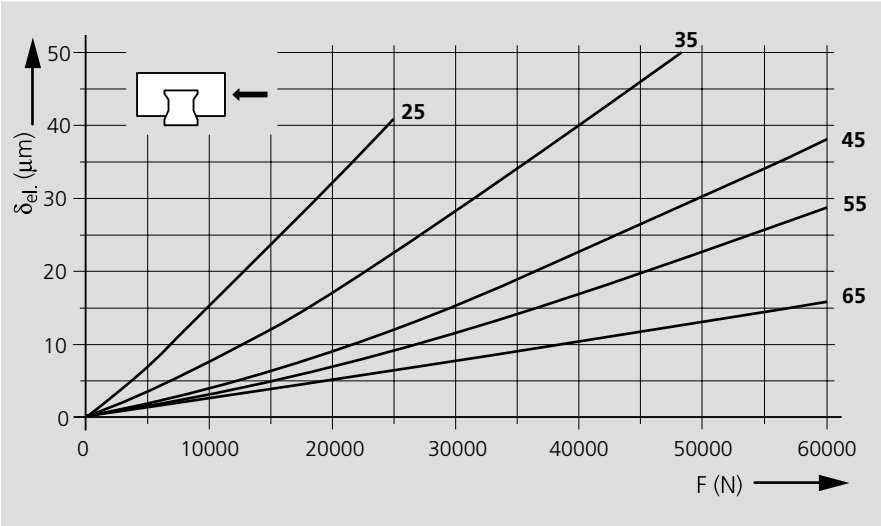
1. Down load



2. Lift-off load



3. Side load



Legend

$\delta_{el.}$ = elastic deflection
F = load

Rexroth Roller Rail Systems
Technical Data – Standard Steel Runner Blocks

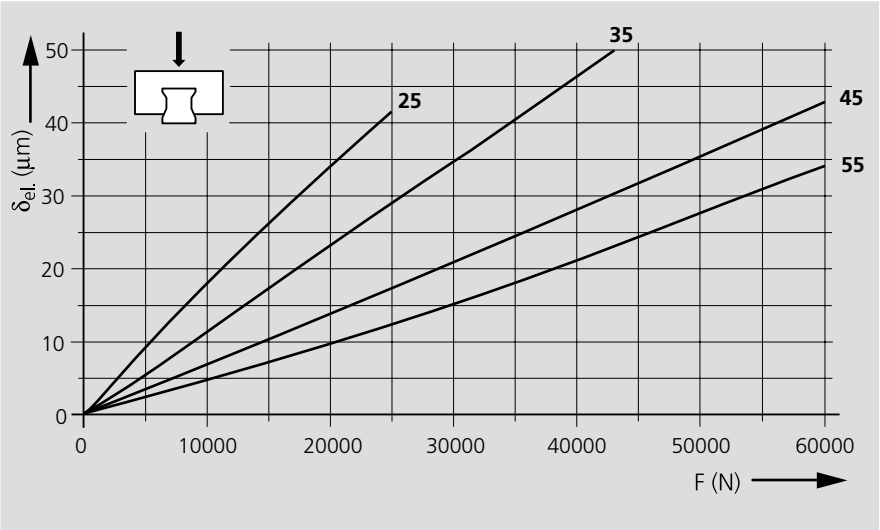
Rigidity of the Roller Rail System at 0.08 C preload

**Runner block 1821-
Slimline, high
(sizes 25 to 55)**

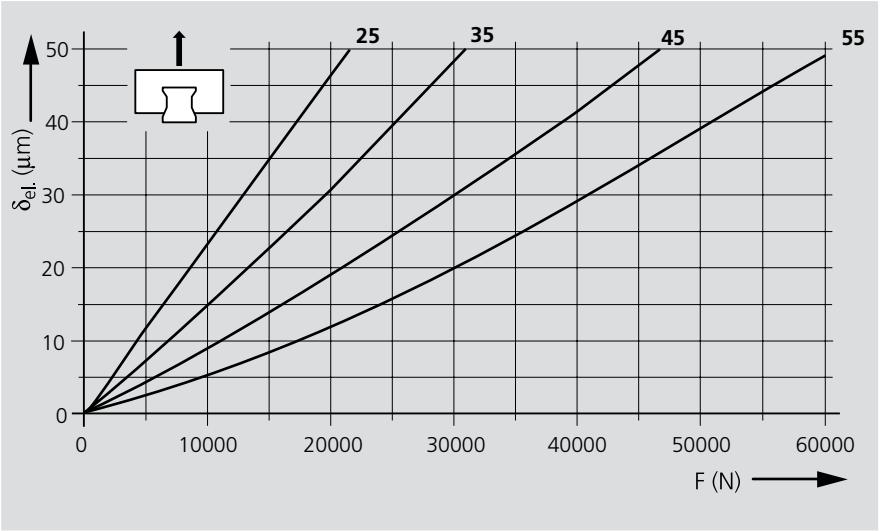
——————— measured values

**Runner block mounted using
6 screws of strength class 12.9**

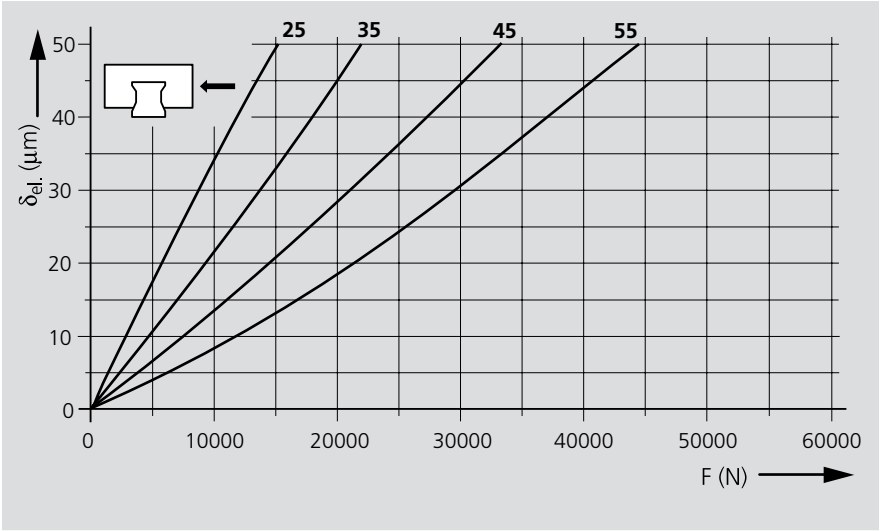
1. Down load



2. Lift-off load



3. Side load



Legend

$\delta_{el.}$ = elastic deflection
F = load

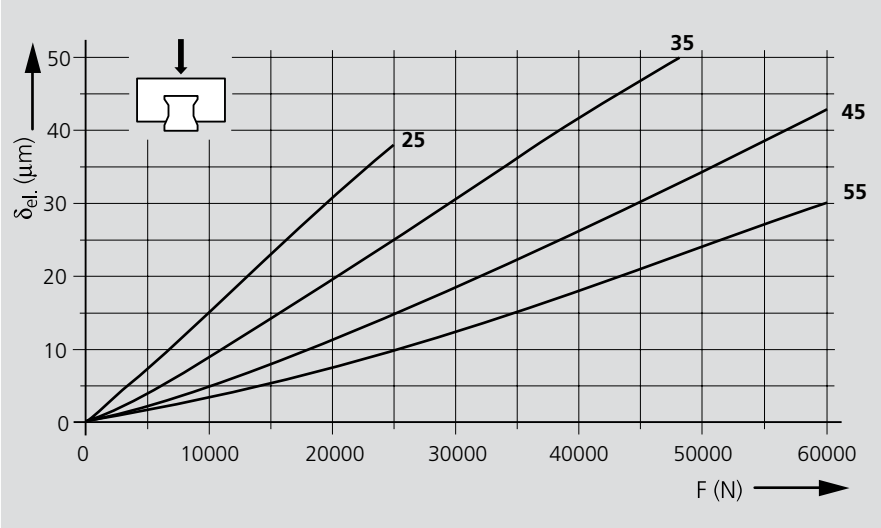
Rigidity of the Roller Rail System at 0.13 C preload

**Runner block 1821-
Slimline, high
(sizes 25 to 55)**

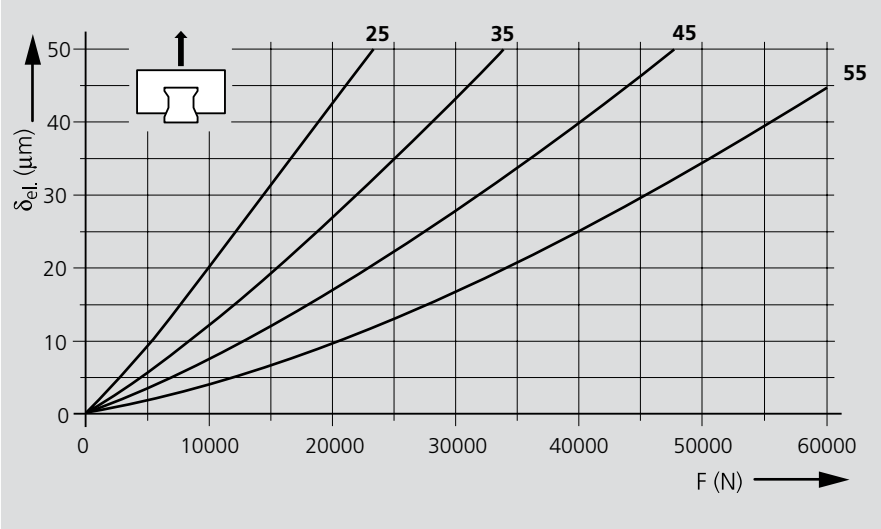
——— measured values

**Runner block mounted using
6 screws of strength class 12.9**

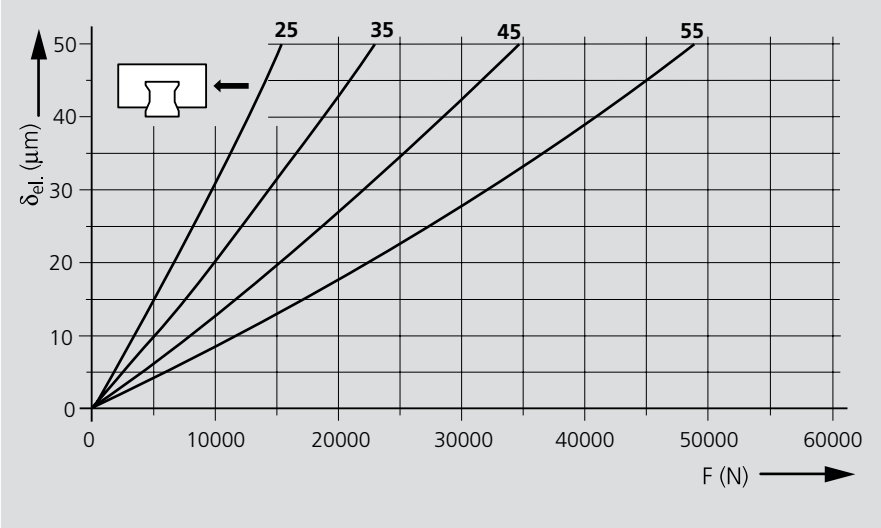
1. Down load



2. Lift-off load



3. Side load



Legend

$\delta_{el.}$ = elastic deflection
F = load

Rexroth Roller Rail Systems
Technical Data – Standard Steel Runner Blocks

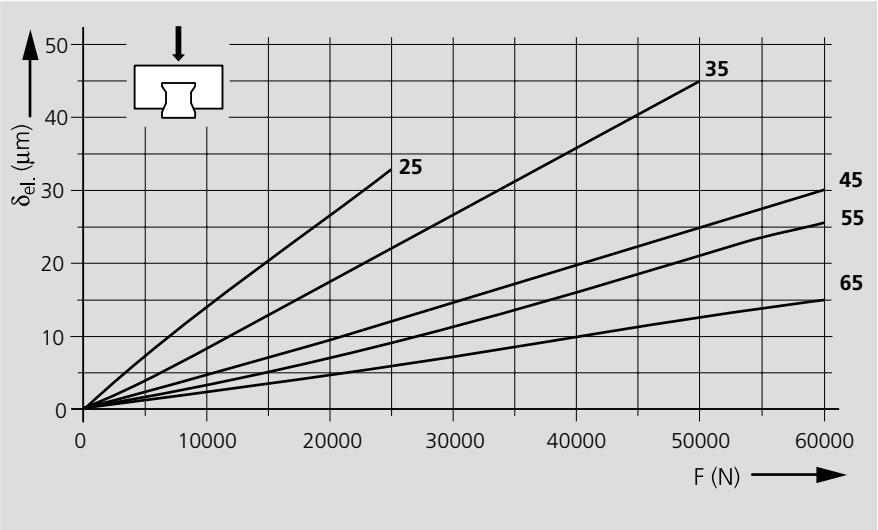
Rigidity of the Roller Rail System at 0.08 C preload

**Runner block 1824-
Slimline, high, long
(sizes 25 to 65)**

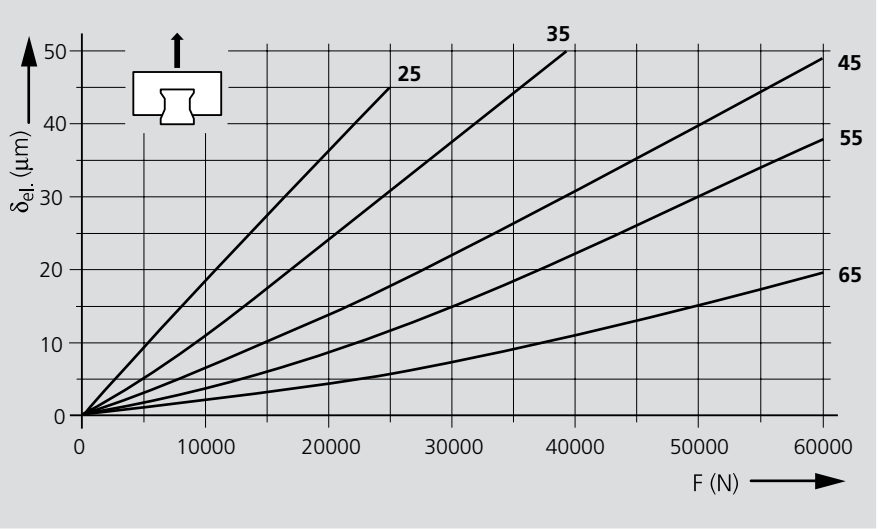
——————— measured values

**Runner block mounted using
6 screws of strength class 12.9**

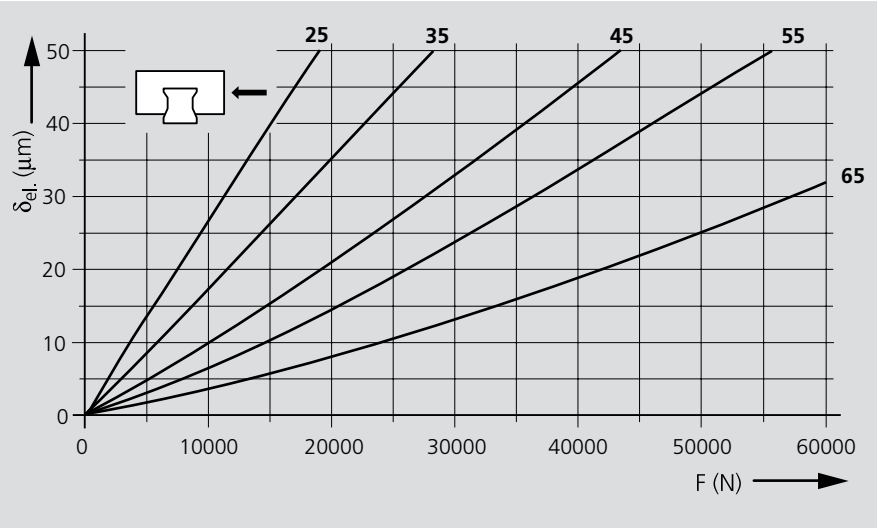
1. Down load



2. Lift-off load



3. Side load



Legend

$\delta_{el.}$ = elastic deflection
F = load

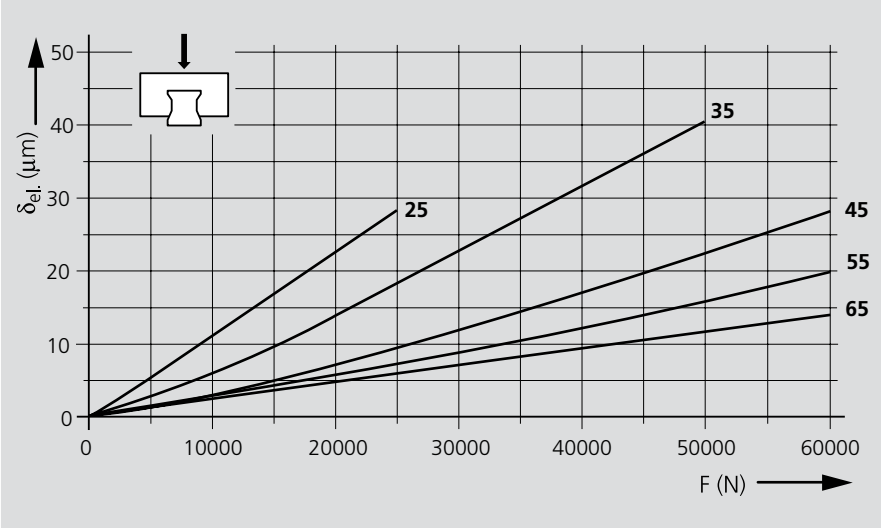
Rigidity of the Roller Rail System at 0.13 C preload

**Runner block 1824-
Slimline, high, long
(Sizes 25 to 65)**

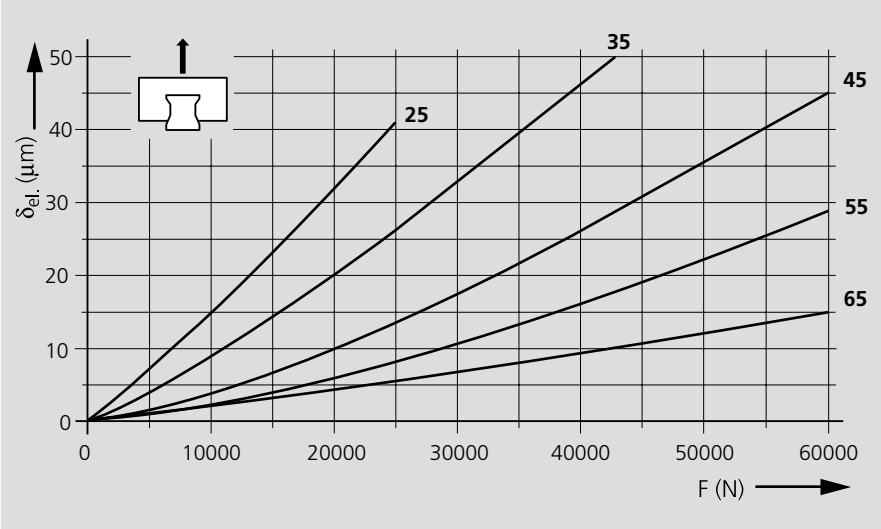
——— measured values

**Runner block mounted using
6 screws of strength class 12.9**

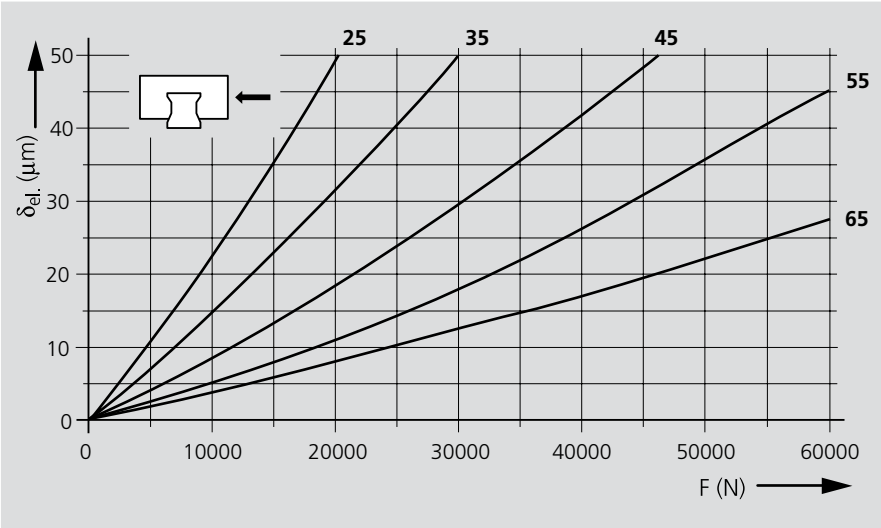
1. Down load



2. Lift-off load



3. Side load



Legend

$\delta_{el.}$ = elastic deflection
F = load

Rexroth Roller Rail Systems
Mounting Instructions for Standard Roller Rail Systems

Reference edges, corner radii, screw sizes and tightening torques

Note

The indicated combinations represent examples. Basically, any runner block may be combined with any of the rail types offered.

The recommended limits for permissible side loads **without additional lateral retention** indicate the approximate upper limits for screws in two strength classes. In other cases, the permissible side load must be calculated from the screw tension force. This can be up to about 15% less when using screws in strength class 10.9 instead of 12.9.

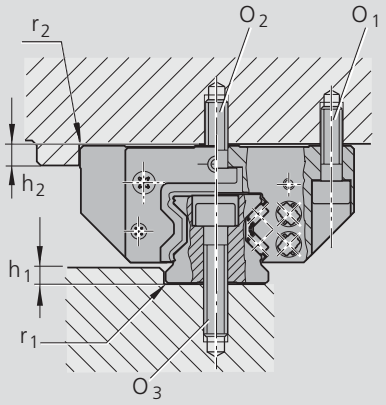
⚠ Always check the strength factor of the screws in the case of high lift-off loads!

See "Load on the screw connections between the guide rail and the mounting base".

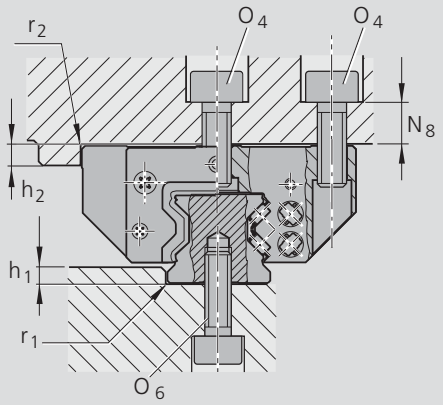
Runner blocks 1851-, 1853-

Guide rail 1805- Standard width **Guide rail 1807-**

for mounting from above



for mounting from below

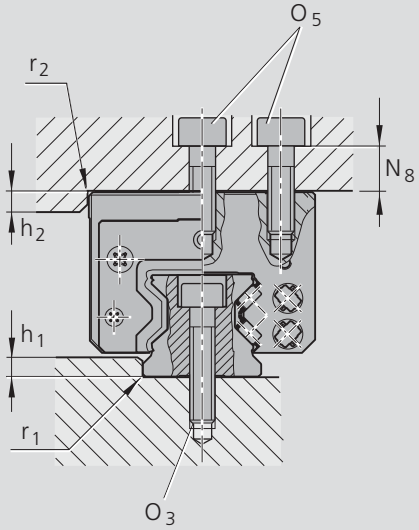


Runner blocks 1821-, 1824-

- slimline

Guide rails 1805-, 1806-

- for mounting from above



Dimensions and recommended limits for permissible side loads if no additional lateral retention is provided

Size	h_1 min. (mm)	h_1 max.[5] (mm)	r_1 max. (mm)	h_2 (mm)	r_2 max. (mm)	O_1 DIN 912 4 screws	O_2[2] DIN 6912 2 screws	O_4[1)2)] DIN 912 6 screws	O_5 DIN 912 6 screws	O_3 DIN 912	O_6 DIN 912	N_8 (mm)
25	3.0	4.5	0.8	5	0.8	M6x20	M6x16	M8x20	M6x18	M6x30	M6x20	10
35	3.5	5.0	0.8	6	0.8	M8x25	M8x20	M10x25	M8x25	M8x35	M8x25	13
45	4.5	7.0	0.8	8	0.8	M10x30	M10x25	M12x30	M10x30	M12x45	M12x30	14
55	7.0	9.0	1.2	10	1.0	M12x40	M12x30	M14x40	M12x35	M14x50	M14x40	20
65	7.0	9.0	1.2	14	1.0	M14x45	M14x35	M16x45	M16x40	M16x60	M16x45	22

1) For runner block mounting from above with only 4 O_4 screws:
   - Permissible side load 1/3 lower
   - Lower rigidity
2) For runner block mounting with 6 screws:
   - Tighten the centerline screws with the torque for strength class 8.8
3) For mounting with 2 O_2 screws and 4 O_1 screws
4) Calculated with friction coefficient $\mu = 0.12$
5) If clamping and braking units are used, the H_1 values from the "Clamping and Braking Units" catalog apply.

Screw strength class		Permissible side load if no lateral retention is provided[4] Runner block				Rail	
8.8	*	0.09 C	0.13 C[3]	0.20 C	0.13 C	0.10 C	
12.9	*	0.15 C	0.19 C[3]	0.30 C	0.22 C	0.17 C	
8.8	**	0.07 C	0.11 C[3]	0.16 C	0.11 C	0.07 C	
12.9	**	0.12 C	0.16 C[3]	0.23 C	0.18 C	0.12 C	

*** Runner blocks 1821-, 1851-**

****Runner blocks 1824-, 1853-**

Tightening torques for mounting screws

		M6	M8	M10	M12	M14	M16
Nm	**8.8**	9.5	23	46	80	125	195
	10.9	13.0	32	64	110	180	275
	12.9	16.0	39	77	135	215	330

Locating pins

If the recommended limits for permissible side loads are exceeded, the runner block must be additionally fixed.

Possible pin types:

– Taper pin (hardened) or
– Straight pin ISO 8734

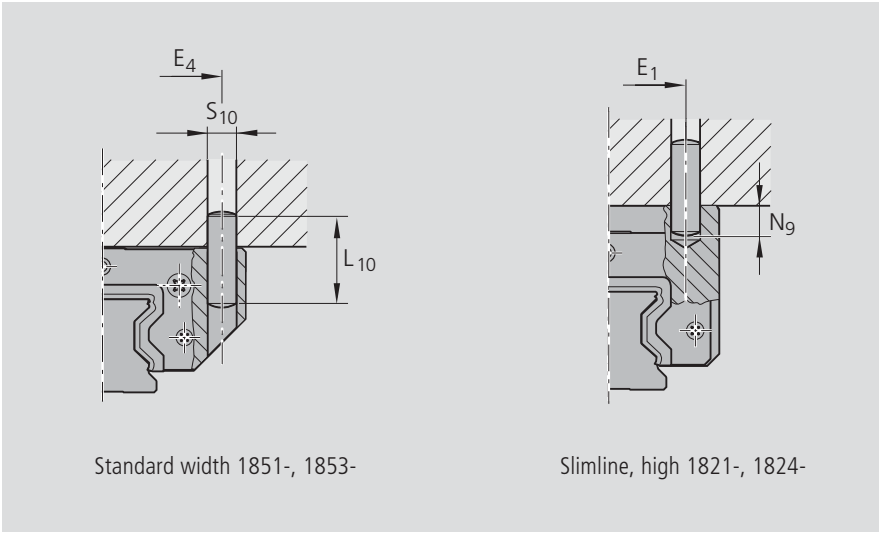
Notes

Rough-drilled holes made for production reasons may exist at the recommended pin hole positions on the runner block centerline (dia. < S_{10}).

These may be bored open to accommodate the locating pins.

If the locating pins have to be driven in at another point, dimension E_2 must not be exceeded in the longitudinal direction (for dimension E_2, see the tables for the individual runner block types).

Observe dimensions E_1 and E_4!



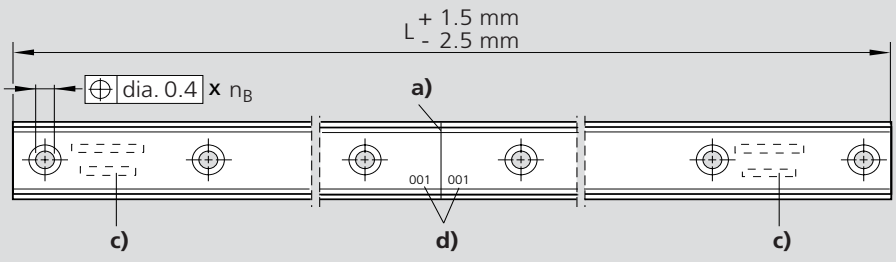
Standard width 1851-, 1853-

Slimline, high 1821-, 1824-

Size	Dimensions (mm)				
	Taper pin (hardened) or straight pin (ISO 8734)				
	S_{10}	L_{10}	E_1	E_4	N_9 (max)
25	6	32	35	55	9
35	8	40	50	80	13
45	10	50	60	98	18
55	12	60	75	114	19
65	14	60	76	140	22

Instructions for mounting composite rails

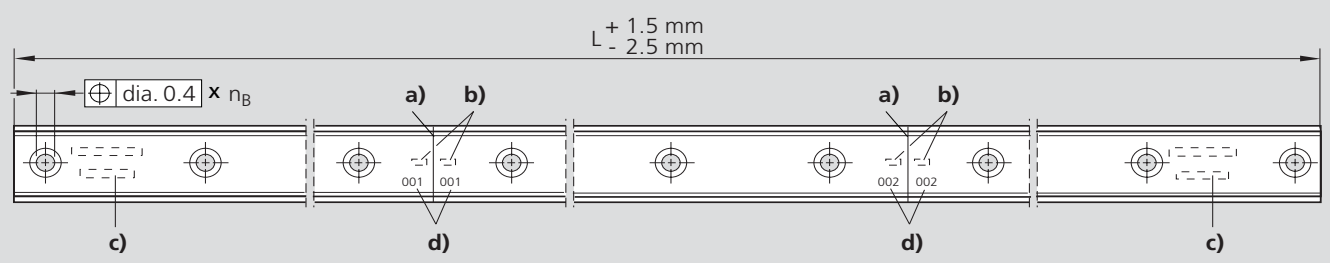
Rails made up of two sections



Matching sections of a composite guide rail are identified as such by a label on the packaging.

Rails made up of three or more sections

All sections of the same rail have the same number, which is marked on the top of the guide rail.



n_B = number of holes

a) Joint
b) Rail number
c) Full rail identification on first and last sections
d) Joint number

Note on guide rails with cover strip

For composite rails, a cover strip to cover the total length L is supplied separately along with the rails.

New: Adjusting shaft

The sections of composite rails can be aligned with the aid of an adjusting shaft. For more detailed information see "Accessories" and the Instructions for Roller Rail Systems.

Rexroth Roller Rail Systems
Standard Steel Runner Blocks

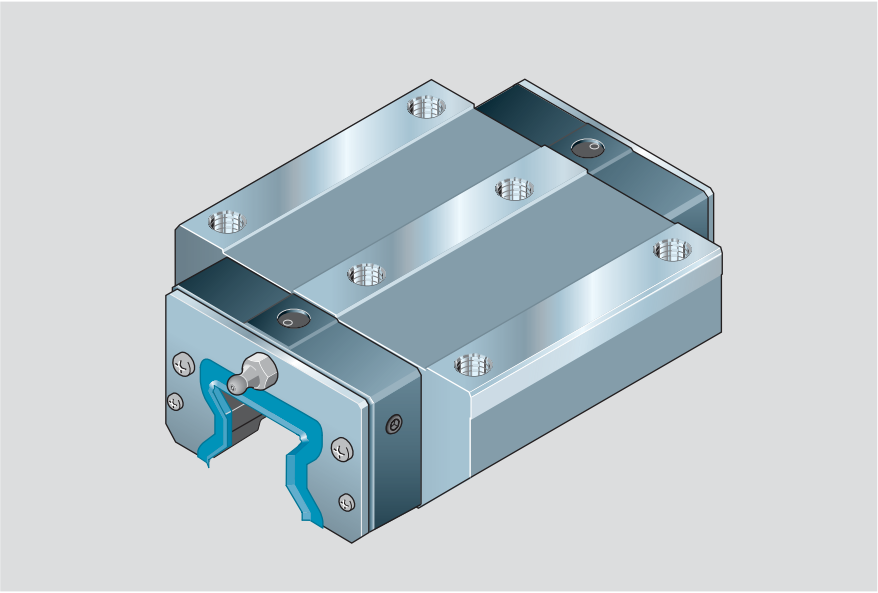
Runner block 1851-

Standard width

Special versions:

– with aluminum end caps
– hard chrome-plated

The part numbers for these versions are given on separate pages at the end of this section.



Part numbers

Recommended preload-accuracy class combinations:

Preload 0.08 C: H and P

Preload 0.13 C: P and SP

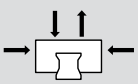
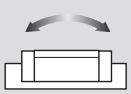
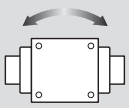
Runner block with preload 0.03 C on request.
Part number: 1851-.1.-10

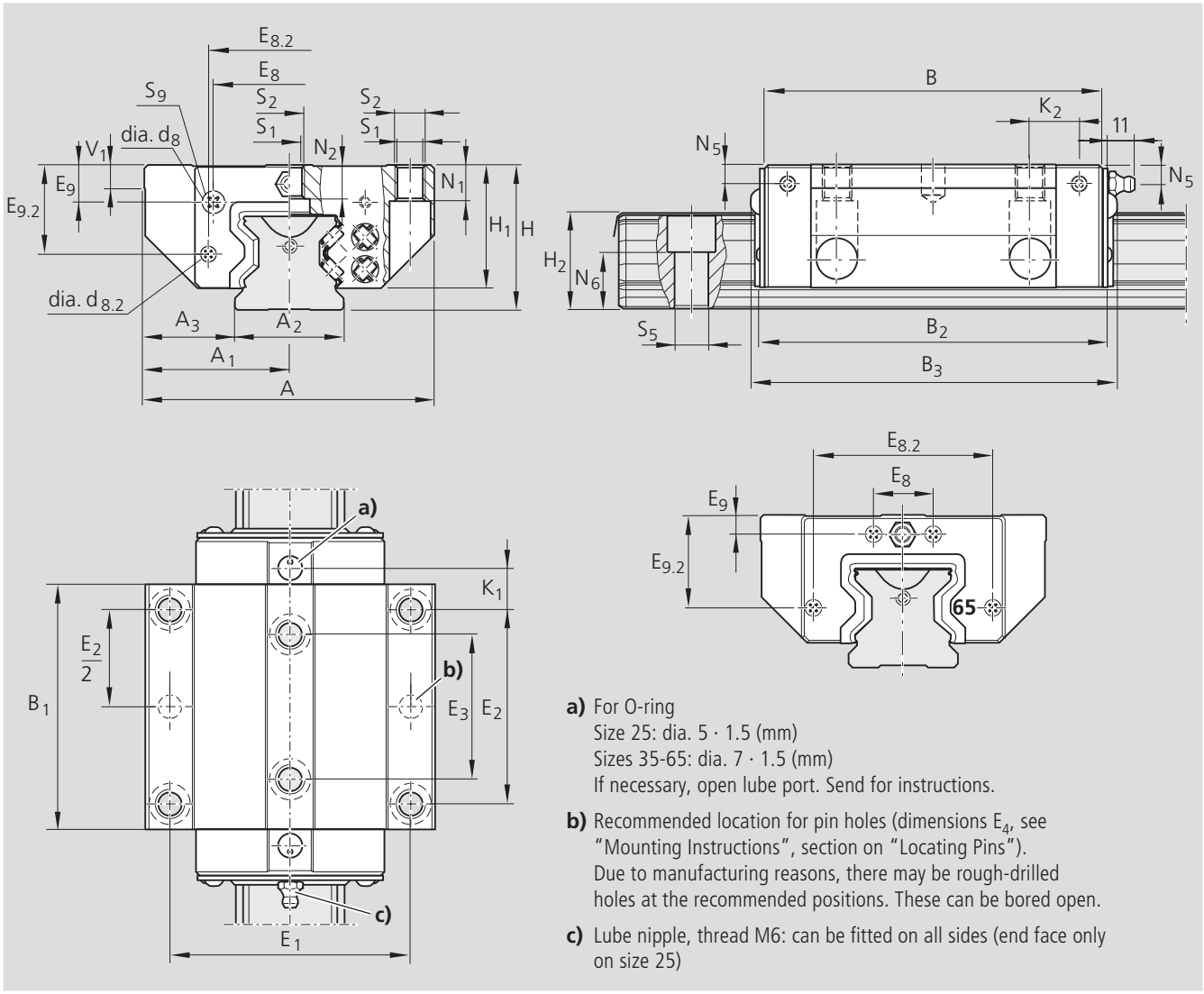
Runner blocks with preload 0.08 C are preferred.

Size	Accuracy class	Part numbers	
		Preload 0.08 C	Preload 0.13 C
25	UP	1851-229-10	1851-239-10
	SP	1851-221-10	1851-231-10
	P	1851-222-10	1851-232-10
	H	1851-223-10	–
35	UP	1851-329-10	1851-339-10
	SP	1851-321-10	1851-331-10
	P	1851-322-10	1851-332-10
	H	1851-323-10	–
45	UP	1851-429-10	1851-439-10
	SP	1851-421-10	1851-431-10
	P	1851-422-10	1851-432-10
	H	1851-423-10	–
55	UP	1851-529-10	1851-539-10
	SP	1851-521-10	1851-531-10
	P	1851-522-10	1851-532-10
	H	1851-523-10	–
65	UP	1851-629-10	1851-639-10
	SP	1851-621-10	1851-631-10
	P	1851-622-10	1851-632-10
	H	1851-623-10	–

Note on dynamic load capacities and moments

The dynamic load capacities and moments are based on 100,000 m travel. However, a travel of just 50,000 m is often taken as a basis. If this is the case, for comparison purposes:
Multiply values **C**, $\mathbf{M_t}$ and $\mathbf{M_L}$ from the Rexroth table by 1.23.

Size	Load capacities (N)		Moments (Nm)			
						
	C dyn.	C_0 stat.	M_t dyn.	M_{t0} stat.	M_L dyn.	M_{L0} stat.
25	26900	53200	348	690	260	520
35	56300	113500	1114	2245	700	1400
45	92300	184800	2277	4559	1430	2860
55	128900	248600	3779	7288	2400	4620
65	207000	382000	7300	13500	4590	8470



a) For O-ring
Size 25: dia. 5 · 1.5 (mm)
Sizes 35-65: dia. 7 · 1.5 (mm)
If necessary, open lube port. Send for instructions.

b) Recommended location for pin holes (dimensions E_4, see "Mounting Instructions", section on "Locating Pins").
Due to manufacturing reasons, there may be rough-drilled holes at the recommended positions. These can be bored open.

c) Lube nipple, thread M6: can be fitted on all sides (end face only on size 25)

	Dimensions (mm)																	
Size	**A**	**A_1**	**A_2**	**A_3**	**B**	**B_1**	**B_2**	**B_3**	**H**	**H_1**	**H_2[1)]**	**H_2[2)]**	**V_1**	**d_8**	**$d_{8.2}$**	**E_1**	**E_2**	**E_3**
25	70	35	23	23.5	91.0	63.5	93.0	97	36	30	23.55	23.40	7.5	5.7	–	57	45	40
35	100	50	34	33.0	114.0	79.6	116.0	121	48	41	31.10	30.80	8.0	5.7	5.2	82	62	52
45	120	60	45	37.5	140.0	101.5	144.0	150	60	51	39.10	38.80	10.0	7.6	5.7	100	80	60
55	140	70	53	43.5	166.5	123.1	170.5	177	70	58	47.85	47.55	12.0	9.5	5.7	116	95	70
65	170	85	63	53.5	206.0	146.0	216.5	218	90	76	58.15	57.85	15.0	7.6	7.6	142	110	82

[1)] Dimension H_2 with cover strip [2)] Dimension H_2 without cover strip

	Dimensions (mm)														Weight
Size	**E_8**	**$E_{8.2}$**	**E_9**	**$E_{9.2}$**	**N_1**	**N_2**	**N_5**	**$N_6^{\pm 0.5}$**	**S_1**	**S_2**	**S_5**	**S_9[3)]**	**K_1**	**K_2**	**(kg)**
25	33.4	–	8.40	21.40	9	7.3	5.5	14.3	6.8	M8	7	M3-5deep	14.10	–	0.8
35	50.3	56.6	13.10	29.10	12	11.0	7.0	19.4	8.6	M10	9	M3-5deep	15.55	17.40	1.7
45	62.9	69.55	16.75	36.50	15	13.5	8.0	22.4	10.5	M12	14	M4-7deep	17.45	20.35	3.3
55	74.2	81.60	18.95	40.75	18	13.7	9.0	28.7	12.5	M14	16	M5-8deep	21.75	24.90	5.5
65	35.0	106.00	9.30	55.00	23	21.5	9.3	36.5	14.5	M16	18	M4-7deep	29.80	33.00	12.0

[3)] Thread for attachments

Rexroth Roller Rail Systems
Standard Steel Runner Blocks

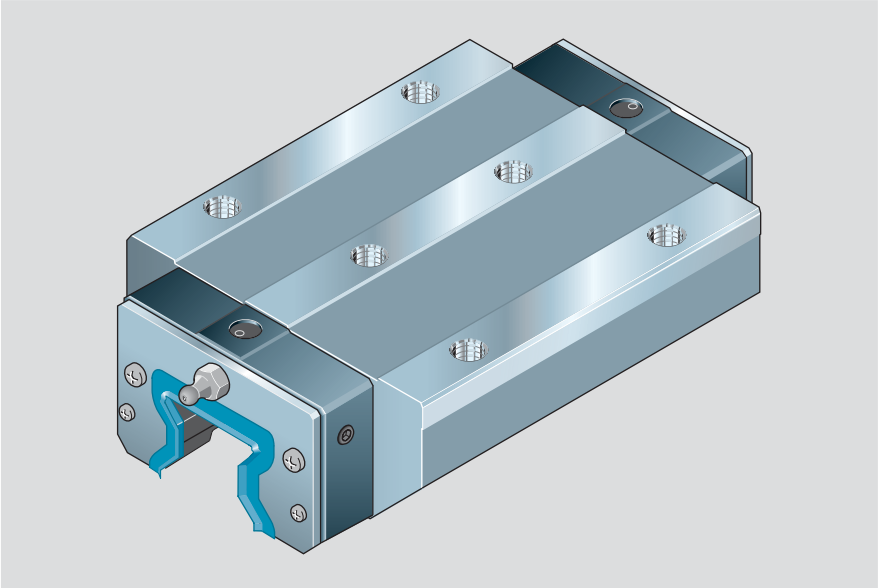
Runner block 1853-

Standard width, long

Special versions:

– with aluminum end caps
– hard chrome-plated

The part numbers for these versions are given on separate pages at the end of this section.



Part numbers

Recommended preload-accuracy class combinations:

Preload 0.08 C: H and P

Preload 0.13 C: P and SP

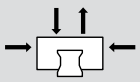
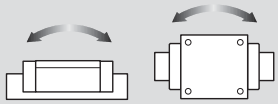
Runner block with preload 0.03 C on request.
Part number: 1853-.1.-10

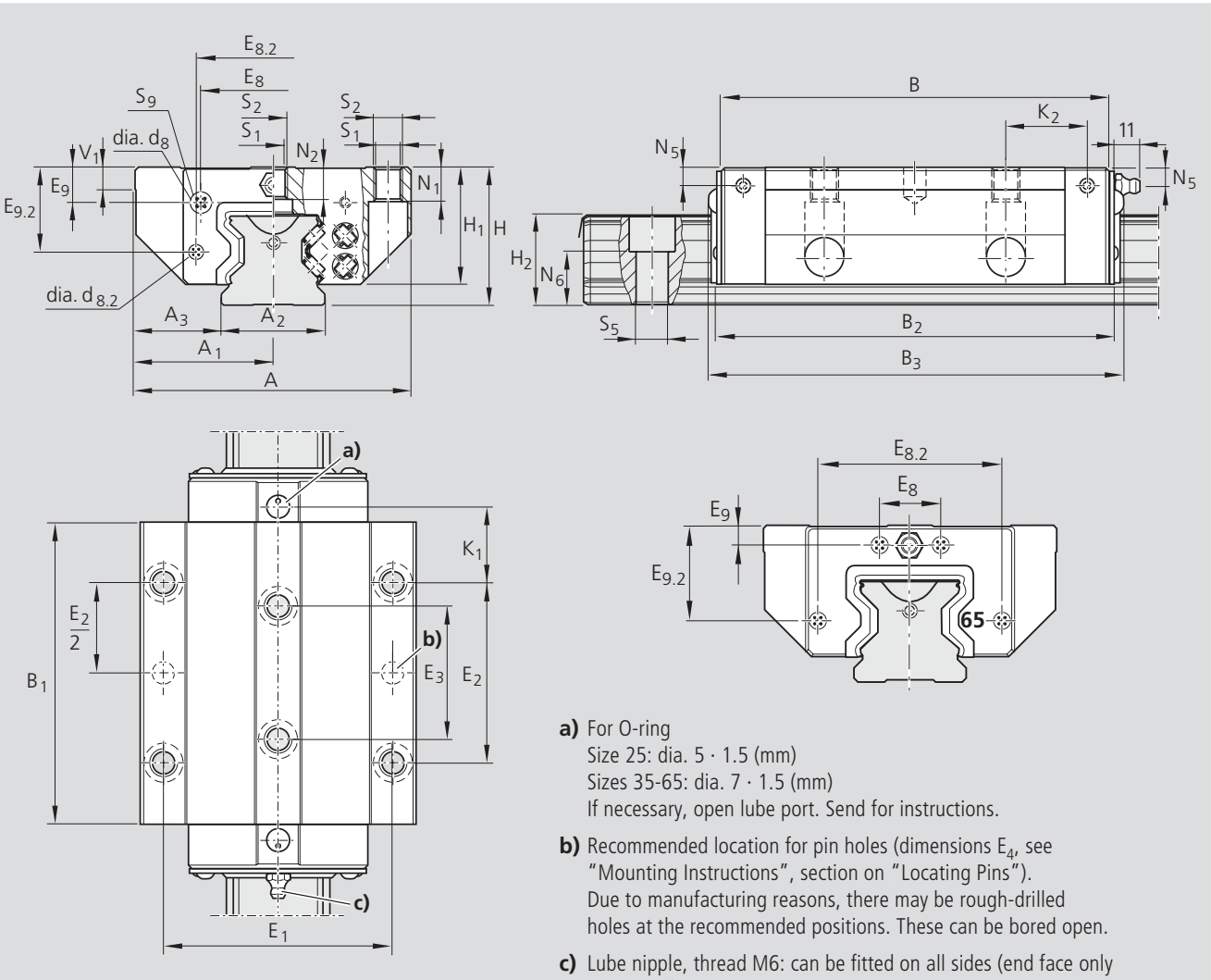
Runner blocks with preload class 0.08 C are preferred.

Size	Accuracy class	Part numbers	
		Preload 0.08 C	Preload 0.13 C
25	UP	1853-229-10	1853-239-10
	SP	1853-221-10	1853-231-10
	P	1853-222-10	1853-232-10
	H	1853-223-10	–
35	UP	1853-329-10	1853-339-10
	SP	1853-321-10	1853-331-10
	P	1853-322-10	1853-332-10
	H	1853-323-10	–
45	UP	1853-429-10	1853-439-10
	SP	1853-421-10	1853-431-10
	P	1853-422-10	1853-432-10
	H	1853-423-10	–
55	UP	1853-529-10	1853-539-10
	SP	1853-521-10	1853-531-10
	P	1853-522-10	1853-532-10
	H	1853-523-10	–
65	UP	1853-629-10	1853-639-10
	SP	1853-621-10	1853-631-10
	P	1853-622-10	1853-632-10
	H	1853-623-10	–

Note on dynamic load capacities and moments

The dynamic load capacities and moments are based on 100,000 m travel.
However, a travel of just 50,000 m is often taken as a basis. If this is the case, for comparison purposes:
Multiply values **C**, $\mathbf{M_t}$ and $\mathbf{M_L}$ from the Rexroth table by 1.23.

Size	Load capacities (N)		Moments (Nm)			
						
	C dyn.	C_0 stat.	M_t dyn.	M_{t0} stat.	M_L dyn.	M_{L0} stat.
25	33300	70000	432	908	420	900
35	69700	149300	1375	2953	1135	2430
45	119200	256600	2941	6331	2520	5430
55	165000	345300	4837	10122	4030	8440
65	265500	525600	9410	18630	7960	15760



a) For O-ring
Size 25: dia. 5 · 1.5 (mm)
Sizes 35-65: dia. 7 · 1.5 (mm)
If necessary, open lube port. Send for instructions.

b) Recommended location for pin holes (dimensions E_4, see "Mounting Instructions", section on "Locating Pins").
Due to manufacturing reasons, there may be rough-drilled holes at the recommended positions. These can be bored open.

c) Lube nipple, thread M6: can be fitted on all sides (end face only on size 25)

	Dimensions (mm)																
Size	**A**	**A_1**	**A_2**	**A_3**	**B**	**B_1**	**B_2**	**B_3**	**H**	**H_1**	**H_2[1)]**	**H_2[2)]**	**V_1**	**d_8**	**$d_{8.2}$**	**E_1**	**E_2**	**E_3**
25	70	35	23	23.5	109.0	81.5	111.0	115	36	30	23.55	23.40	7.5	5.7	–	57	45	40
35	100	50	34	33.0	138.0	103.6	140.0	145	48	41	31.10	30.80	8.0	5.7	5.2	82	62	52
45	120	60	45	37.5	172.5	134.0	176.5	183	60	51	39.10	38.80	10.0	7.6	5.7	100	80	60
55	140	70	53	43.5	205.5	162.1	209.5	216	70	58	47.85	47.55	12.0	9.5	5.7	116	95	70
65	170	85	63	53.5	254.0	194.0	258.5	264	90	76	58.15	57.85	15.0	7.6	7.6	142	110	82

[1)] Dimension H_2 with cover strip [2)] Dimension H_2 without cover strip

	Dimensions (mm)														Weight
Size	**E_8**	**$E_{8.2}$**	**E_9**	**$E_{9.2}$**	**N_1**	**N_2**	**N_5**	**$N_6^{\pm 0.5}$**	**S_1**	**S_2**	**S_5**	**S_9[3)]**	**K_1**	**K_2**	**(kg)**
25	33.4	–	8.40	21.40	9	7.3	5.5	14.3	6.8	M8	7	M3-5deep	23.10	–	1.1
35	50.3	56.60	13.10	29.10	12	11.0	7.0	19.4	8.6	M10	9	M3-5deep	27.55	29.4	2.5
45	62.9	69.55	16.75	36.50	15	13.5	8.0	22.4	10.5	M12	14	M4-7deep	33.70	36.6	4.7
55	74.2	81.60	18.95	40.75	18	13.7	9.0	28.7	12.5	M14	16	M5-8deep	41.25	44.4	7.7
65	35.0	106.00	9.30	55.00	23	21.5	9.3	36.5	14.5	M16	18	M4-7deep	53.80	57.0	14.5

[3)] Thread for attachments

Rexroth Roller Rail Systems
Standard Steel Runner Blocks

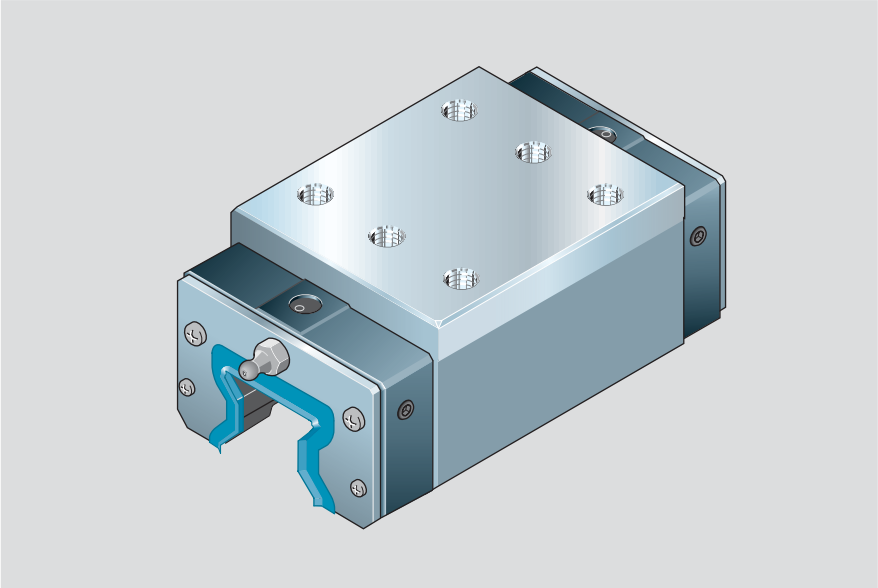
Runner block 1821-

Slimline, high

Special versions:

– with aluminum end caps
– hard chrome-plated

The part numbers for these versions are given on separate pages at the end of this section.



Part numbers

Recommended preload-accuracy class combinations:

Preload 0.08 C: H and P

Preload 0.13 C: P and SP

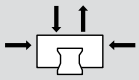
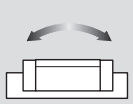
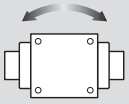
Runner block with preload 0.03 C on request.
Part number: 1821-.1.-10

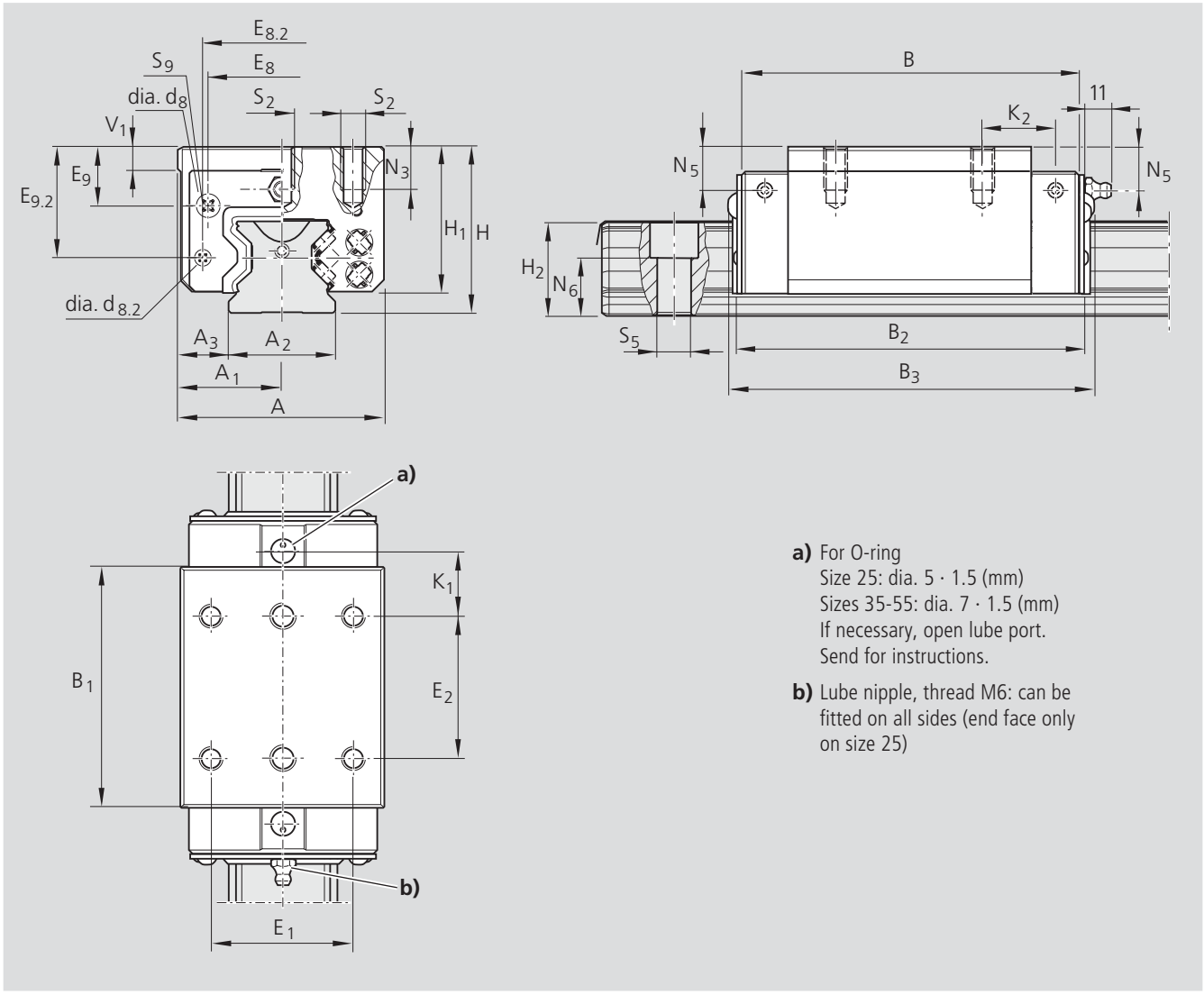
Runner blocks with preload 0.08 C are preferred.

Size	Accuracy class	Part numbers	
		Preload 0.08 C	Preload 0.13 C
25	UP	1821-229-10	1821-239-10
	SP	1821-221-10	1821-231-10
	P	1821-222-10	1821-232-10
	H	1821-223-10	–
35	UP	1821-329-10	1821-339-10
	SP	1821-321-10	1821-331-10
	P	1821-322-10	1821-332-10
	H	1821-323-10	–
45	UP	1821-429-10	1821-439-10
	SP	1821-421-10	1821-431-10
	P	1821-422-10	1821-432-10
	H	1821-423-10	–
55	UP	1821-529-10	1821-539-10
	SP	1821-521-10	1821-531-10
	P	1821-522-10	1821-532-10
	H	1821-523-10	–

Note on dynamic load capacities and moments

The dynamic load capacities and moments are based on 100,000 m travel. However, a travel of just 50,000 m is often taken as a basis. If this is the case, for comparison purposes:
Multiply values **C**, $\mathbf{M_t}$ and $\mathbf{M_L}$ from the Rexroth table by 1.23.

Size	Load capacities (N)		Moments (Nm)			
						
	C	C_0	M_t dyn.	M_{t0} stat.	M_L dyn.	M_{L0} stat.
25	26900	53200	348	690	260	520
35	56300	113500	1114	2245	700	1400
45	92300	184800	2277	4559	1430	2860
55	128900	248600	3779	7288	2400	4620



Size	Dimensions (mm)																
	A	A_1	A_2	A_3	B	B_1	B_2	B_3	H	H_1	H_2 [1]	H_2 [2]	V_1	d_8	$d_{8.2}$	E_1	E_2
25	48	24	23	12.5	91.0	63.5	93.0	97	40	34	23.55	23.40	7.5	5.7	–	35	35
35	70	35	34	18.0	114.0	79.6	116.0	121	55	48	31.10	30.80	8.0	5.7	5.2	50	50
45	86	43	45	20.5	140.0	101.5	144.0	150	70	61	39.10	38.80	10.0	7.6	5.7	60	60
55	100	50	53	23.5	166.5	123.1	170.5	177	80	68	47.85	47.55	12.0	9.5	5.7	75	75

[1] Dimension H_2 with cover strip [2] Dimension H_2 without cover strip

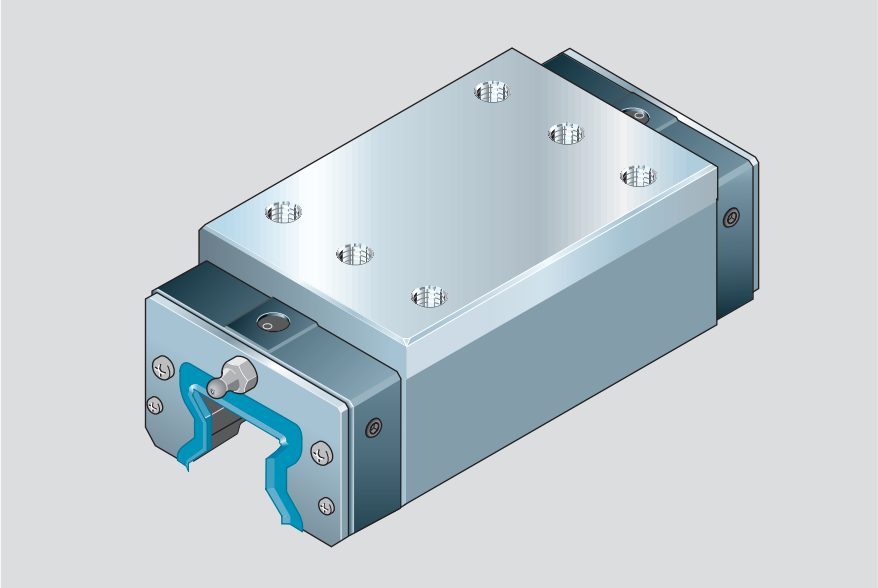
Size	Dimensions (mm)											Weight (kg)
	E_8	$E_{8.2}$	E_9	$E_{9.2}$	N_3	N_5	$N_6^{\pm 0.5}$	S_2	S_5	S_9 [3]	K_1	K_2	
25	33.4	–	12.40	25.40	9	9.5	14.3	M6	7	M3-5deep	19.10	–	0.6
35	50.3	56.60	20.10	36.10	13	14.0	19.4	M8	9	M3-5deep	21.55	23.40	1.5
45	62.9	69.55	26.75	46.50	18	18.0	22.4	M10	14	M4-7deep	27.45	30.35	3.1
55	74.2	81.60	28.95	50.75	19	19.0	28.7	M12	16	M5-8deep	31.75	34.95	4.6

[3] Thread for attachments

Rexroth Roller Rail Systems
Standard Steel Runner Blocks

Runner block 1824-

Slimline, high, long
(size 65: slimline, long)



Special versions:

– with aluminum end caps
– hard chrome-plated

The part numbers for these versions are given on separate pages at the end of this section.

Part numbers

Recommended preload-accuracy class combinations:

Preload 0.08 C: H and P

Preload 0.13 C: P and SP

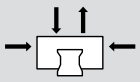
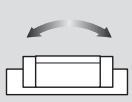
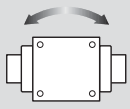
Runner block with preload 0.03 C on request.
Part number: 1824-.1.-10

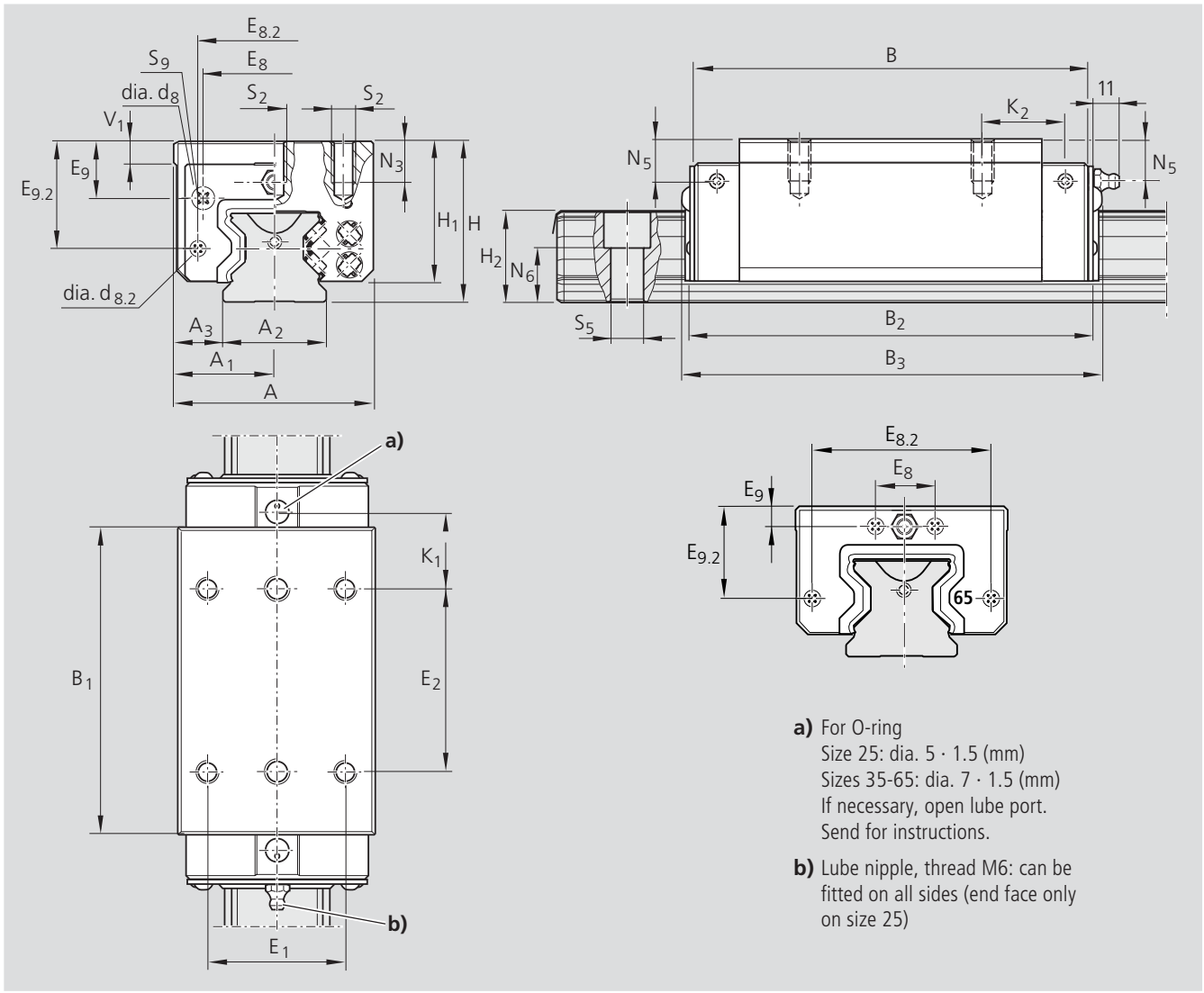
Runner blocks with preload 0.08 C are preferred.

Size	Accuracy class	Part numbers	
		Preload 0.08 C	Preload 0.13 C
25	UP	1824-229-10	1824-239-10
	SP	1824-221-10	1824-231-10
	P	1824-222-10	1824-232-10
	H	1824-223-10	–
35	UP	1824-329-10	1824-339-10
	SP	1824-321-10	1824-331-10
	P	1824-322-10	1824-332-10
	H	1824-323-10	–
45	UP	1824-429-10	1824-439-10
	SP	1824-421-10	1824-431-10
	P	1824-422-10	1824-432-10
	H	1824-423-10	–
55	UP	1824-529-10	1824-539-10
	SP	1824-521-10	1824-531-10
	P	1824-522-10	1824-532-10
	H	1824-523-10	–
65	UP	1824-629-10	1824-639-10
	SP	1824-621-10	1824-631-10
	P	1824-622-10	1824-632-10
	H	1824-623-10	–

Note on dynamic load capacities and moments

The dynamic load capacities and moments are based on 100,000 m travel.
However, a travel of just 50,000 m is often taken as a basis. If this is the case, for comparison purposes:
Multiply values **C**, $\mathbf{M_t}$ and $\mathbf{M_L}$ from the Rexroth table by 1.23.

Size	Load capacities (N)		Moments (Nm)			
						
	C	C_0	M_t dyn.	M_{t0} stat.	M_L dyn.	M_{L0} stat.
25	33300	70000	432	908	420	900
35	69700	149300	1375	2953	1135	2430
45	119200	256600	2941	6331	2520	5430
55	165000	345300	4837	10122	4030	8440
65	265500	525600	9410	18630	7960	15760



a) For O-ring
Size 25: dia. 5 · 1.5 (mm)
Sizes 35-65: dia. 7 · 1.5 (mm)
If necessary, open lube port.
Send for instructions.

b) Lube nipple, thread M6: can be fitted on all sides (end face only on size 25)

	Dimensions (mm)																
Size	**A**	**A_1**	**A_2**	**A_3**	**B**	**B_1**	**B_2**	**B_3**	**H**	**H_1**	**H_2 1)**	**H_2 2)**	**V_1**	**d_8**	**$d_{8.2}$**	**E_1**	**E_2**
25	48	24	23	12.5	109.0	81.5	111.0	115	40	34	23.55	23.40	7.5	5.7	–	35	50
35	70	35	34	18.0	138.0	103.6	140.0	145	55	48	31.10	30.80	8.0	5.7	5.2	50	72
45	86	43	45	20.5	172.5	134.0	176.5	183	70	61	39.10	38.80	10.0	7.6	5.7	60	80
55	100	50	53	23.5	205.5	162.1	209.5	216	80	68	47.85	47.55	12.0	9.5	5.7	75	95
65	126	63	63	31.5	254.0	194.0	258.5	264	90	76	58.15	57.85	15.0	7.6	7.6	76	120

1) Dimension H_2 with cover strip 2) Dimension H_2 without cover strip

	Dimensions (mm)											Weight
Size	**E_8**	**$E_{8.2}$**	**E_9**	**$E_{9.2}$**	**N_3**	**N_5**	**$N_6^{\pm 0.5}$**	**S_2**	**S_5**	**S_9 3)**	**K_1**	**K_2**	**(kg)**
25	33.4	–	12.40	25.40	9	9.5	14.3	M6	7	M3-5deep	20.60	–	0.9
35	50.3	56.60	20.10	36.10	13	14.0	19.4	M8	9	M3-5deep	22.55	24.4	2.0
45	62.9	69.55	26.75	46.50	18	18.0	22.4	M10	14	M4-7deep	33.70	36.6	4.2
55	74.2	81.60	28.95	50.75	19	19.0	28.7	M12	16	M5-8deep	41.25	44.4	6.2
65	35.0	106.00	9.30	55.00	21	9.3	36.5	M16	18	M4-7deep	48.80	52.0	12.0

3) Thread for attachments

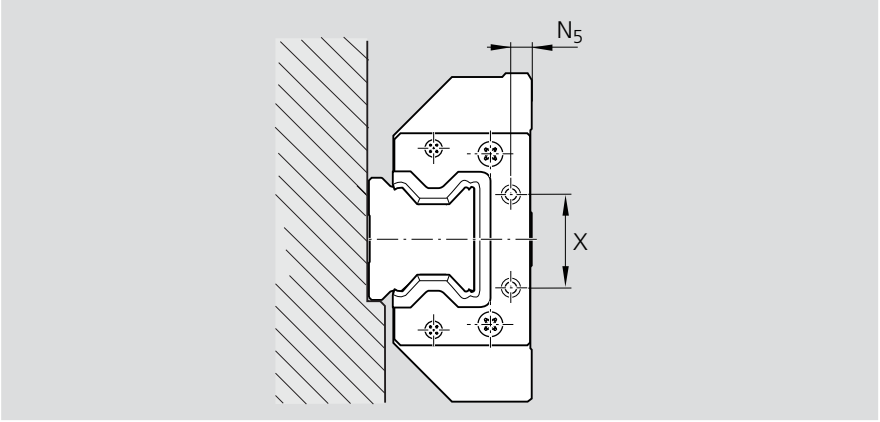
Rexroth Roller Rail Systems
Standard Steel Runner Blocks for Wall Mounting

Runner block 1851-...-18

Standard width, for wall mounting

With two oil lube ports on each end face for targeted lubricant supply to the upper and lower raceways

Note: This runner block type has no top or side lube ports.



Size	Lube port spacing Dimensions in mm N_5	X
35*	7	32
45	8	40
55*	9	50

Size	Lube port size
35*	M6
45	M6
55*	M6

* In preparation

Size	Accuracy class[1)]	Part numbers Preload 0.08 C	Preload 0.13 C
35*	SP	–	1851-331-18
	P	1851-322-18	–
45	SP	–	1851-431-18
	P	1851-422-18	–
55*	SP	–	1851-531-18
	P	1851-522-18	–

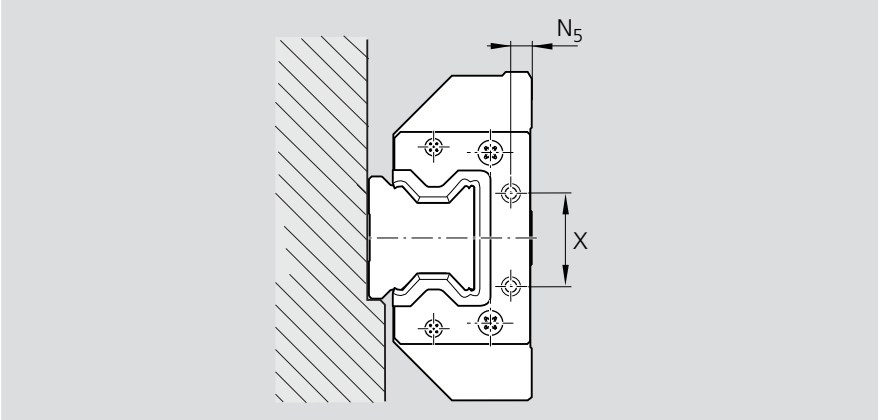
[1)] UP on request

Runner block 1853-...-18

Standard width, for wall mounting

With two oil lube ports on each end face for targeted lubricant supply to the upper and lower raceways

Note: This runner block type has no top or side lube ports.



Size	Lube port spacing Dimensions in mm N_5	X
35*	7	32
45	8	40
55*	9	50

Size	Lube port size
35*	M6
45	M6
55*	M6

* In preparation

Size	Accuracy class[1)]	Part numbers Preload 0.08 C	Preload 0.13 C
35*	SP	–	1853-331-18
	P	1853-322-18	–
45	SP	–	1853-431-18
	P	1853-422-18	–
55*	SP	–	1853-531-18
	P	1853-522-18	–

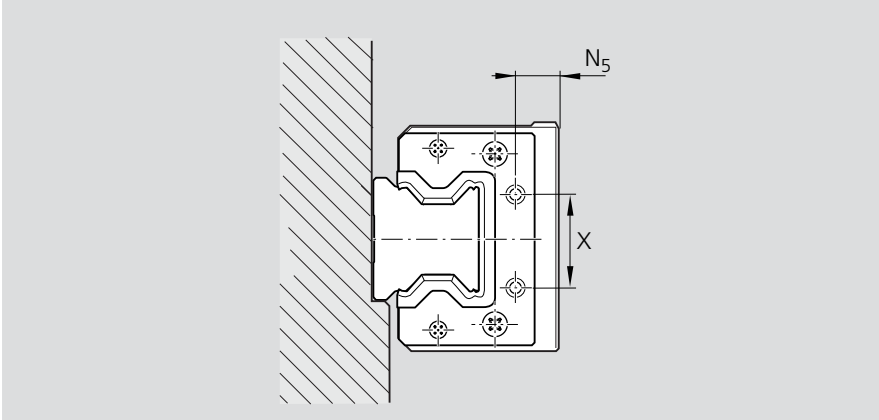
[1)] UP on request

Runner block 1821-...-18

Slimline, high, for wall mounting

With two oil lube ports on each end face for targeted lubricant supply to the upper and lower raceways

Note: This runner block type has no top or side lube ports.



Size	Lube port spacing Dimensions in mm	
	N_5	X
35*	7	32
45	8	40
55*	9	50

Size	Lube port size
35*	M6
45	M6
55*	M6

* In preparation

Size	Accuracy class[1)]	Part numbers	
		Preload 0.08 C	Preload 0.13 C
35*	SP	–	1821-331-18
	P	1821-322-18	–
45	SP	–	1821-431-18
	P	1821-422-18	–
55*	SP	–	1821-531-18
	P	1821-522-18	–

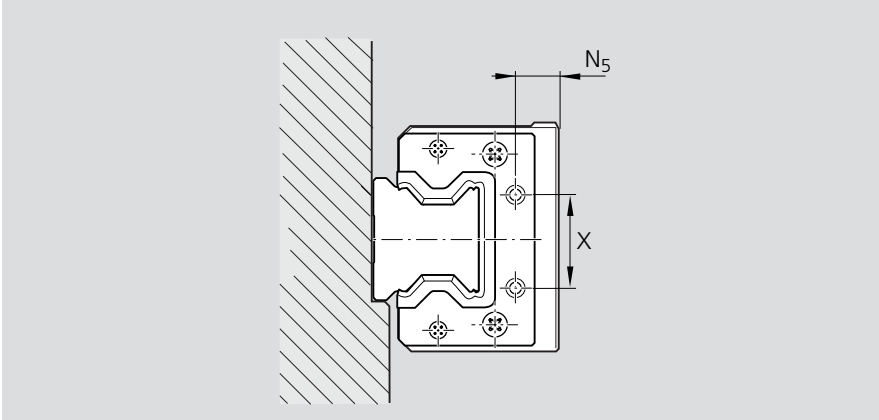
[1)] UP on request

Runner block 1824--...-18

Slimline, high, long, for wall mounting

With two oil lube ports on each end face for targeted lubricant supply to the upper and lower raceways

Note: This runner block type has no top or side lube ports.



Size	Lube port spacing Dimensions in mm	
	N_5	X
35*	7	32
45	8	40
55*	9	50

Size	Lube port size
35*	M6
45	M6
55*	M6

* In preparation

Size	Accuracy class[1)]	Part numbers	
		Preload 0.08 C	Preload 0.13 C
35*	SP	–	1824-331-18
	P	1824-322-18	–
45	SP	–	1824-431-18
	P	1824-422-18	–
55*	SP	–	1824-531-18
	P	1824-522-18	–

[1)] UP on request

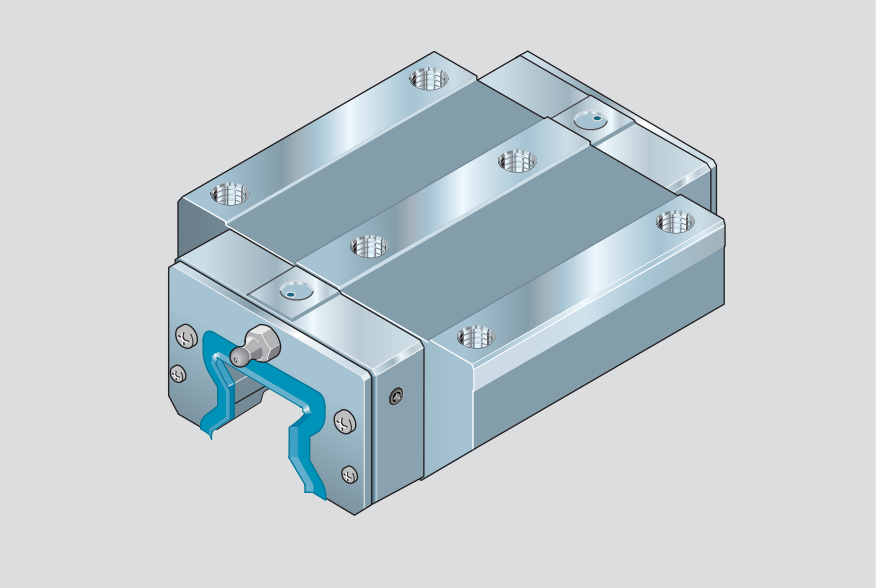
Rexroth Roller Rail Systems
Standard Steel Runner Blocks with Aluminum End Caps

Runner block 1851-...-13

Standard width

With aluminum end caps

For dimensions, load capacities and moments, see runner block 1851-



Notes

For lubrication from above, remove screw plug.

For O-ring:
Sizes 35 and 55: dia. 7 · 1.5 (mm)
Sizes 45 and 65: dia. 10 · 1.5 (mm)

Aluminum end caps with integrated seal and end seal can also be ordered separately. See "Accessories / Spare Parts".

Part numbers

Size 25 in preparation

Size	Accuracy class	Part numbers	
		Preload 0.08 C	Preload 0.13 C
35	SP	–	1851-331-13
	P	1851-322-13	–
45	SP	–	1851-431-13
	P	1851-422-13	–
55	SP	–	1851-531-13
	P	1851-522-13	–
65	SP	–	1851-631-13
	P	1851-622-13	–

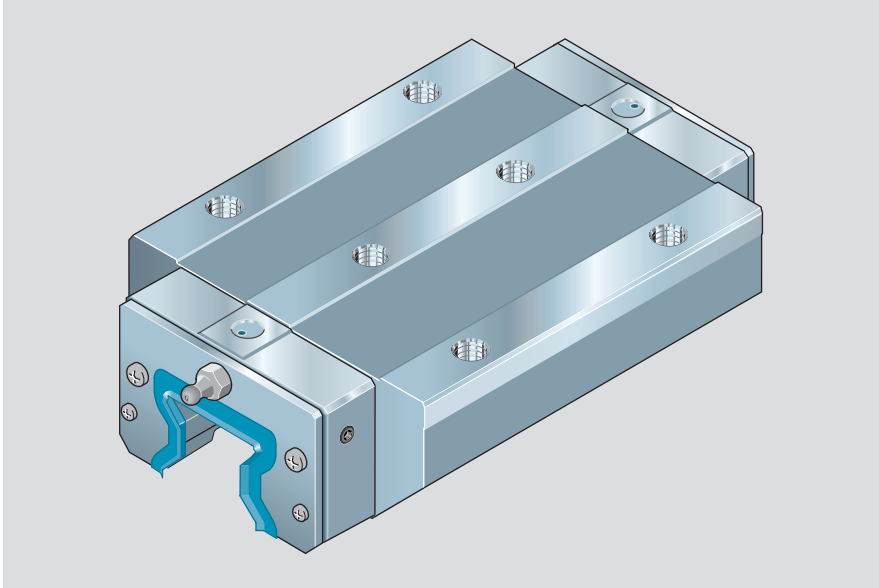
Standard Steel Runner Blocks with Aluminum End Caps

Runner block 1853-...-13

Standard width, long

With aluminum end caps

For dimensions, load capacities and moments, see runner block 1853-



Notes

For lubrication from above, remove screw plug.

For O-ring:
Sizes 35 and 55: dia. 7 · 1.5 (mm)
Sizes 45 and 65: dia. 10 · 1.5 (mm)

Aluminum end caps with integrated seal and end seal can also be ordered separately. See "Accessories / Spare Parts".

Part numbers

Size 25 in preparation

Size	Accuracy class	Part numbers	
		Preload 0.08 C	Preload 0.13 C
35	SP	–	1853-331-13
	P	1853-322-13	–
45	SP	–	1853-431-13
	P	1853-422-13	–
55	SP	–	1853-531-13
	P	1853-522-13	–
65	SP	–	1853-631-13
	P	1853-622-13	–

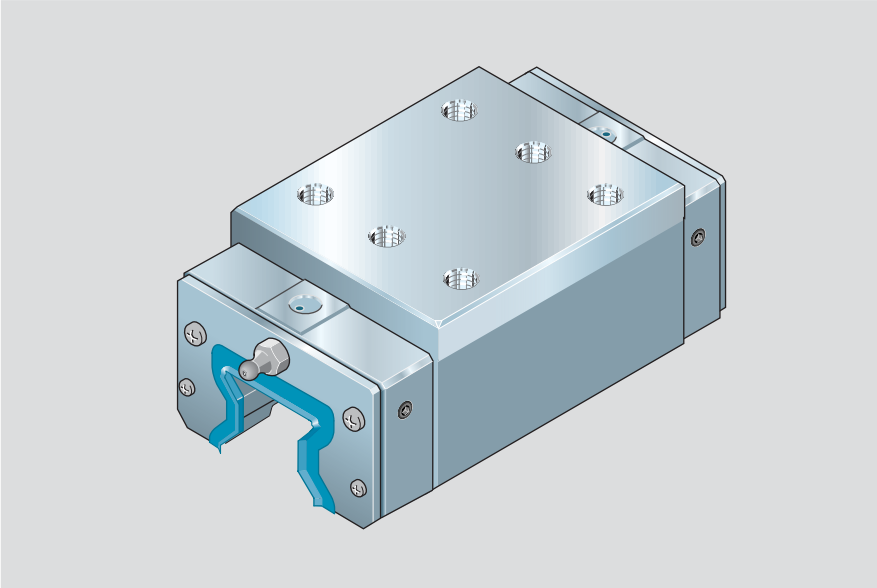
Rexroth Roller Rail Systems
Standard Steel Runner Blocks with Aluminum End Caps

Runner block 1821-...-13

Slimline, high

With aluminum end caps

For dimensions, load capacities and moments, see runner block 1821-



Notes

For lubrication from above, remove screw plug.

For O-ring:
Sizes 35 and 55: dia. 7 · 1.5 (mm)
Size 45: dia. 10 · 1.5 (mm)

Use lube adaptor (not included in supply scope, see "Accessories").

Aluminum end caps with integrated seal and end seal can also be ordered separately. See "Accessories / Spare Parts".

Part numbers

Size 25 in preparation

Size	Accuracy class	Part numbers	
		Preload 0.08 C	Preload 0.13 C
35	SP	–	1821-331-13
	P	1821-322-13	–
45	SP	–	1821-431-13
	P	1821-422-13	–
55	SP	–	1821-531-13
	P	1821-522-13	–

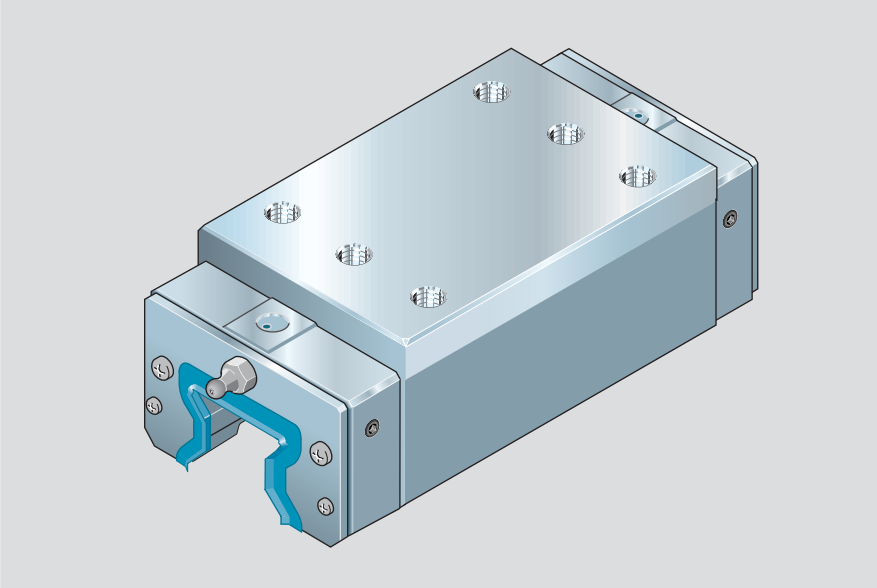
Standard Steel Runner Blocks with Aluminum End Caps

Runner block 1824-...-13

Slimline, high, long
(size 65: slimline, long)

With aluminum end caps

For dimensions, load capacities and moments, see runner block 1824-



Notes

For lubrication from above, remove screw plug.

For O-ring:
Sizes 35 and 55: dia. 7 · 1.5 (mm)
Sizes 45 and 65: dia. 10 · 1.5 (mm)

Use lube adaptor (not included in supply scope, see "Accessories").

Aluminum end caps with integrated seal and end seal can also be ordered separately. See "Accessories / Spare Parts".

Part numbers

Size 25 in preparation

Size	Accuracy class	Part numbers	
		Preload 0.08 C	Preload 0.13 C
35	SP	–	1824-331-13
	P	1824-322-13	–
45	SP	–	1824-431-13
	P	1824-422-13	–
55	SP	–	1824-531-13
	P	1824-522-13	–
65	SP	–	1824-631-13
	P	1824-622-13	–

Rexroth Roller Rail Systems
Standard Steel Runner Blocks, Hard Chrome-Plated

Runner block 1851-...-60

Standard width
Hard chrome-plated

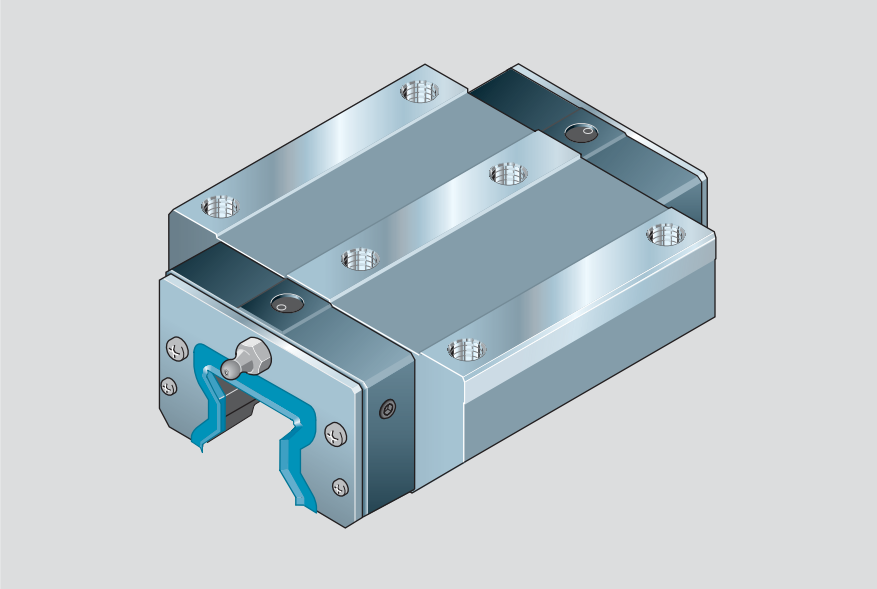
Note: For tolerances other than those specified here for dimensions H and A_3, see the table of accuracy classes and their tolerances in the "Technical Data" section.

Combining a hard chrome-plated runner block with a hard chrome-plated guide rail results in a preload of approx. 0.1 C.

For other dimensions as well as load capacities and moments, see runner block 1851-

Hard chrome-plated runner blocks in accuracy class SP and P are available on request.

A version with aluminum end caps in sizes 35 to 65 is also available on request. Part numbers 18..-...-63.



Size	Accuracy class	Part numbers Preload 0.08 C
25	H	1851-223-60
35	H	1851-323-60
45	H	1851-423-60
55	H	1851-523-60
65	H	1851-623-60

Runner block 1853-...-60

Standard width, long
Hard chrome-plated

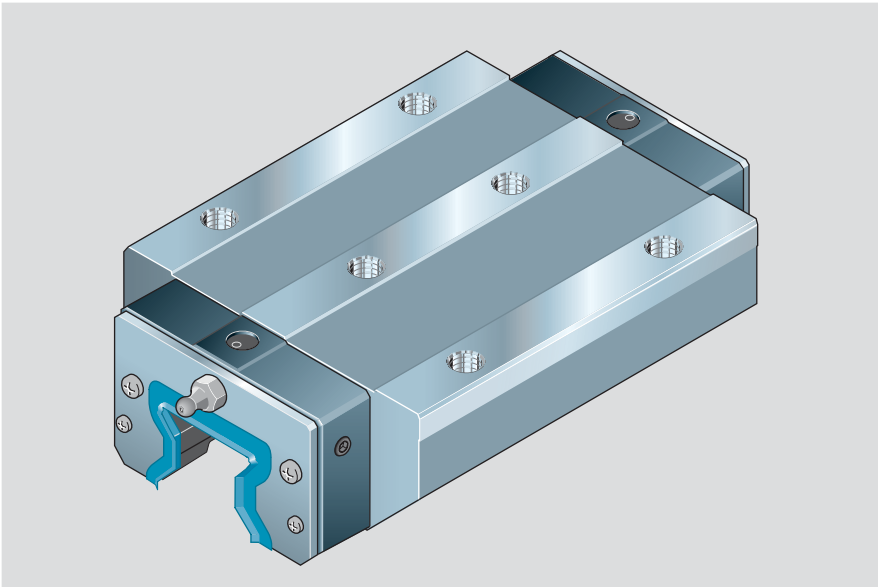
Note: For tolerances other than those specified here for dimensions H and A_3, see the table of accuracy classes and their tolerances in the "Technical Data" section.

Combining a hard chrome-plated runner block with a hard chrome-plated guide rail results in a preload of approx. 0.1 C.

For other dimensions as well as load capacities and moments, see runner block 1853-

Hard chrome-plated runner blocks in accuracy class SP and P are available on request.

A version with aluminum end caps in sizes 35 to 65 is also available on request. Part numbers 18..-...-63.



Size	Accuracy class	Part numbers Preload 0.08 C
25	H	1853-223-60
35	H	1853-323-60
45	H	1853-423-60
55	H	1853-523-60
65	H	1853-623-60

Standard Steel Runner Blocks, Hard Chrome-Plated

Runner block 1821-...-60

Slimline, high
Hard chrome-plated

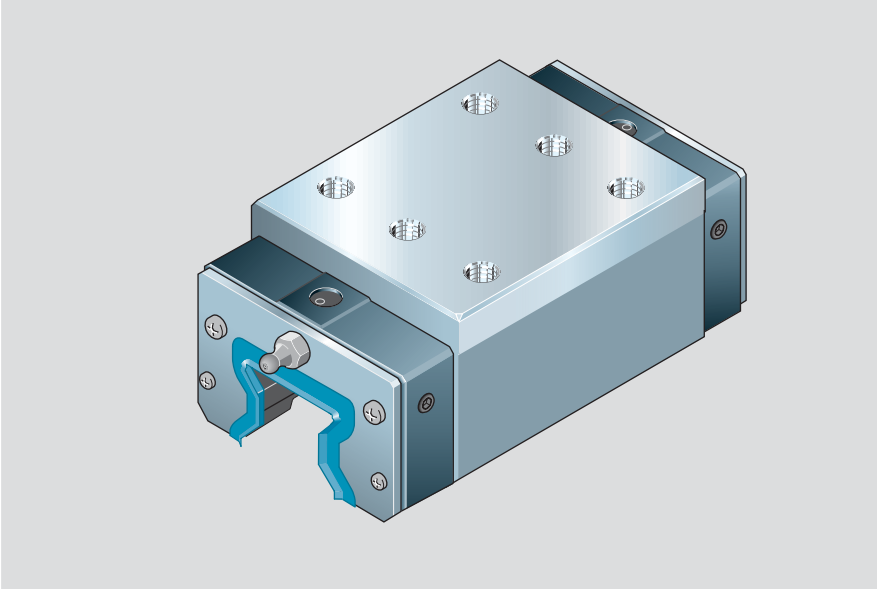
Note: For tolerances other than those specified here for dimensions H and A_3, see the table of accuracy classes and their tolerances in the "Technical Data" section.

Combining a hard chrome-plated runner block with a hard chrome-plated guide rail results in a preload of approx. 0.1 C.

For other dimensions as well as load capacities and moments, see runner block 1821-

Hard chrome-plated runner blocks in accuracy class SP and P are available on request.

A version with aluminum end caps in sizes 35 to 55 is also available on request. Part numbers 18..-...-63.



Size	Accuracy class	Part numbers Preload 0.08 C
25	H	1821-223-60
35	H	1821-323-60
45	H	1821-423-60
55	H	1821-523-60

Runner block 1824-...-60

Slimline, high, long
(size 65: slimline, long)
Hard chrome-plated

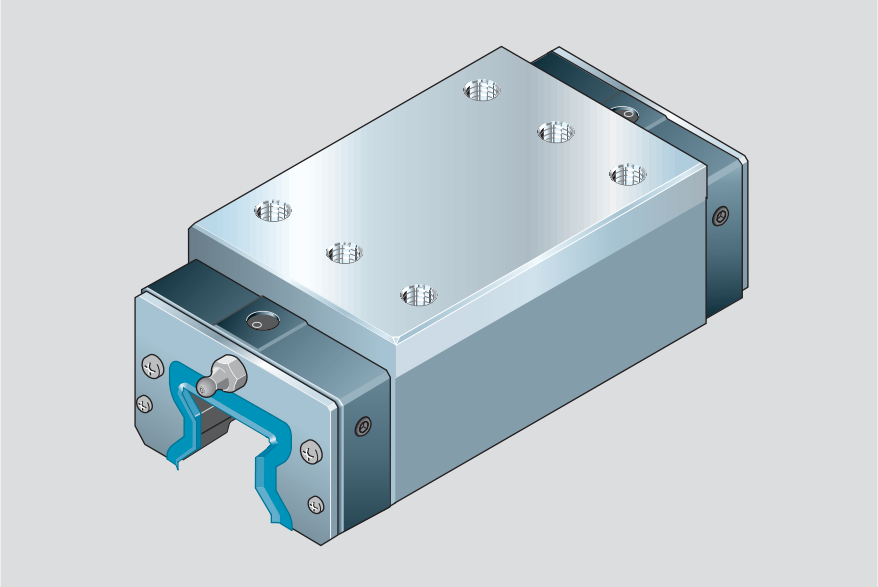
Note: For tolerances other than those specified here for dimensions H and A_3, see the table of accuracy classes and their tolerances in the "Technical Data" section.

Combining a hard chrome-plated runner block with a hard chrome-plated guide rail results in a preload of approx. 0.1 C.

For other dimensions as well as load capacities and moments, see runner block 1824-

Hard chrome-plated runner blocks in accuracy class SP and P are available on request.

A version with aluminum end caps in sizes 35 to 55 is also available on request. Part numbers 18..-...-63.

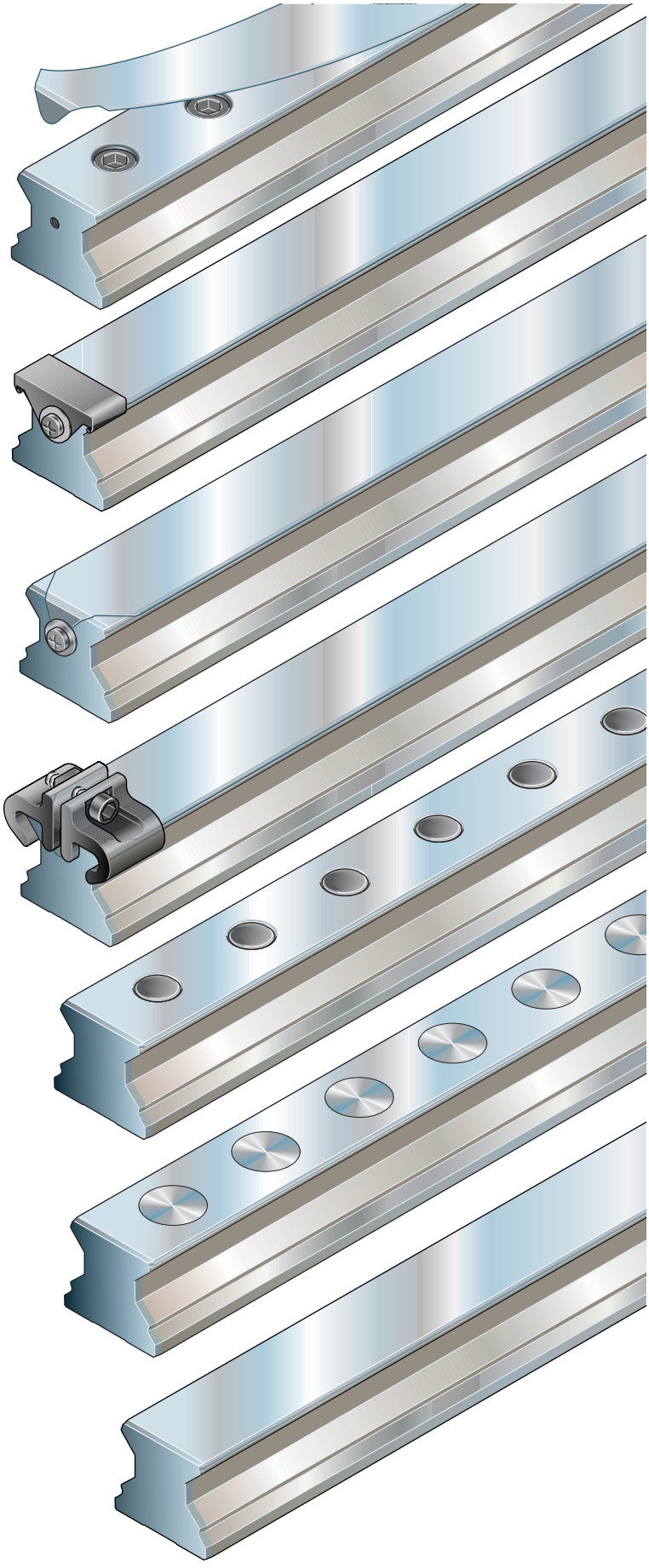


Size	Accuracy class	Part numbers Preload 0.08 C
25	H	1824-223-60
35	H	1824-323-60
45	H	1824-423-60
55	H	1824-523-60
65	H	1824-623-60

Rexroth Roller Rail Systems
Product Overview – Standard Guide Rails

Proven cover strip for guide rail mounting holes:

– A *single* cover for all holes
– Stainless spring steel to EN 10088
– Easy to fit – simply clip on and secure



Guide rails with cover strip and plastic protective caps

– with tap holes at the end faces

Guide rails with cover strip, screw and washer

– with tap holes at the end faces

Guide rails with cover strip and strip clamp

– without tap holes at the end faces

Guide rails with plastic mounting hole plugs

Guide rails with steel mounting hole plugs

Guide rails for mounting from below

Ordering Examples – Standard Guide Rails

Ordering guide rails in recommended lengths

The following examples apply to all guide rail orders. Recommended rail lengths are delivered with priority.

Size	Accuracy class	Guide rail one-piece Part number, Rail length L (mm)	Guide rail composite Part number, Number of sections, Rail length L (mm)	Recommended rail lengths Spacing T_2 (mm)	Number of holes n_B / rail length L (mm)
25	UP	1805-269-31, ...	1805-269-3., ...	30	according to formula $L = n_B \cdot T_2 - 4$ up to 133/3986 max.
	SP	1805-261-31, ...	1805-261-3., ...		
	P	1805-262-31, ...	1805-262-3., ...		
	H	1805-263-31, ...	1805-263-3., ...		
35	UP	1805-369-61, ...	1805-369-6., ...	40	according to formula $L = n_B \cdot T_2 - 4$ up to 100/3996 max.
	SP	1805-361-61, ...	1805-361-6., ...		
	P	1805-362-61, ...	1805-362-6., ...		
	H	1805-363-61, ...	1805-363-6., ...		
45	UP	1805-469-61, ...	1805-469-6., ...	52.5	according to formula $L = n_B \cdot T_2 - 4$ up to 76/3986 max.
	SP	1805-461-61, ...	1805-461-6., ...		
	P	1805-462-61, ...	1805-462-6., ...		
	H	1805-463-61, ...	1805-463-6., ...		
55	UP	1805-569-61, ...	1805-569-6., ...	60	according to formula $L = n_B \cdot T_2 - 4$ up to 66/3956 max.
	SP	1805-561-61, ...	1805-561-6., ...		
	P	1805-562-61, ...	1805-562-6., ...		
	H	1805-563-61, ...	1805-563-6., ...		
65	UP	1805-669-61, ...	1805-669-6., ...	75	according to formula $L = n_B \cdot T_2 - 4$ up to 53/3971 max.
	SP	1805-661-61, ...	1805-661-6., ...		
	P	1805-662-61, ...	1805-662-6., ...		
	H	1805-663-61, ...	1805-663-6., ...		

From the desired length to the recommended length

$$L = \left(\frac{\text{desired length L}}{\text{hole spacing } T_2} \right)^{*} \cdot T_2 - 4$$

* round up to the next whole number

Example:

$$L = \left(\frac{1660 \text{ mm}}{40 \text{ mm}} \right) \cdot 40 \text{ mm} - 4 \text{ mm}$$

$L = 42 \cdot 40 \text{ mm} - 4 \text{ mm}$

$L = 1676 \text{ mm}$

Ordering example 1, up to L_{max}:

– Guide rail size 35 with cover strip
– Accuracy class H
– Calculated rail length 1676 mm
(41 · T_2, preferred dimension
T_{1S} = 18 mm;
number of holes n_B = 42)

Ordering data:

Part number, length (mm)

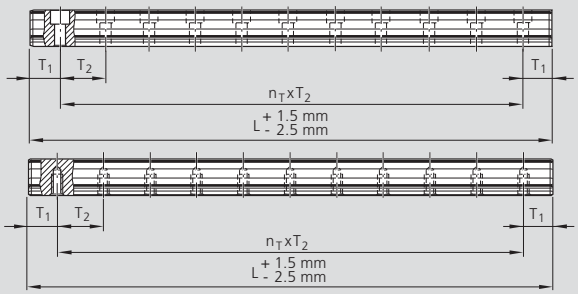
T_1 / $n_{T_2} \cdot T_2$ / T_1 (mm)

1805-363-61, 1676 mm

18 / 41 · 40 / 18 mm

Notes on ordering examples

- If the preferred dimension T_{1S} cannot be used:
  - Select an end space T_1 between T_{1S} and $T_{1\,min}$
  - Do not go below the minimum spacing $T_{1\,min}$!
- T_1, $T_{1\,min}$, T_{1S} are the same at either end of the rail.



$$L = n_B \cdot T_2 - 4$$

or

$$L = n_{T_2} \cdot T_2 + 2 \cdot T_{1S}$$

L	= rail length	(mm)
T_2	= hole spacing*)	(mm)
T_{1S}	= preferred dimension*)	(mm)
n_B	= number of holes	
n_{T_2}	= number of spaces	

*) see tables for values

Ordering example 2, length > L_{max}:

– Guide rail size 35 with cover strip
– Accuracy class H
– Calculated rail length 5036 mm,
2 sections
(125 · T_2, preferred dimension
T_{1S} = 18 mm;
number of holes n_B = 126)

Ordering data:

Part number and number of sections, length (mm)

T_1 / $n_{T_2} \cdot T_2$ / T_1 (mm)

1805-363-62, 5036 mm

18 / 125 · 40 / 18 mm

Rail lengths greater than L_{max} are made up of matching rail sections mounted end to end.

Rexroth Roller Rail Systems
Standard Guide Rails

Guide rail 1805-.6. -

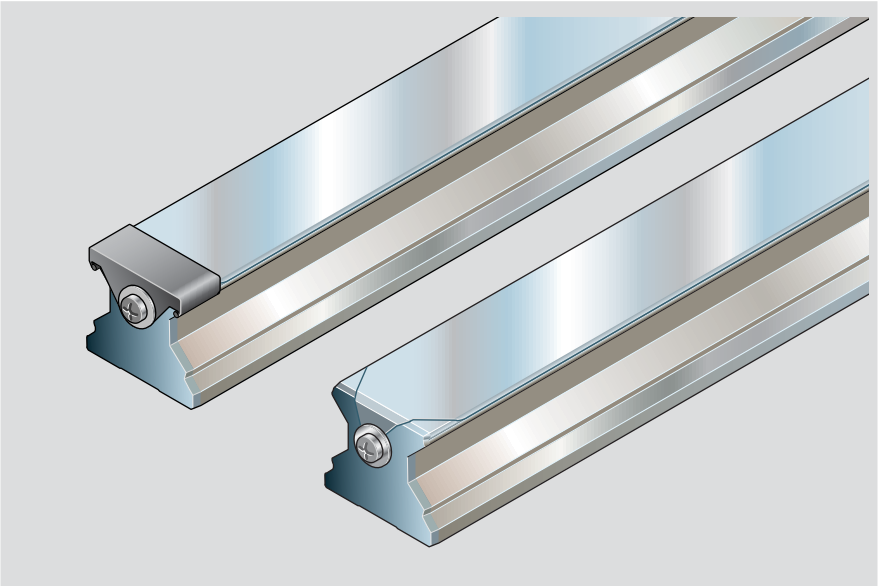
For mounting from above, with cover strip of stainless spring steel to EN 10088 and screw-down protective caps

Observe the mounting instructions!

Send for the publication "Mounting Instructions for the Cover Strip".

Special versions:

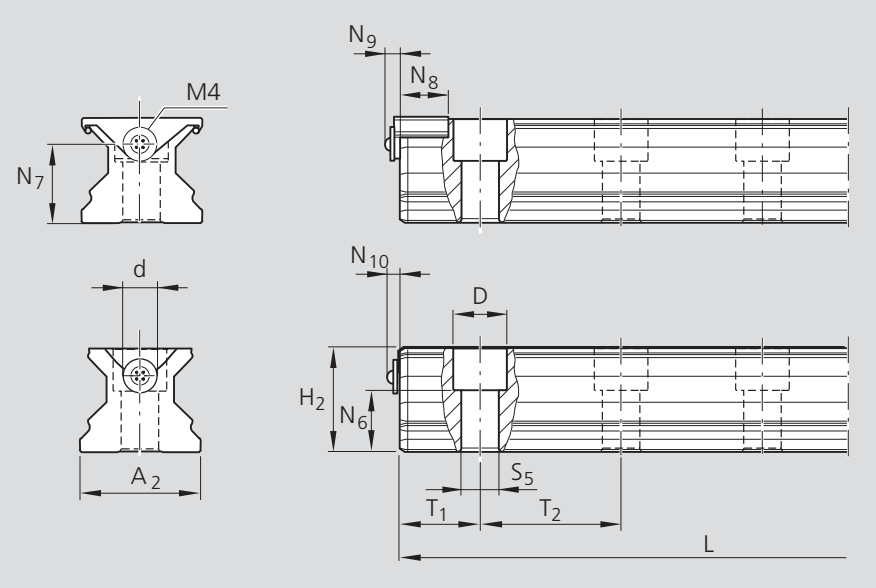
– Hard chrome-plated guide rails. For part numbers, see "Guide rail, hard chrome-plated, 1845-.5.-".
– Securing with screw and washer to be done by the customer. Screw and washer are available as accessories.



Part numbers and rail lengths

Size	Accuracy class	Guide rail		Recommended rail lengths	
		one-piece	composite		
		Part number, Rail length L (mm)	Part number, Number of sections, Rail length L (mm)	Spacing T_2 (mm)	Number of holes n_B / rail length L (mm)
25	UP	1805-269-31, ...	1805-269-3., ...	30	according to formula **$L = n_B \cdot T_2 - 4$** up to 133/3986 max.
	SP	1805-261-31, ...	1805-261-3., ...		
	P	1805-262-31, ...	1805-262-3., ...		
	H	1805-263-31, ...	1805-263-3., ...		
35	UP	1805-369-61, ...	1805-369-6., ...	40	according to formula **$L = n_B \cdot T_2 - 4$** up to 100/3996 max.
	SP	1805-361-61, ...	1805-361-6., ...		
	P	1805-362-61, ...	1805-362-6., ...		
	H	1805-363-61, ...	1805-363-6., ...		
45	UP	1805-469-61, ...	1805-469-6., ...	52.5	according to formula **$L = n_B \cdot T_2 - 4$** up to 76/3986 max.
	SP	1805-461-61, ...	1805-461-6., ...		
	P	1805-462-61, ...	1805-462-6., ...		
	H	1805-463-61, ...	1805-463-6., ...		
55	UP	1805-569-61, ...	1805-569-6., ...	60	according to formula **$L = n_B \cdot T_2 - 4$** up to 66/3956 max.
	SP	1805-561-61, ...	1805-561-6., ...		
	P	1805-562-61, ...	1805-562-6., ...		
	H	1805-563-61, ...	1805-563-6., ...		
65	UP	1805-669-61, ...	1805-669-6., ...	75	according to formula **$L = n_B \cdot T_2 - 4$** up to 53/3971 max.
	SP	1805-661-61, ...	1805-661-6., ...		
	P	1805-662-61, ...	1805-662-6., ...		
	H	1805-663-61, ...	1805-663-6., ...		

Dimensions and weights



Size	Dimensions (mm)														Weight
	A_2	H_2 1)	$N_6^{\pm 0.5}$	N_7	N_8	N_9	N_{10}	d	D	S_5	$T_{1S-1.0}^{+0.5}$ 2)	$T_{1\ min}$ 3)	T_2	L_{max} 4)	kg/m
25	23	23.55	14.3	15.0	15.2	6.5	4.10	12	11.0	7.0	13.00	13	30.0	4000	3.1
35	34	31.10	19.4	22.0	18.0	7.0	4.10	15	15.0	9.0	18.00	16	40.0	4000	6.3
45	45	39.10	22.4	30.0	20.0	7.0	4.10	15	20.0	14.0	24.25	18	52.5	4000	10.3
55	53	47.85	28.7	30.0	20.0	7.0	4.35	20	24.0	16.0	28.00	20	60.0	4000	13.1
65	63	58.15	36.5	40.0	20.0	7.0	4.35	20	26.0	18.0	35.50	21	75.0	4000	17.4

1) Dimension H_2 with cover strip
Size 25 with 0.15 mm cover strip
Sizes 35 to 65 with 0.3 mm cover strip

2) Preferred dimension

3) Rails with T_1 smaller than $T_{1\ min}$ have no tap hole at the end face for securing the strip!
Secure the cover strip!
Observe mounting instructions!
The protective cap, washer and screw are included in the supply scope.

4) Sizes 35 to 65 in accuracy classes P and H are also available in lengths up to approx. 6000 mm.

Rexroth Roller Rail Systems
Standard Guide Rails

Guide rail 1805-.3. -

For mounting from above, with cover strip of stainless spring steel to EN 10088 and strip clamps

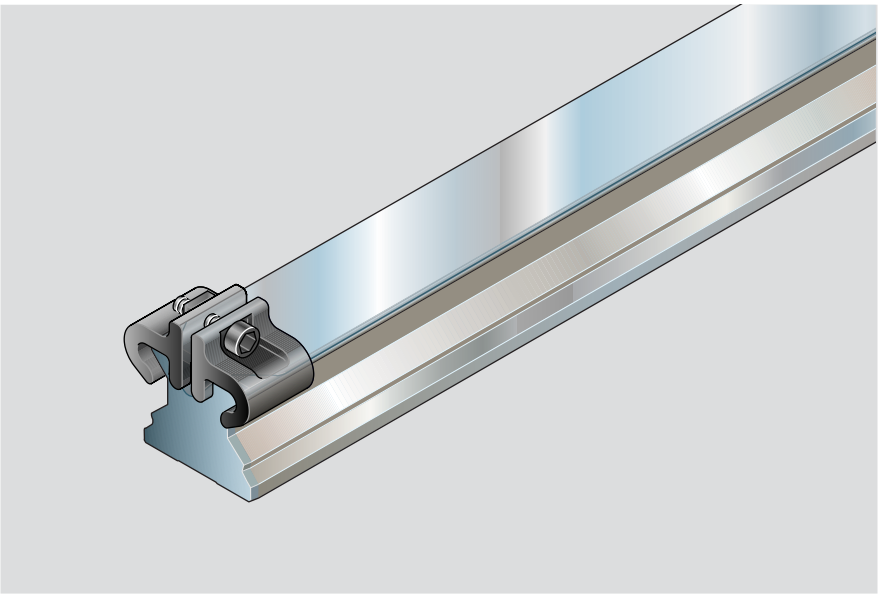
Secure the cover strip!
Observe the mounting instructions!

Send for the publication "Mounting Instructions for the Cover Strip".

The strip clamp is part of the supply scope.

Special versions:

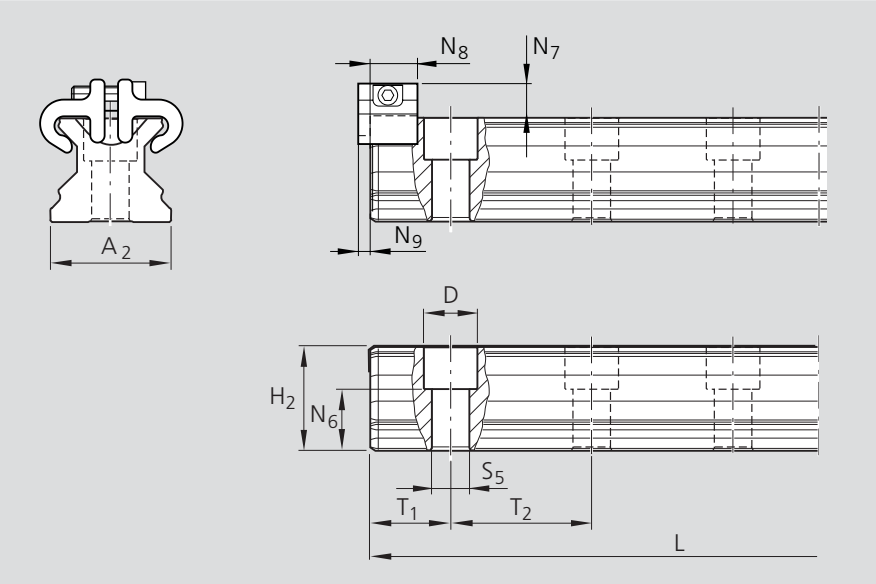
– Hard chrome-plated guide rails with strip clamp are available on request.



Part numbers and rail lengths

Size	Accuracy class	Guide rail one-piece Part number, Rail length L (mm)	Guide rail composite Part number, Number of sections, Rail length L (mm)	Recommended rail lengths Spacing T_2 (mm)	Recommended rail lengths Number of holes n_B / rail length L (mm)
25	UP	1805-239-31, ...	1805-239-3., ...	30	according to formula **$L = n_B \cdot T_2 - 4$** up to 133/3986 max.
	SP	1805-231-31, ...	1805-231-3., ...		
	P	1805-232-31, ...	1805-232-3., ...		
	H	1805-233-31, ...	1805-233-3., ...		
35	UP	1805-339-61, ...	1805-339-6., ...	40	according to formula **$L = n_B \cdot T_2 - 4$** up to 100/3996 max.
	SP	1805-331-61, ...	1805-331-6., ...		
	P	1805-332-61, ...	1805-332-6., ...		
	H	1805-333-61, ...	1805-333-6., ...		
45	UP	1805-439-61, ...	1805-439-6., ...	52.5	according to formula **$L = n_B \cdot T_2 - 4$** up to 76/3986 max.
	SP	1805-431-61, ...	1805-431-6., ...		
	P	1805-432-61, ...	1805-432-6., ...		
	H	1805-433-61, ...	1805-433-6., ...		
55	UP	1805-539-61, ...	1805-539-6., ...	60	according to formula **$L = n_B \cdot T_2 - 4$** up to 66/3956 max.
	SP	1805-531-61, ...	1805-531-6., ...		
	P	1805-532-61, ...	1805-532-6., ...		
	H	1805-533-61, ...	1805-533-6., ...		
65	UP	1805-639-61, ...	1805-639-6., ...	75	according to formula **$L = n_B \cdot T_2 - 4$** up to 53/3971 max.
	SP	1805-631-61, ...	1805-631-6., ...		
	P	1805-632-61, ...	1805-632-6., ...		
	H	1805-633-61, ...	1805-633-6., ...		

Dimensions and weights



Size	Dimensions (mm)												Weight
	A_2	H_2 [1]	$N_6^{\pm 0.5}$	N_7 [2]	N_8	N_9	D	S_5	$T_{1S-1.0}^{+0.5}$ [3]	$T_{1\,min}$	T_2	L_{max} [4]	kg/m
25	23	23.55	14.3	8.2	13.0	2.0	11.0	7.0	13.00	13	30.0	4000	3.1
35	34	31.10	19.4	11.7	16.0	2.2	15.0	9.0	18.00	16	40.0	4000	6.3
45	45	39.10	22.4	12.5	18.0	2.2	20.0	14.0	24.25	18	52.5	4000	10.3
55	53	47.85	28.7	14.0	17.0	3.2	24.0	16.0	28.00	20	60.0	4000	13.1
65	63	58.15	36.5	15.0	17.0	3.2	26.0	18.0	35.50	21	75.0	4000	17.4

1) Dimension H_2 with cover strip
Size 25 with 0.15 mm cover strip
Sizes 35 to 65 with 0.3 mm cover strip

2) Dimension N_7 with cover strip

3) Preferred dimension

4) Sizes 35 to 65 in accuracy classes P and H are also available in lengths up to approx. 6000 mm.

Rexroth Roller Rail Systems
Standard Guide Rails

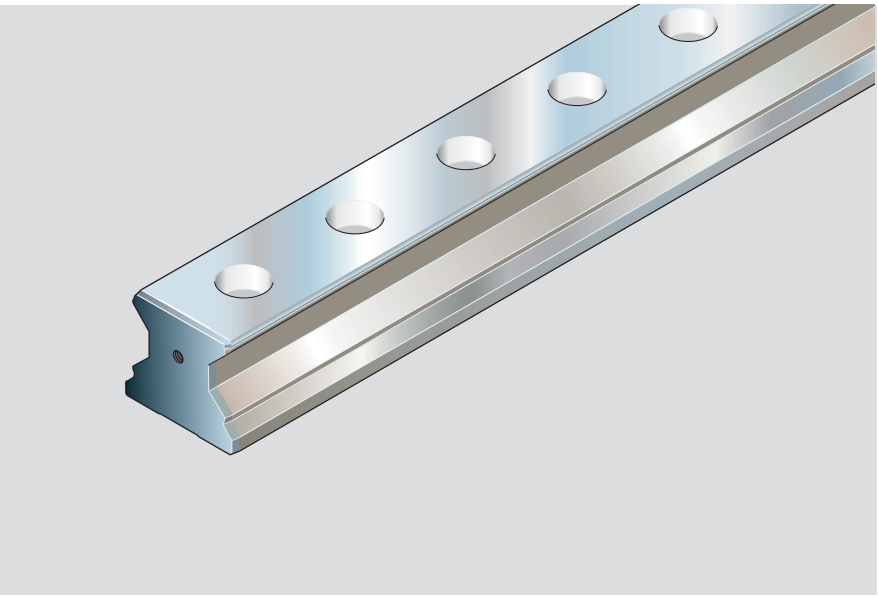
Guide rail 1805-.2. -

For mounting from above, for cover strip (not included)

- The cover strip and strip clamp or protective caps must be ordered separately. For part numbers and dimensions see "Accessories".

Special versions:

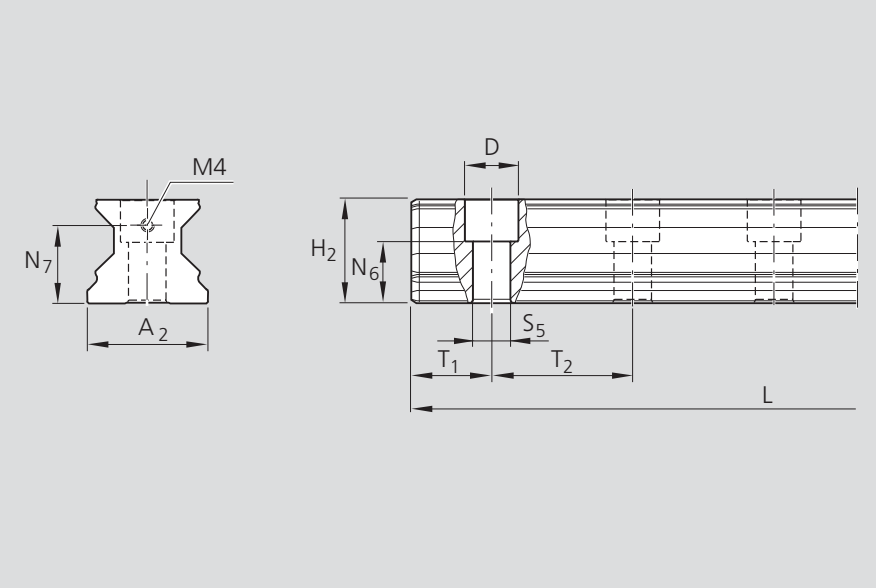
– hard chrome-plated
The part numbers are given on separate pages at the end of this section.



Part numbers and rail lengths

Size	Accuracy class	Guide rail one-piece Part number, Rail length L (mm)	Guide rail composite Part number, Number of sections, Rail length L (mm)	Recommended rail lengths Spacing T_2 (mm)	Recommended rail lengths Number of holes n_B / rail length L (mm)
25	UP	1805-229-31, ...	1805-229-3., ...	30	according to formula **$L = n_B \cdot T_2 - 4$** up to 133/3986 max.
	SP	1805-221-31, ...	1805-221-3., ...		
	P	1805-222-31, ...	1805-222-3., ...		
	H	1805-223-31, ...	1805-223-3., ...		
35	UP	1805-329-31, ...	1805-329-3., ...	40	according to formula **$L = n_B \cdot T_2 - 4$** up to 100/3996 max.
	SP	1805-321-31, ...	1805-321-3., ...		
	P	1805-322-31, ...	1805-322-3., ...		
	H	1805-323-31, ...	1805-323-3., ...		
45	UP	1805-429-31, ...	1805-429-3., ...	52.5	according to formula **$L = n_B \cdot T_2 - 4$** up to 76/3986 max.
	SP	1805-421-31, ...	1805-421-3., ...		
	P	1805-422-31, ...	1805-422-3., ...		
	H	1805-423-31, ...	1805-423-3., ...		
55	UP	1805-529-31, ...	1805-529-3., ...	60	according to formula **$L = n_B \cdot T_2 - 4$** up to 66/3956 max.
	SP	1805-521-31, ...	1805-521-3., ...		
	P	1805-522-31, ...	1805-522-3., ...		
	H	1805-523-31, ...	1805-523-3., ...		
65	UP	1805-629-31, ...	1805-629-3., ...	75	according to formula **$L = n_B \cdot T_2 - 4$** up to 53/3971 max.
	SP	1805-621-31, ...	1805-621-3., ...		
	P	1805-622-31, ...	1805-622-3., ...		
	H	1805-623-31, ...	1805-623-3., ...		

Dimensions and weights



Size	Dimensions (mm)										Weight
	A_2	H_2 [1]	$N_6^{\pm 0.5}$	N_7	D	S_5	$T_{1S-1.0}^{+0.5}$ [2]	$T_{1\,min}$ [3]	T_2	L_{max} [4]	kg/m
25	23	23.40	14.3	15.0	11	7	13.00	13	30.0	4000	3.1
35	34	30.80	19.4	22.0	15	9	18.00	16	40.0	4000	6.3
45	45	38.80	22.4	30.0	20	14	24.25	18	52.5	4000	10.3
55	53	47.55	28.7	30.0	24	16	28.00	20	60.0	4000	13.1
65	63	57.85	36.5	40.0	26	18	35.50	21	75.0	4000	17.4

1) Dimension H_2 without cover strip

2) Preferred dimension

3) Rails with T_1 smaller than $T_{1\,min}$ have no tap hole at the end face for securing the strip!
Secure the cover strip!
Observe mounting instructions!

4) Sizes 35 to 65 in accuracy classes P and H are also available in lengths up to approx. 6000 mm.

Rexroth Roller Rail Systems
Standard Guide Rails

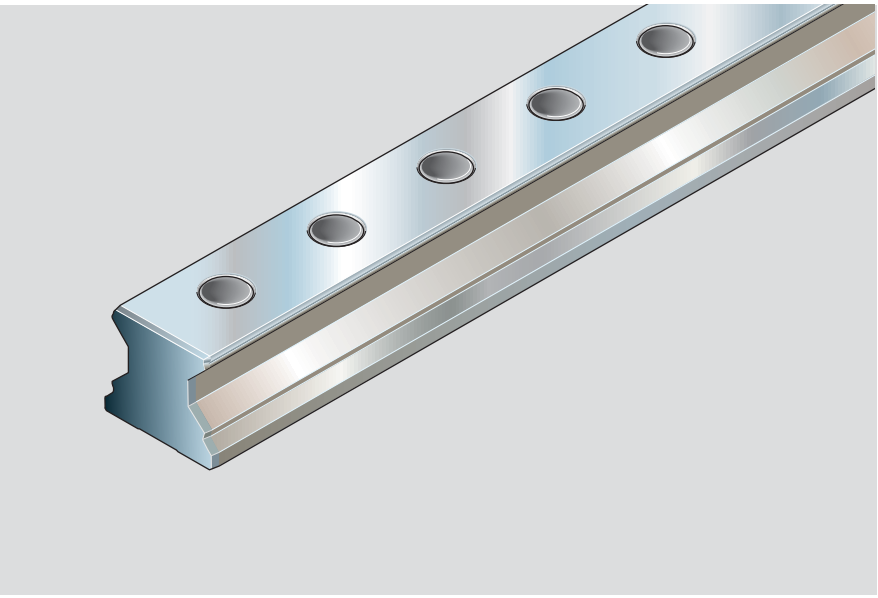
Guide rail 1805-.5. -

For mounting from above, with plastic mounting hole plugs (included)

Special versions:

– hard chrome-plated

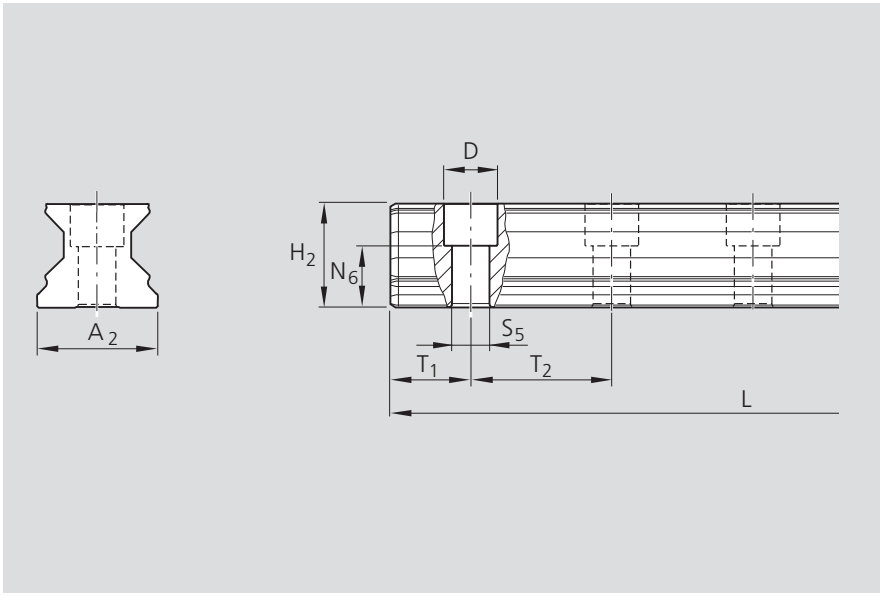
The part numbers are given on separate pages at the end of this section.



Part numbers and rail lengths

Size	Accuracy class	Guide rail one-piece Part number, Rail length L (mm)	Guide rail composite Part number, Number of sections, Rail length L (mm)	Recommended rail lengths Spacing T_2 (mm)	Recommended rail lengths Number of holes n_B / rail length L (mm)
25	UP	1805-259-31, ...	1805-259-3., ...	30	according to formula $L = n_B \cdot T_2 - 4$ up to 133/3986 max.
	SP	1805-251-31, ...	1805-251-3., ...		
	P	1805-252-31, ...	1805-252-3., ...		
	H	1805-253-31, ...	1805-253-3., ...		
35	UP	1805-359-31, ...	1805-359-3., ...	40	according to formula $L = n_B \cdot T_2 - 4$ up to 100/3996 max.
	SP	1805-351-31, ...	1805-351-3., ...		
	P	1805-352-31, ...	1805-352-3., ...		
	H	1805-353-31, ...	1805-353-3., ...		
45	UP	1805-459-31, ...	1805-459-3., ...	52.5	according to formula $L = n_B \cdot T_2 - 4$ up to 76/3986 max.
	SP	1805-451-31, ...	1805-451-3., ...		
	P	1805-452-31, ...	1805-452-3., ...		
	H	1805-453-31, ...	1805-453-3., ...		
55	UP	1805-559-31, ...	1805-559-3., ...	60	according to formula $L = n_B \cdot T_2 - 4$ up to 66/3956 max.
	SP	1805-551-31, ...	1805-551-3., ...		
	P	1805-552-31, ...	1805-552-3., ...		
	H	1805-553-31, ...	1805-553-3., ...		
65	UP	1805-659-31, ...	1805-659-3., ...	75	according to formula $L = n_B \cdot T_2 - 4$ up to 53/3971 max.
	SP	1805-651-31, ...	1805-651-3., ...		
	P	1805-652-31, ...	1805-652-3., ...		
	H	1805-653-31, ...	1805-653-3., ...		

Dimensions and weights



Size	Dimensions (mm)									Weight
	A_2	H_2	$N_6^{\pm 0.5}$	D	S_5	$T_{1S}^{+0.5}{}_{-1.0}$ [1]	$T_{1\,min}$	T_2	L_{max} [2]	kg/m
25	23	23.40	14.3	11	7	13.00	10	30.0	4000	3.1
35	34	30.80	19.4	15	9	18.00	12	40.0	4000	6.3
45	45	38.80	22.4	20	14	24.25	16	52.5	4000	10.3
55	53	47.55	28.7	24	16	28.00	18	60.0	4000	13.1
65	63	57.85	36.5	26	18	35.50	20	75.0	4000	17.4

1) Preferred dimension

2) Sizes 35 to 65 in accuracy classes P and H are also available in lengths up to approx. 6000 mm.

Rexroth Roller Rail Systems
Standard Guide Rails

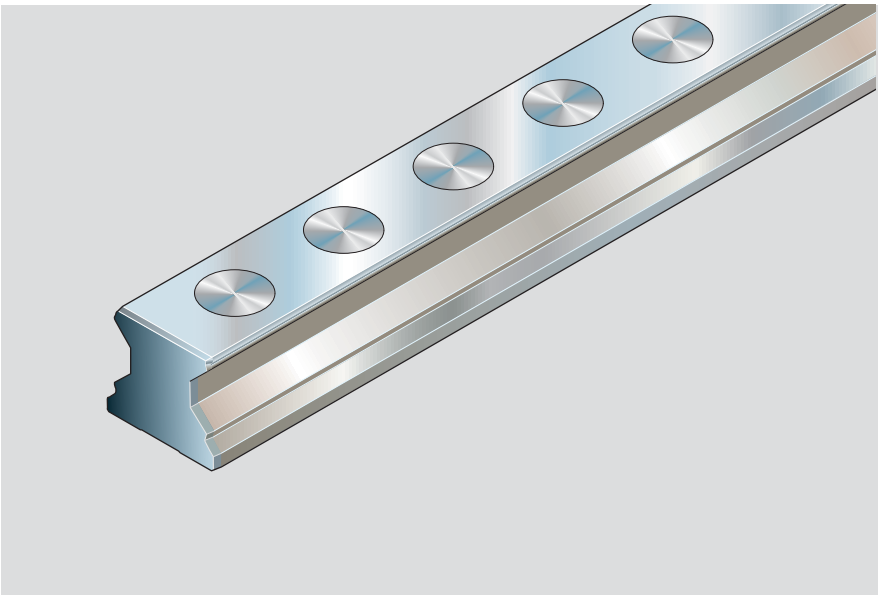
Guide rail 1806-.5. -

For mounting from above, for steel mounting hole plugs (not included)

Accuracy classes SP, P, H

Steel mounting hole plugs and the mounting tool must be ordered separately. For part numbers see "Accessories".

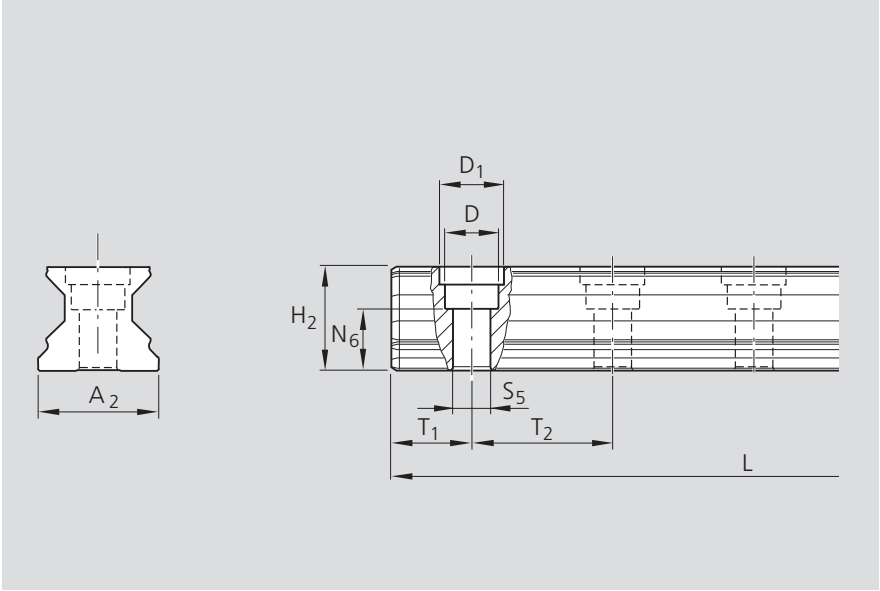
Observe the mounting instructions for steel mounting hole plugs.



Part numbers and rail lengths

Size	Accuracy class	Guide rail one-piece: Part number, Rail length L (mm)	Guide rail composite: Part number, Number of sections, Rail length L (mm)	Recommended rail lengths: Spacing T_2 (mm)	Recommended rail lengths: Number of holes n_B / rail length L (mm)
25	SP	1806-251-31, ...	1806-251-3., ...	30	according to formula **$L = n_B \cdot T_2 - 4$** up to 133/3986 max.
	P	1806-252-31, ...	1806-252-3., ...		
	H	1806-253-31, ...	1806-253-3., ...		
35	SP	1806-351-31, ...	1806-351-3., ...	40	according to formula **$L = n_B \cdot T_2 - 4$** up to 100/3996 max.
	P	1806-352-31, ...	1806-352-3., ...		
	H	1806-353-31, ...	1806-353-3., ...		
45	SP	1806-451-31, ...	1806-451-3., ...	52.5	according to formula **$L = n_B \cdot T_2 - 4$** up to 76/3986 max.
	P	1806-452-31, ...	1806-452-3., ...		
	H	1806-453-31, ...	1806-453-3., ...		
55	SP	1806-551-31, ...	1806-551-3., ...	60	according to formula **$L = n_B \cdot T_2 - 4$** up to 66/3956 max.
	P	1806-552-31, ...	1806-552-3., ...		
	H	1806-553-31, ...	1806-553-3., ...		
65	SP	1806-651-31, ...	1806-651-3., ...	75	according to formula **$L = n_B \cdot T_2 - 4$** up to 53/3971 max.
	P	1806-652-31, ...	1806-652-3., ...		
	H	1806-653-31, ...	1806-653-3., ...		

Dimensions and weights



Size	Dimensions (mm)										Weight
	A_2	H_2	$N_6^{\pm 0.5}$	D	D_1	S_5	$T_{1S}{}^{+0.5}_{-1.0}$ [1]	$T_{1\ min}$	T_2	L_{max} [2]	kg/m
25	23	23.40	14.3	11	13	7	13.00	10	30.0	4000	3.1
35	34	30.80	19.4	15	18	9	18.00	12	40.0	4000	6.3
45	45	38.80	22.4	20	23	14	24.25	16	52.5	4000	10.3
55	53	47.55	28.7	24	28	16	28.00	18	60.0	4000	13.1
65	63	57.85	36.5	26	30	18	35.50	20	75.0	4000	17.4

1) Preferred dimension

2) Sizes 35 to 65 in accuracy classes P and H in lengths of up to approx. 6000 mm on request.

Rexroth Roller Rail Systems
Standard Guide Rails

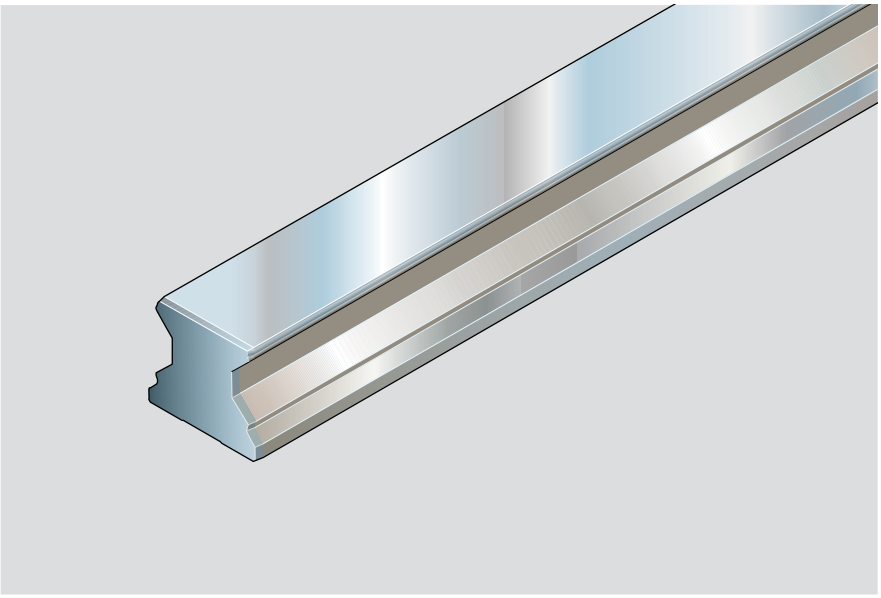
Guide rail 1807-

For mounting from below

Special versions:

– hard chrome-plated

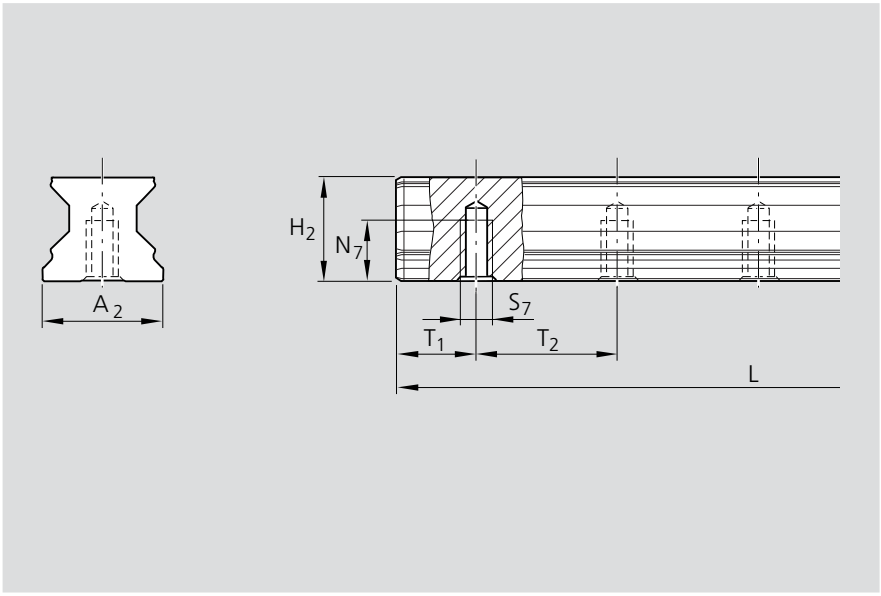
The part numbers are given on separate pages at the end of this section.



Part numbers and rail lengths

Size	Accuracy class	Guide rail one-piece Part number, Rail length L (mm)	Guide rail composite Part number, Number of sections, Rail length L (mm)	Recommended rail lengths Spacing T_2 (mm)	Recommended rail lengths Number of holes n_B / rail length L (mm)
25	UP	1807-209-31, ...	1807-209-3.., ...	30	according to formula **$L = n_B \cdot T_2 - 4$** up to 133/3986 max.
	SP	1807-201-31, ...	1807-201-3., ...		
	P	1807-202-31, ...	1807-202-3., ...		
	H	1807-203-31, ...	1807-203-3., ...		
35	UP	1807-309-31, ...	1807-309-3., ...	40	according to formula **$L = n_B \cdot T_2 - 4$** up to 100/3996 max.
	SP	1807-301-31, ...	1807-301-3., ...		
	P	1807-302-31, ...	1807-302-3., ...		
	H	1807-303-31, ...	1807-303-3., ...		
45	UP	1807-409-31, ...	1807-409-3., ...	52.5	according to formula **$L = n_B \cdot T_2 - 4$** up to 76/3986 max.
	SP	1807-401-31, ...	1807-401-3., ...		
	P	1807-402-31, ...	1807-402-3., ...		
	H	1807-403-31, ...	1807-403-3., ...		
55	UP	1807-509-31, ...	1807-509-3., ...	60	according to formula **$L = n_B \cdot T_2 - 4$** up to 66/3956 max.
	SP	1807-501-31, ...	1807-501-3., ...		
	P	1807-502-31, ...	1807-502-3., ...		
	H	1807-503-31, ...	1807-503-3., ...		
65	UP	1807-609-31, ...	1807-609-3., ...	75	according to formula **$L = n_B \cdot T_2 - 4$** up to 53/3971 max.
	SP	1807-601-31, ...	1807-601-3., ...		
	P	1807-602-31, ...	1807-602-3., ...		
	H	1807-603-31, ...	1807-603-3., ...		

Dimensions and weights



Size	Dimensions (mm)								Weight
	A_2	H_2	$N_7^{\pm 0.5}$	S_7	$T_{1S}^{+0.5}{}_{-1.0}$ [1)]	$T_{1\,min}$	T_2	L_{max}	kg/m
25	23	23.40	12	M6	13.00	10	30.0	4000	3.1
35	34	30.80	15	M8	18.00	12	40.0	4000	6.3
45	45	38.80	19	M12	24.25	16	52.5	4000	10.3
55	53	47.55	22	M14	28.00	18	60.0	4000	13.1
65	63	57.85	25	M16	35.50	20	75.0	4000	17.4

1) Preferred dimension

Rexroth Roller Rail Systems
Standard Guide Rails, Hard Chrome-Plated

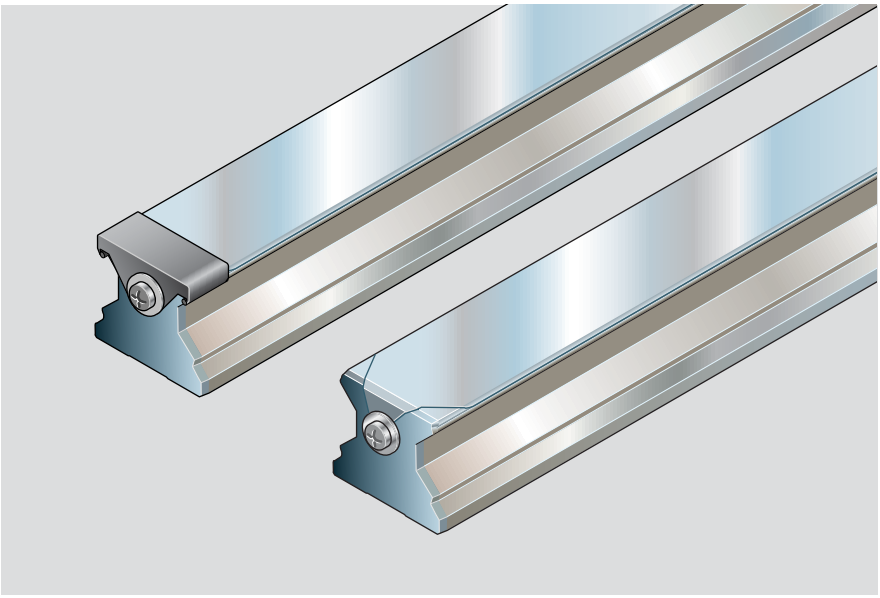
Guide rail 1845-.6.-
Hard chrome-plated

For mounting from above, with cover strip in stainless spring steel to EN 10088 and screw-down protective caps

Part numbers / end face coating:

Size 25 with 0.15 mm cover strip:
– 1845-...-4. (end faces coated)

Sizes 35 to 65 with 0.3 mm cover strip:
– 1845-...-7. (end faces coated)



Notes

The mounting holes and the tap holes at the end faces are chrome-plated.

The hard chrome-plated version replaces the zinc-iron coated guide rails.

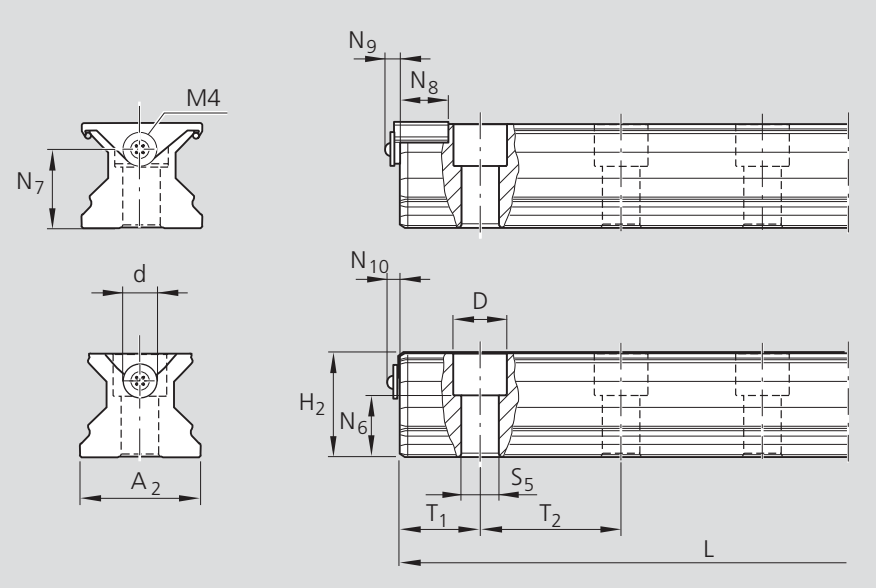
Securing with screw and washer to be done by the customer. Screw and washer are available as accessories.

Part numbers and rail lengths

Size	Accuracy class[1]	Guide rail one-piece[2] Part number, Rail length L (mm)	Recommended rail lengths	
			Spacing T_2 (mm)	Number of holes n_B / rail length L (mm)
25	H	1845-263-41, ...	30	according to formula $\mathbf{L = n_B \cdot T_2 - 4}$ up to 133/3986 max.
35	H	1845-363-71, ...	40	according to formula $\mathbf{L = n_B \cdot T_2 - 4}$ up to 100/3996 max.
45	H	1845-463-71, ...	52.5	according to formula $\mathbf{L = n_B \cdot T_2 - 4}$ up to 76/3986 max.
55	H	1845-563-71, ...	60	according to formula $\mathbf{L = n_B \cdot T_2 - 4}$ up to 66/3956 max.
65	H	1845-663-71, ...	75	according to formula $\mathbf{L = n_B \cdot T_2 - 4}$ up to 53/3971 max.

[1] Accuracy classes SP and P on request [2] Composite guide rails on request

Dimensions and weights



Size	Dimensions (mm)															Weight
	A_2	H_2 [1]	$N_6^{\pm 0.5}$	N_7	N_8	N_9	N_{10}	d		D	S_5	$T_{1S-1.0}^{+0.5}$ [2]	$T_{1\ min}$ [3]	T_2	L_{max}	kg/m
25	23	23.55	14.3	15.0	15.2	6.5	4.10	12		11.0	7.0	13.00	13	30.0	4000	3.1
35	34	31.10	19.4	22.0	18.0	7.0	4.10	15		15.0	9.0	18.00	16	40.0	4000	6.3
45	45	39.10	22.4	30.0	20.0	7.0	4.10	15		20.0	14.0	24.25	18	52.5	4000	10.3
55	53	47.85	28.7	30.0	20.0	7.0	4.35	20		24.0	16.0	28.00	20	60.0	4000	13.1
65	63	58.15	36.5	40.0	20.0	7.0	4.35	20		26.0	18.0	35.50	21	75.0	4000	17.4

1) Dimension H_2 with cover strip
Size 25 with 0.15 mm cover strip
Sizes 35 to 65 with 0.3 mm cover strip

2) Preferred dimension

3) Rails with T_1 smaller than $T_{1\ min}$ have no tap hole at the end face for securing the strip!
Secure the cover strip!
Observe mounting instructions!
The protective cap, washer and screw are included in the supply scope.

Rexroth Roller Rail Systems
Standard Guide Rails, Hard Chrome-Plated

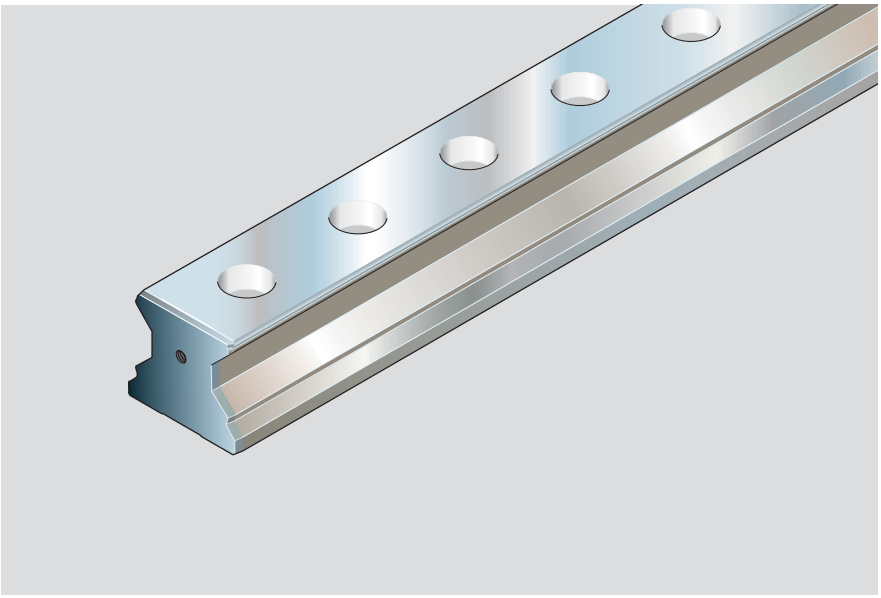
Guide rail 1845-.7.-
Hard chrome-plated

For mounting from above, for cover strip (not included)

- The cover strip and protective caps must be ordered separately. For part numbers and dimensions see "Accessories".

Part numbers / end face coating:

Sizes 25 to 65:
– 1845-...-4. (end faces coated)



Notes

The mounting holes and the tap holes at the end faces are chrome-plated.

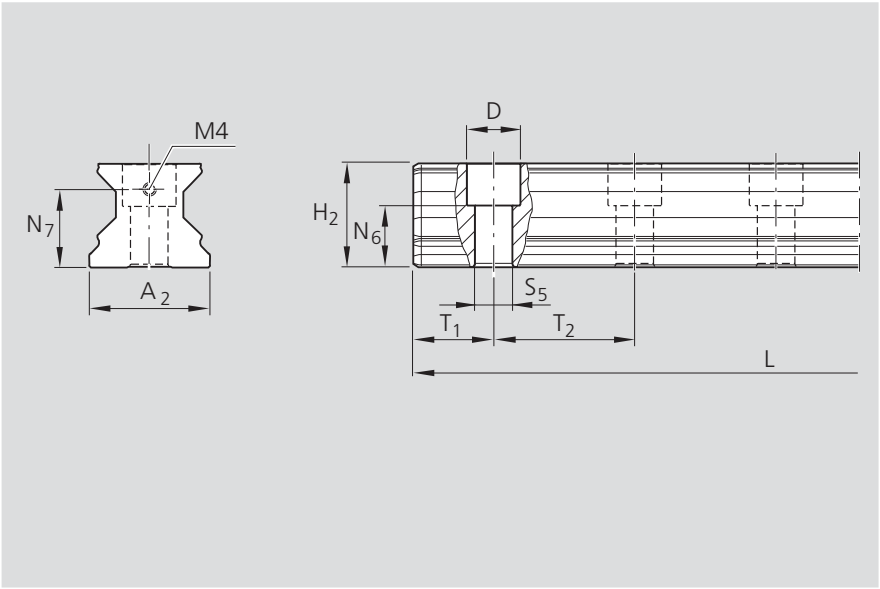
The hard chrome-plated version replaces the zinc-iron coated guide rails.

Part numbers and rail lengths

Size	Accuracy class[1]	Guide rail one-piece[2] Part number, Rail length L (mm)	Recommended rail lengths: Spacing T_2 (mm)	Recommended rail lengths: Number of holes n_B / rail length L (mm)
25	H	1845-273-41, ...	30	according to formula $L = n_B \cdot T_2 - 4$ up to 133/3986 max.
35	H	1845-373-41, ...	40	according to formula $L = n_B \cdot T_2 - 4$ up to 100/3996 max.
45	H	1845-473-41, ...	52.5	according to formula $L = n_B \cdot T_2 - 4$ up to 76/3986 max.
55	H	1845-573-41, ...	60	according to formula $L = n_B \cdot T_2 - 4$ up to 66/3956 max.
65	H	1845-673-41, ...	75	according to formula $L = n_B \cdot T_2 - 4$ up to 53/3971 max.

[1] Accuracy classes SP and P on request [2] Composite guide rails on request

Dimensions and weights



Size	Dimensions (mm)										Weight
	A_2	H_2 [1]	$N_6^{\pm 0.5}$	N_7	D	S_5	$T_{1S}^{+0.5}_{-1.0}$ [2]	$T_{1\,min}$ [3]	T_2	L_{max}	kg/m
25	23	23.40	14.3	15.0	11	7	13.00	13	30.0	4000	3.1
35	34	30.80	19.4	22.0	15	9	18.00	16	40.0	4000	6.3
45	45	38.80	22.4	30.0	20	14	24.25	18	52.5	4000	10.3
55	53	47.55	28.7	30.0	24	16	28.00	20	60.0	4000	13.1
65	63	57.85	36.5	40.0	26	18	35.50	21	75.0	4000	17.4

1) Dimension H_2 without cover strip

2) Preferred dimension

3) Rails with T_1 smaller than $T_{1\,min}$ have no tap hole at the end face for securing the strip!
Secure the cover strip!
Observe mounting instructions!

Rexroth Roller Rail Systems
Standard Guide Rails, Hard Chrome-Plated

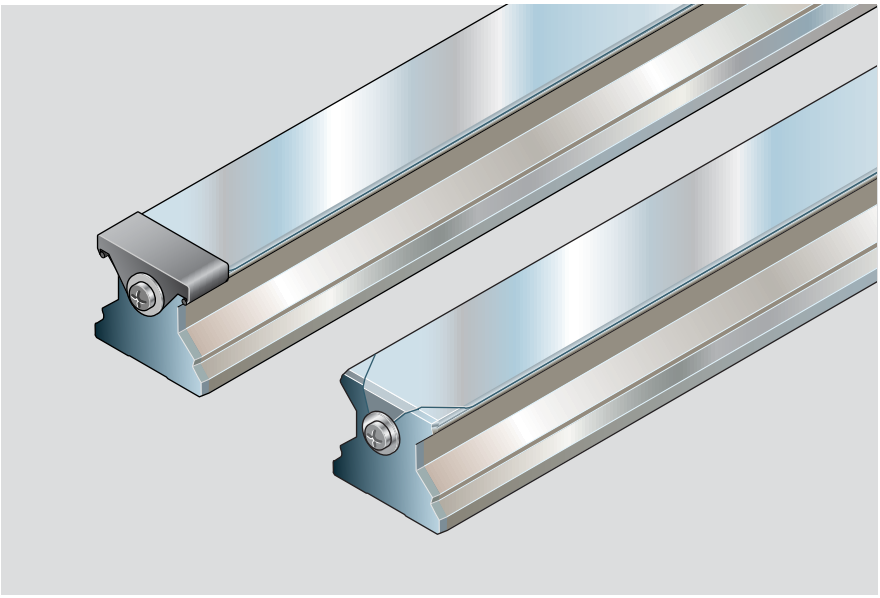
Guide rail 1845-.6.-
Hard chrome-plated

For mounting from above, with cover strip in stainless spring steel to EN 10088 and screw-down protective caps

Part numbers / end face coating:

Size 25 with 0.15 mm cover strip:
– 1845-...-4. (end faces coated)

Sizes 35 to 65 with 0.3 mm cover strip:
– 1845-...-7. (end faces coated)



Notes

The mounting holes and the tap holes at the end faces are chrome-plated.

The hard chrome-plated version replaces the zinc-iron coated guide rails.

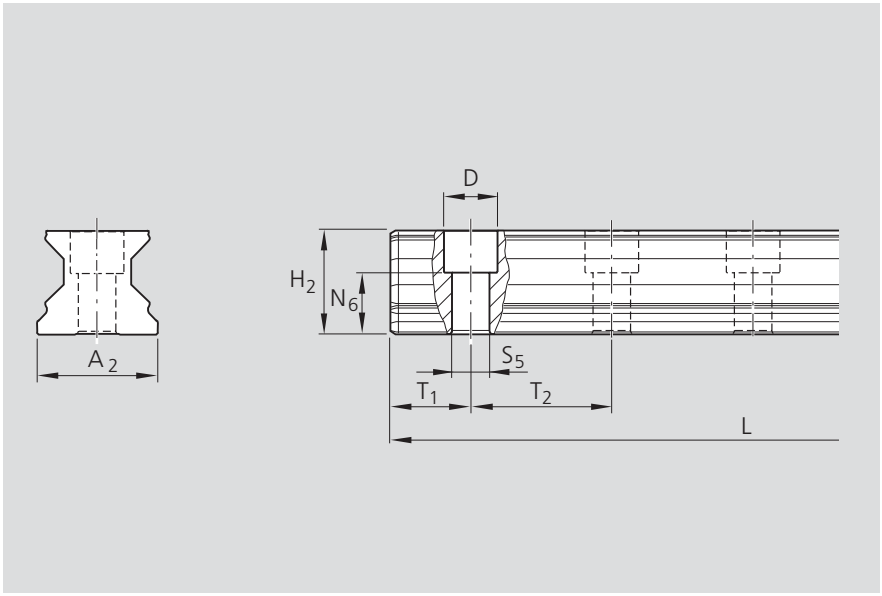
Securing with screw and washer to be done by the customer. Screw and washer are available as accessories.

Part numbers and rail lengths

Size	Accuracy class[1]	Guide rail one-piece[2] Part number, Rail length L (mm)	Recommended rail lengths	
			Spacing T_2 (mm)	Number of holes n_B / rail length L (mm)
25	H	1845-263-41, ...	30	according to formula $\mathbf{L = n_B \cdot T_2 - 4}$ up to 133/3986 max.
35	H	1845-363-71, ...	40	according to formula $\mathbf{L = n_B \cdot T_2 - 4}$ up to 100/3996 max.
45	H	1845-463-71, ...	52.5	according to formula $\mathbf{L = n_B \cdot T_2 - 4}$ up to 76/3986 max.
55	H	1845-563-71, ...	60	according to formula $\mathbf{L = n_B \cdot T_2 - 4}$ up to 66/3956 max.
65	H	1845-663-71, ...	75	according to formula $\mathbf{L = n_B \cdot T_2 - 4}$ up to 53/3971 max.

[1] Accuracy classes SP and P on request [2] Composite guide rails on request

Dimensions and weights



Size	Dimensions (mm)									Weight
	A_2	H_2	$N_6^{\pm 0.5}$	D	S_5	$T_{1S}^{+0.5}{}_{-1.0}$ [1]	$T_{1\,min}$	T_2	L_{max}	kg/m
25	23	23.40	14.3	11	7	13.00	10	30.0	4000	3.1
35	34	30.80	19.4	15	9	18.00	12	40.0	4000	6.3
45	45	38.80	22.4	20	14	24.25	16	52.5	4000	10.3
55	53	47.55	28.7	24	16	28.00	18	60.0	4000	13.1
65	63	57.85	36.5	26	18	35.50	20	75.0	4000	17.4

[1] Preferred dimension

Rexroth Roller Rail Systems
Standard Guide Rails, Hard Chrome-Plated

Guide rail 1847-.0.-
Hard chrome-plated

For mounting from below

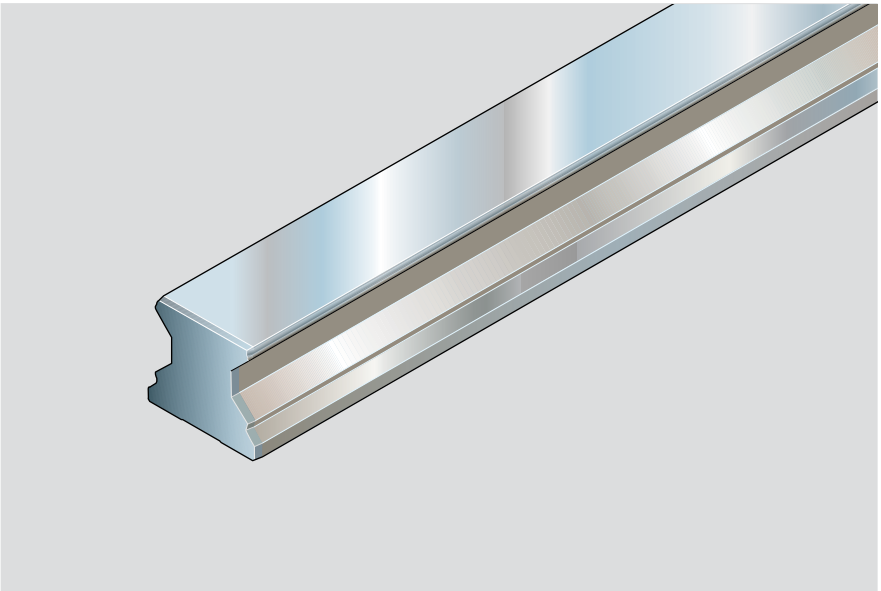
Part numbers / end face coating:

Sizes 25 to 65:
– 1847-...-4. (end faces coated)

Notes

The mounting holes are chrome-plated.

The hard chrome-plated version replaces the zinc-iron coated guide rails.



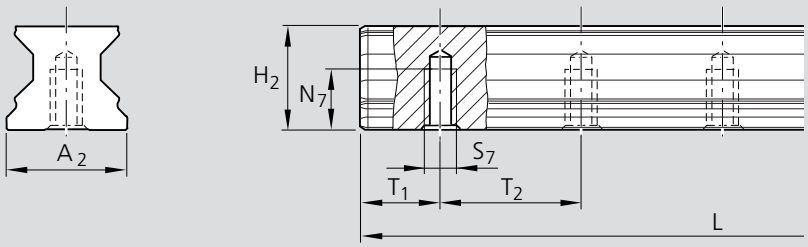
Part numbers and rail lengths

Size	Accuracy class[1]	Guide rail one-piece[2] Part number, Rail length L (mm)	Recommended rail lengths	
			Spacing T_2 (mm)	Number of holes n_B / rail length L (mm)
25	H	1847-203-41, ...	30	according to formula $L = n_B \cdot T_2 - 4$ up to 133/3986 max.
35	H	1847-303-41, ...	40	according to formula $L = n_B \cdot T_2 - 4$ up to 100/3996 max.
45	H	1847-403-41, ...	52.5	according to formula $L = n_B \cdot T_2 - 4$ up to 76/3986 max.
55	H	1847-503-41, ...	60	according to formula $L = n_B \cdot T_2 - 4$ up to 66/3956 max.
65	H	1847-603-41, ...	75	according to formula $L = n_B \cdot T_2 - 4$ up to 53/3971 max.

[1] Accuracy classes SP and P on request

[2] Composite guide rails on request

Dimensions and weights



Size	Dimensions (mm)								Weight
	A_2	H_2	$N_7^{\pm 0.5}$	S_7	$T_{1S-1.0}^{+0.5}$ [1]	$T_{1\ min}$	T_2	L_{max}	kg/m
25	23	23.40	12	M6	13.00	10	30.0	4000	3.1
35	34	30.80	15	M8	18.00	12	40.0	4000	6.3
45	45	38.80	19	M12	24.25	16	52.5	4000	10.3
55	53	47.55	22	M14	28.00	18	60.0	4000	13.1
65	63	57.85	25	M16	35.50	20	75.0	4000	17.4

[1] Preferred dimension

Rexroth Roller Rail Systems
Product Overview – Wide Steel Runner Blocks

Very high torque capacity and torsional rigidity

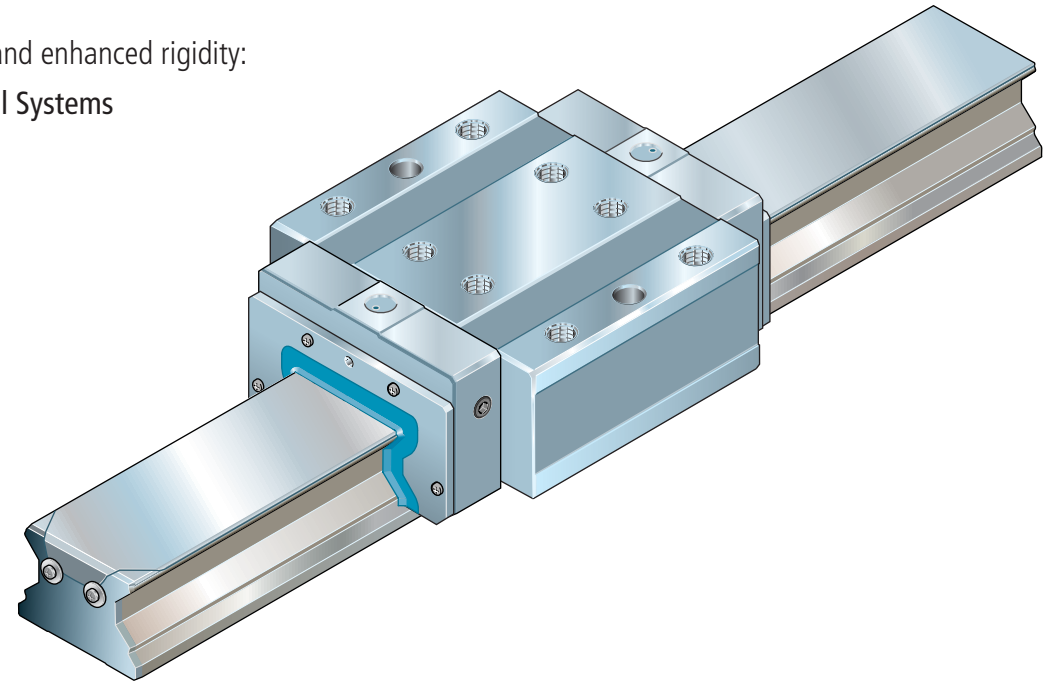
Make up your own compact linear motion guideways from interchangeable standard stock elements...

Rexroth fabricates its guide rails and runner blocks with such high precision that each individual component element can be replaced by another at any time. This makes infinite combinations possible.
Each element can be individually ordered and separately stocked.

- Both sides of the guide rail can be used as reference edges.
- Four reference edges on runner block for precise alignment in machine structure.
- Lube ports on all sides for maximum ease of maintenance.
- Novel lube duct design minimizes lubricant consumption.
- Innovative cage design allows for longer lubrication intervals.
- Smooth running thanks to optimized roller recirculation and guidance.
- Mounting of attachments to runner block from above or below.
- Improved rigidity under lift-off and side loading conditions through four additional mounting screw holes at the center of the runner block.
- Optimized entry-section geometry and high number of rollers per track minimizes variation in elastic deflection.
- Integrated all-round sealing.
- End seal as standard.
- Aluminum end caps.

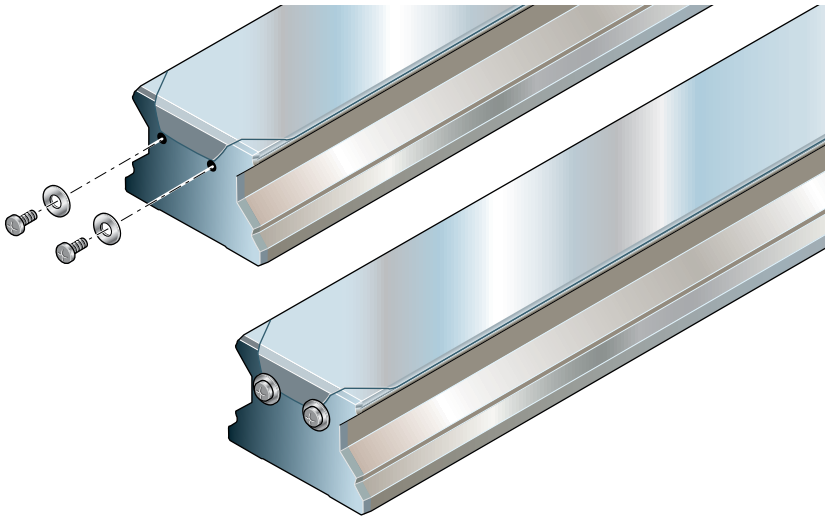
For high moment loads and enhanced rigidity:

Rexroth Wide Roller Rail Systems

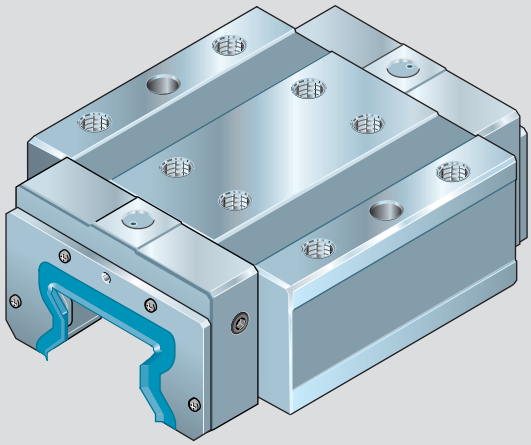


Proven cover strip for guide rail mounting holes:

– A *single* cover for all holes
– Stainless spring steel to EN 10088
– Easy to fit – simply clip on and secure



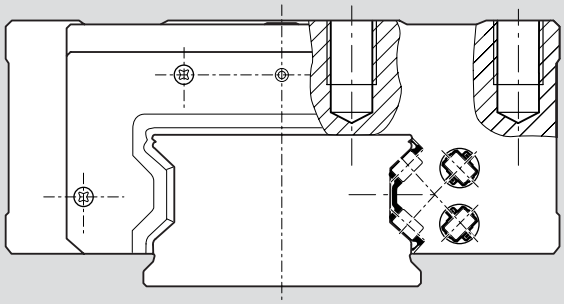
Rexroth Roller Rail Systems
Product Description – Wide Steel Runner Blocks



The Roller Rail Systems consist of:

– guide rail, all surfaces ground, hardened bearing surfaces

– runner block of anti-friction bearing steel, hardened and ground raceways, with:
  - rollers made of anti-friction bearing steel
  - cage designed for optimum roller recirculation
  - fully sealed roller raceways
  - two end seals for better sealing and to protect plastic parts
  - two reference edges on both sides
  - aluminum end caps.

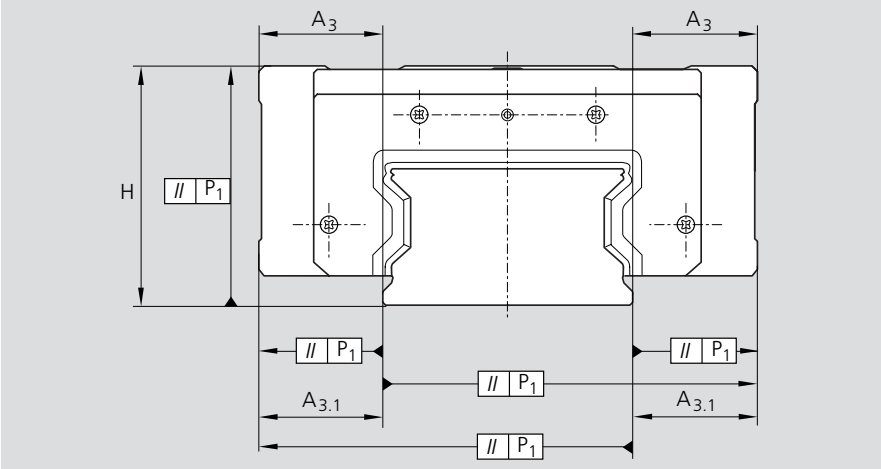


Technical Data – Wide Steel Runner Blocks

Accuracy classes and their tolerances

Wide Roller Rail Systems are available in 3 different accuracy classes.

For available versions see "Part number" tables.



Built-in interchangeability due to precision machining

Rexroth machines its guide rails and runner blocks, and the roller raceways in particular, with such high precision that each individual element is interchangeable.

Any runner block can be combined with any guide rail of the same size. It is also possible to install several different runner blocks on the same guide rail.

Wide steel runner blocks

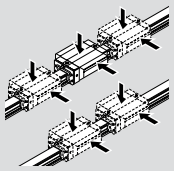
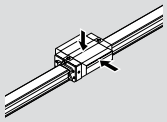
Accuracy classes	Dimensional tolerances (µm)			Max. difference in dimensions H and A_3 on the same guide rail	
	H	A_3	$A_{3.1}$	Δ H, Δ A_3 (µm)	Δ $A_{3.1}$ (µm)
SP	± 10	± 7	+ 12 – 10	5	7
P	± 20	± 10	+ 15 – 13	7	9
H	± 40	± 20	+ 26 – 24	15	17

Special versions: hard chrome-plated

	H		A_3		$A_{3.1}$		Δ H, Δ A_3 (µm)		Δ $A_{3.1}$ (µm)	
	RB/GR	GR	RB/GR	GR	RB/GR	GR	RB/GR	GR	RB/GR	GR
SP	+ 17 – 8	+ 14 – 9	± 10	+6 -11	+ 15 – 13	+ 11 – 14	8	5	10	7
P	+ 27 – 18	+ 24 – 19	± 13	+9 -14	+ 18 – 16	+ 14 – 17	10	7	12	9
H	+ 47 – 38	+ 44 – 39	± 23	+19 -24	+ 29 – 27	+ 25 – 28	18	15	20	17

Abbreviations

RB/GR = runner block and guide rail hard chrome-plated
GR = only the guide rail is hard chrome-plated

Measured at middle of runner block:	For any runner block/rail combination at any position on rail	For different runner blocks at same position on rail
		

Parallelism offset P_1 of Roller Rail Systems when properly installed

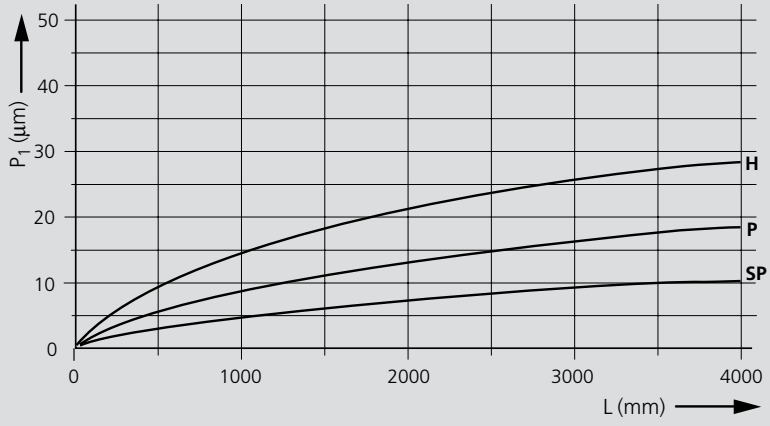
Measured at middle of runner block

Values apply to roller rail systems without surface coating.

With hard chrome-plated guide rails, the values may increase by up to 2 µm.

Legend

P_1 = parallelism offset
L = rail length



Rexroth Roller Rail Systems
Technical Data – Wide Steel Runner Blocks

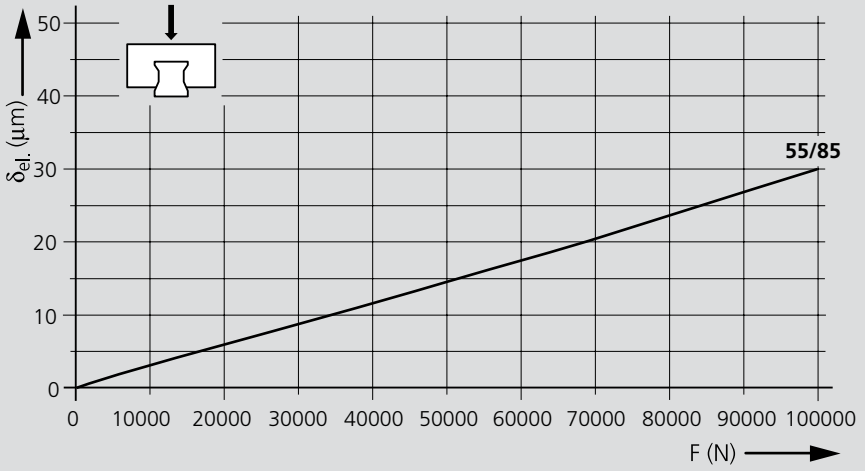
Rigidity of the Roller Rail System at 0.13 C preload

Wide runner block 1872-
Size 55/85

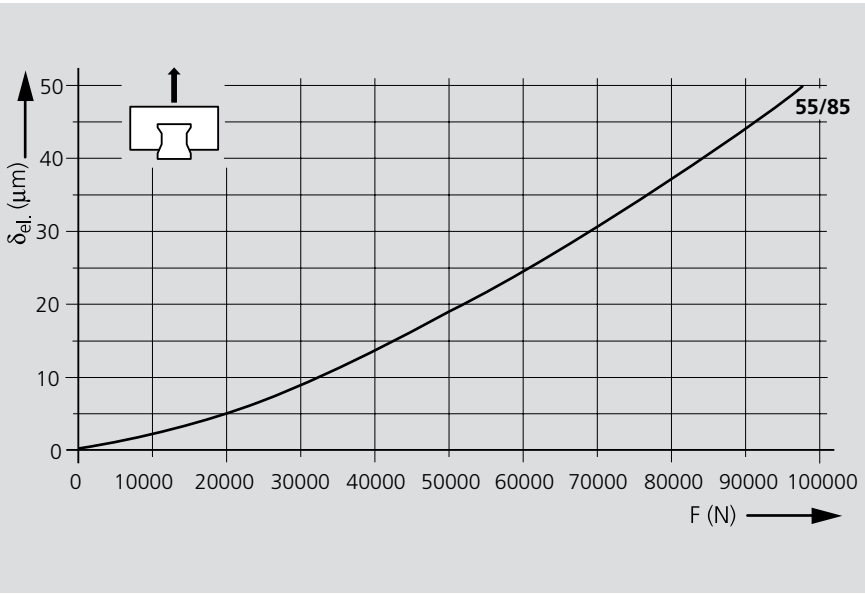
——————— calculated values

Runner block mounted using 8 screws and the upper reference edges only:
– all screws of strength class 12.9

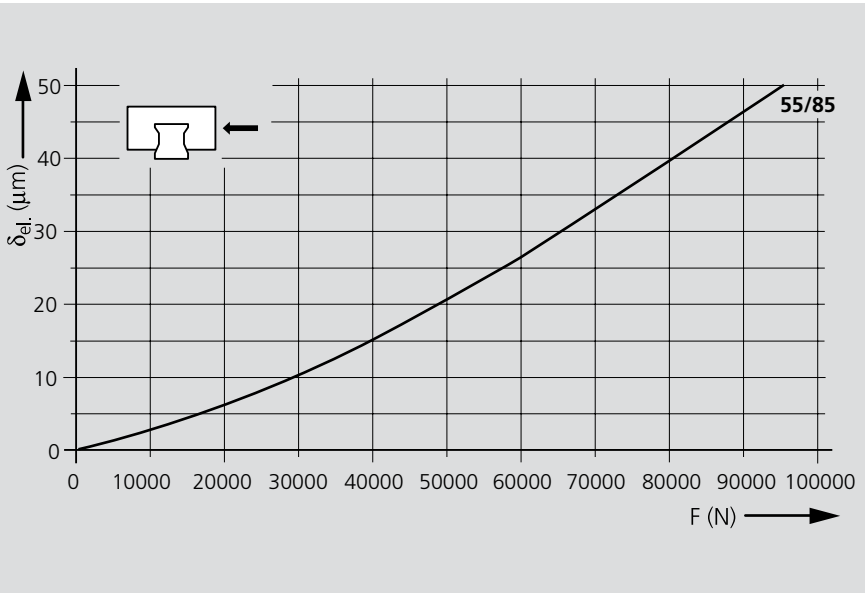
1. Down load



2. Lift-off load



3. Side load



Legend

$\delta_{el.}$ = elastic deflection
F = load

Rigidity of the Roller Rail System at 0.13 C preload

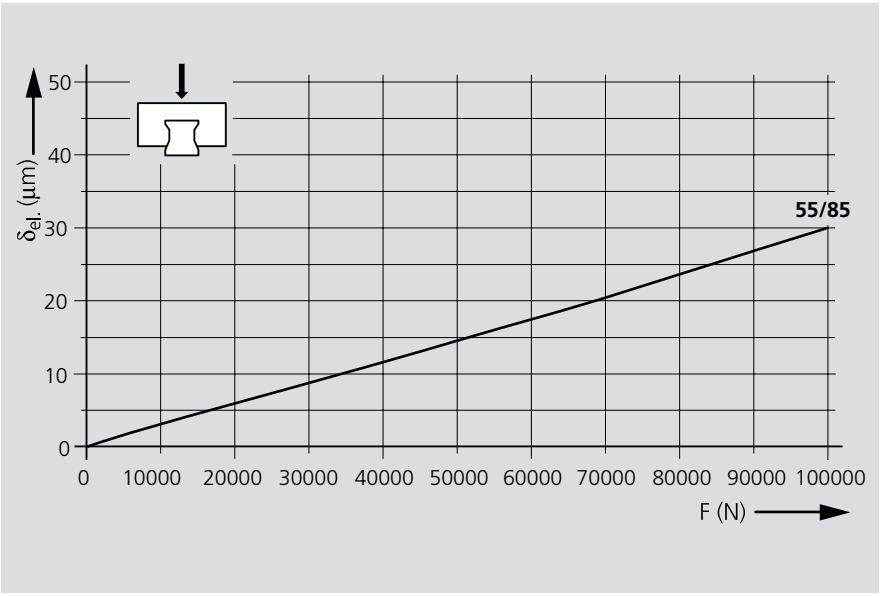
Wide runner block 1872-
Size 55/85

——————— calculated values

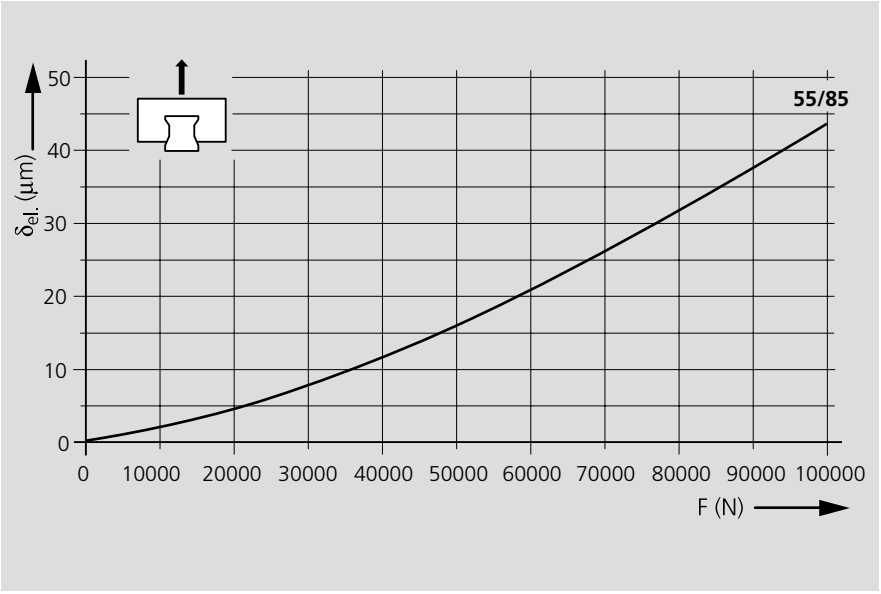
Runner block mounted using 8 screws and all 4 reference edges (top and bottom):

– all screws of strength class 12.9

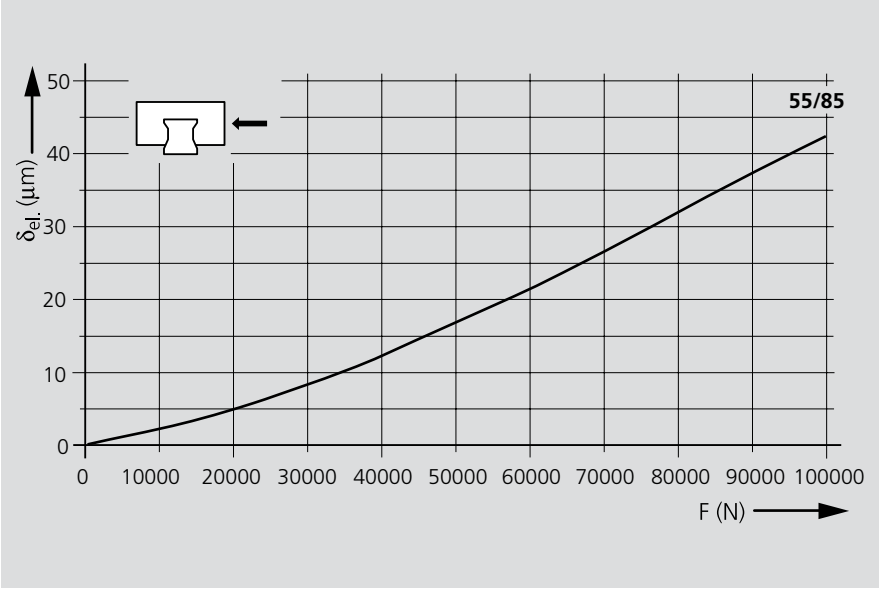
1. Down load



2. Lift-off load



3. Side load



Legend

$\delta_{el.}$ = elastic deflection
F = load

Rexroth Roller Rail Systems
Technical Data – Wide Steel Runner Blocks

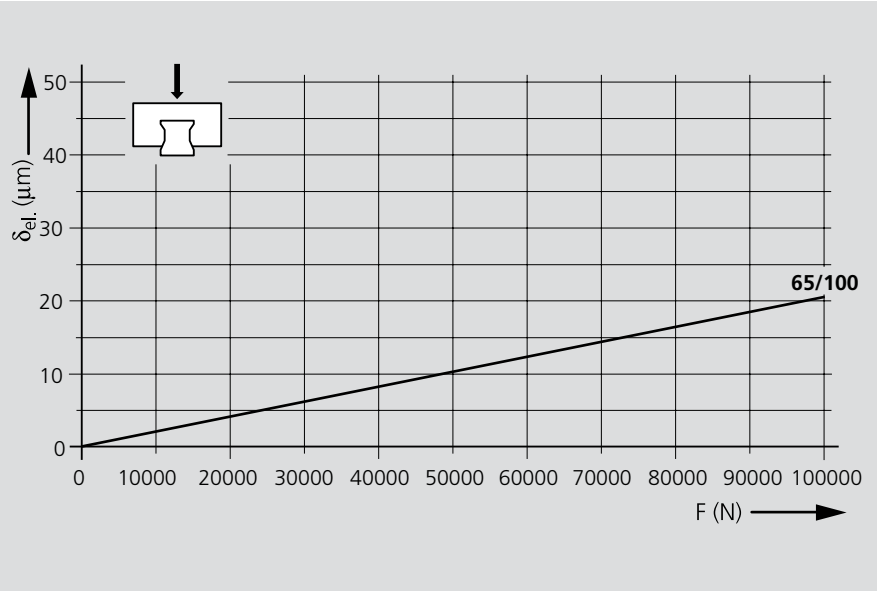
Rigidity of the Roller Rail System at 0.13 C preload

Wide runner block 1872-
Size 65/100

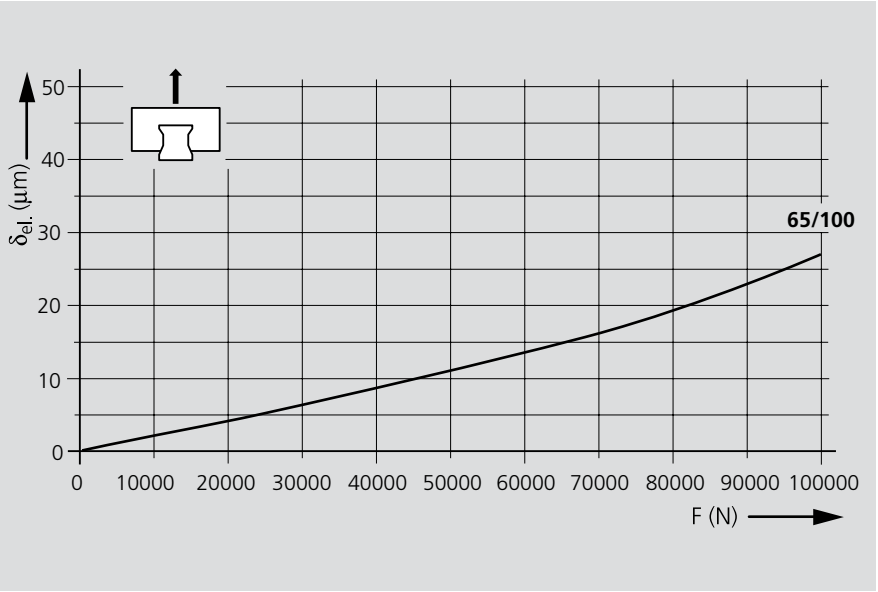
——————— calculated values

Runner block mounted using 8 screws and the upper reference edges only:
– all screws of strength class 12.9

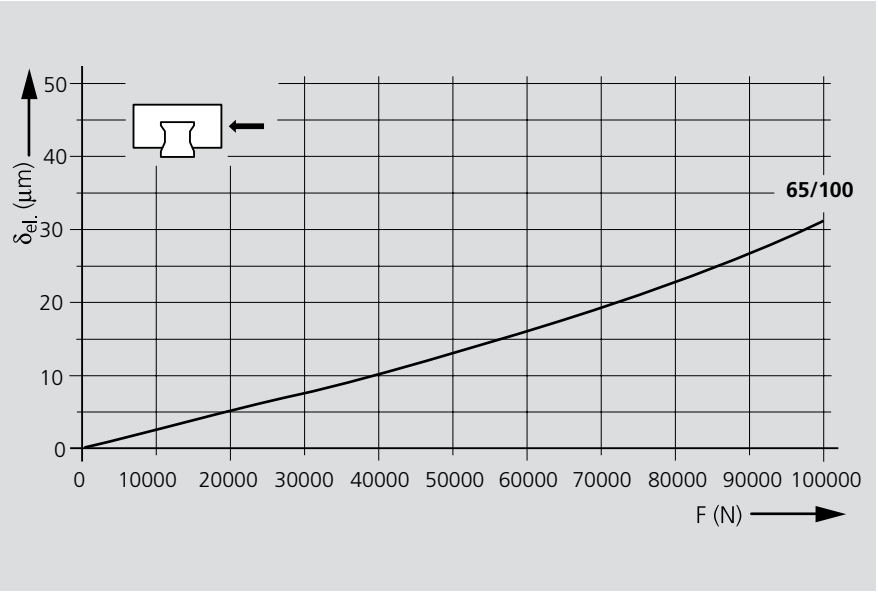
1. Down load



2. Lift-off load



3. Side load



Legend

$\delta_{el.}$ = elastic deflection
F = load

Rigidity of the Roller Rail System at 0.13 C preload

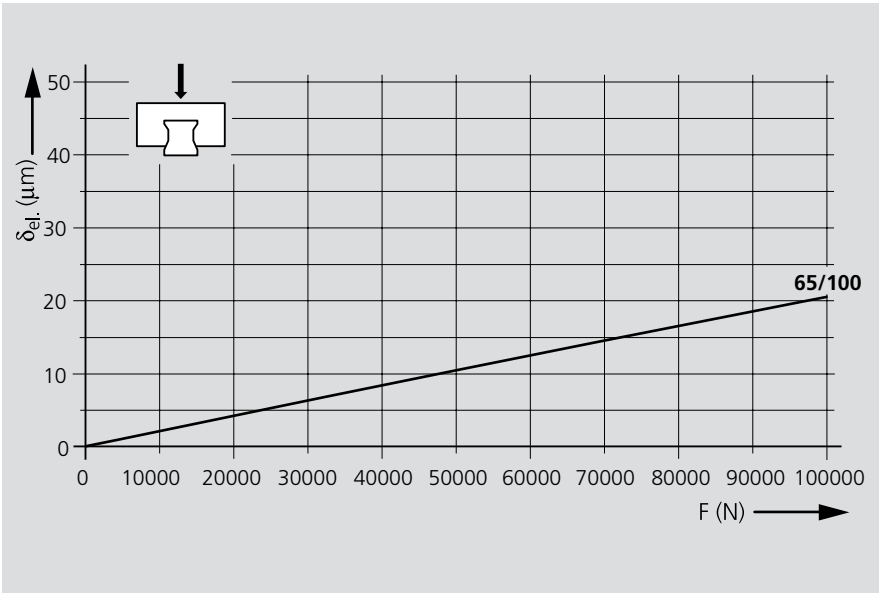
Wide runner block 1872-
Size 65/100

——————— **calculated values**

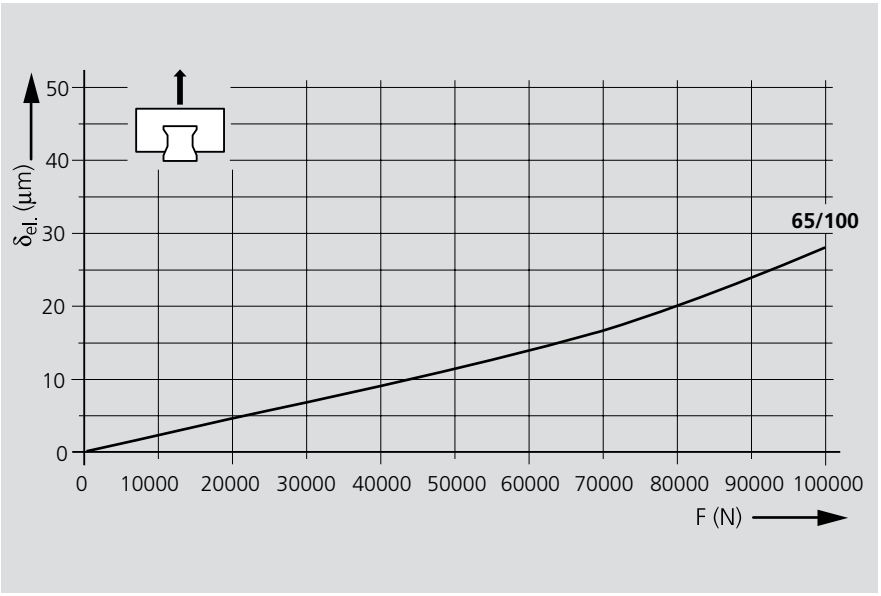
Runner block mounted using 8 screws and all 4 reference edges (top and bottom):

– all screws of strength class 12.9

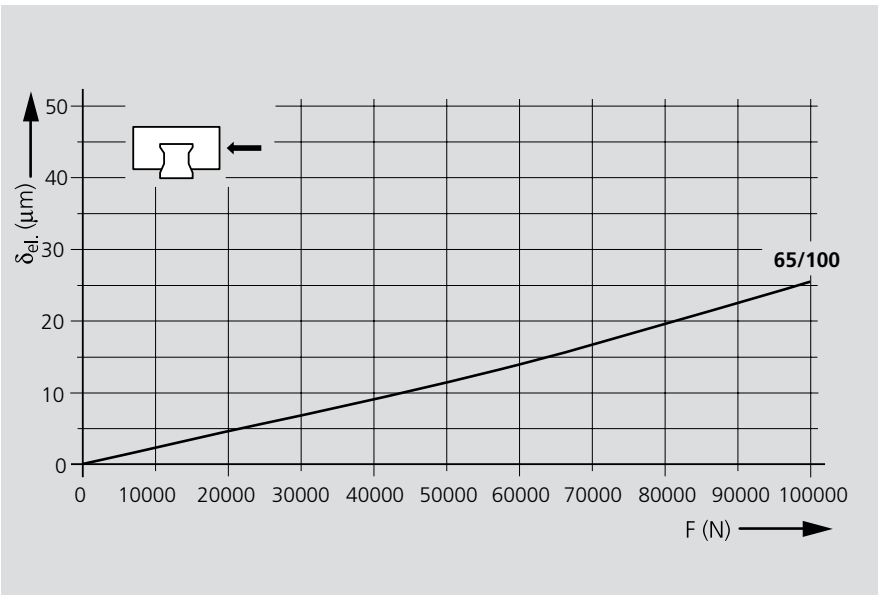
1. Down load



2. Lift-off load



3. Side load



Legend

$\delta_{el.}$ = elastic deflection
F = load

Rexroth Roller Rail Systems
Mounting Instructions for Wide Roller Rail Systems

Reference edges, corner radii, screw sizes and tightening torques

The recommended limits for permissible side loads **without additional lateral retention** indicate the approximate upper limits for screws in two strength classes. In other cases, the permissible side load must be calculated from the screw tension force. This can be up to about 15% less when using screws in strength class 10.9 instead of 12.9.

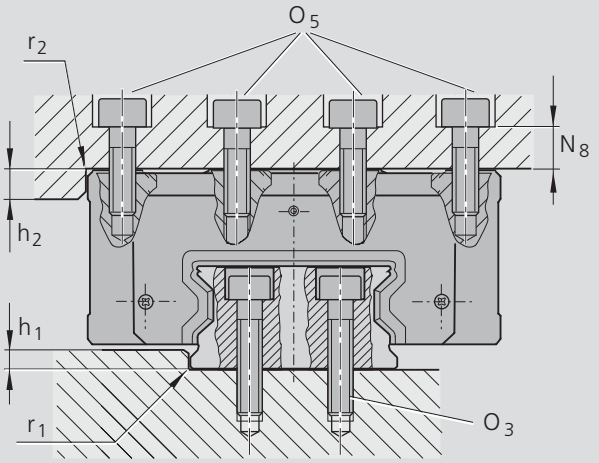
⚠ **Always check the strength factor of the screws in the case of high lift-off loads!**

See "Load on the screw connections between the guide rail and the mounting base".

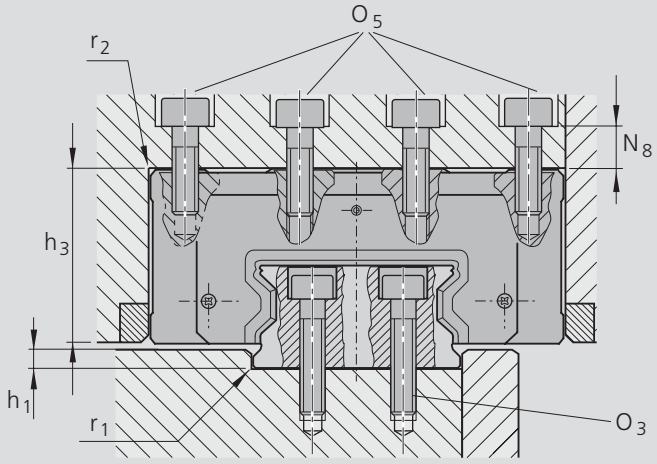
Runner block 1872-

Guide rail 1875-

for mounting from above



Runner block fixed at all reference edges



Make sure there is no clearance between reference edges and mating surfaces.

Dimensions and recommended limits for permissible side loads without additional lateral retention

1) For runner block mounting with 8 screws
2) Calculated with friction coefficient $\mu = 0.12$

Size	h_1 min. (mm)	h_1 max. (mm)	r_1 max. (mm)	h_2 (mm)	h_3 (mm)	r_2 max. (mm)	O_3 DIN 912	O_5 DIN 912 8 screws	N_8 (mm)
55/85	7.0	9.0	1.2	10	84	1.0	M12x50	M12x30	14
65/100	7.0	9.0	1.2	14	66.5	1.0	M14x60	M14x35	20

Screw strength class	Permissible side load if no lateral retention is provided[2] Runner block	Rail
8.8	0.16 C	0.16 C[1]
12.9	0.27 C	0.27 C[1]

Tightening torques for mounting screws

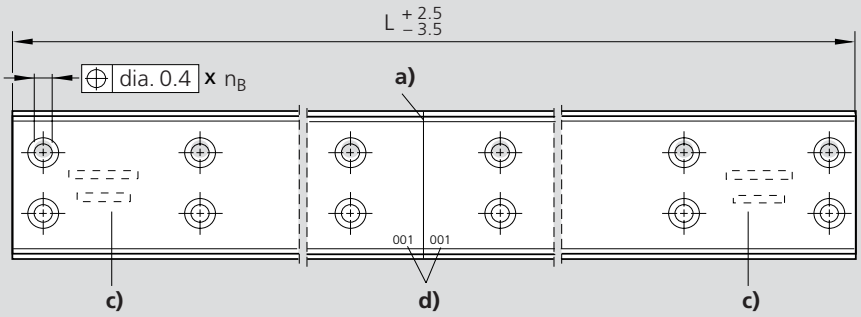
		M12	M14
Nm	**8.8**	80	125
	10.9	110	180
	12.9	135	215

Mounting instructions for composite guide rails

Note on cover strip

For composite rails, a cover strip to cover the total length L is supplied separately along with the rails.

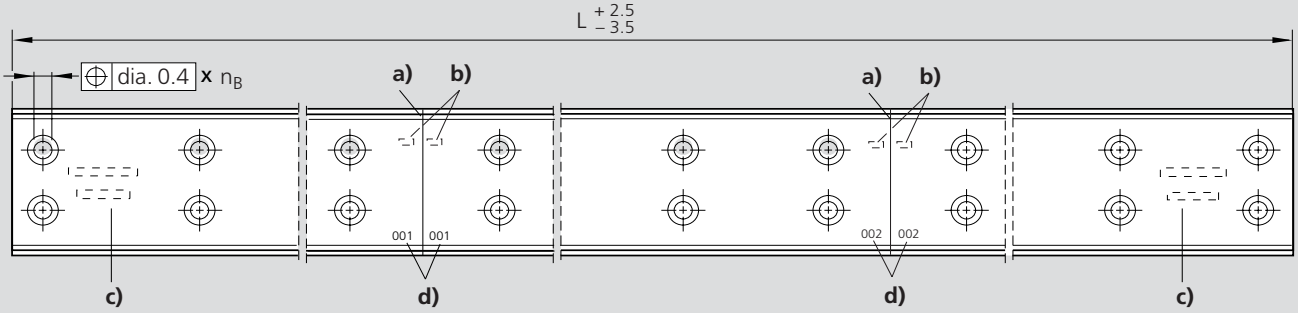
Rails made up of two sections



Matching sections of a composite guide rail are identified as such by a label on the packaging.

Rails made up of three or more sections

All sections of the same rail have the same number, which is marked on the top of the guide rail.

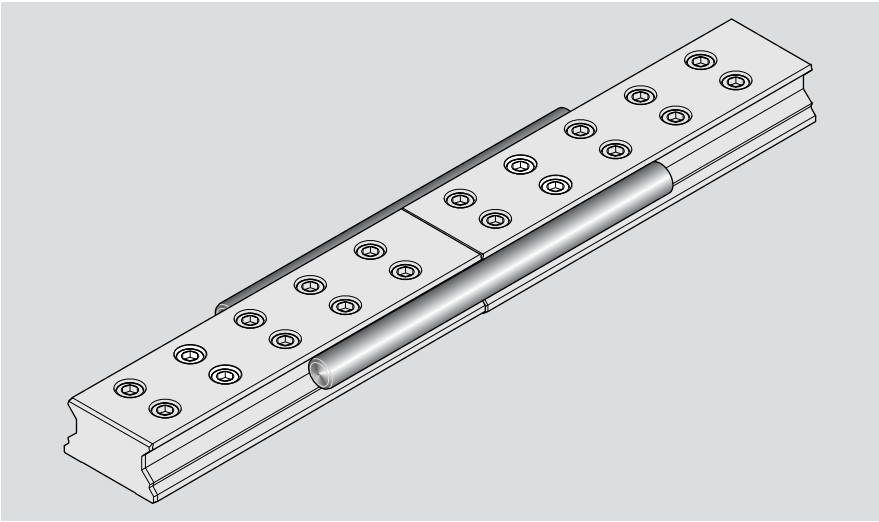


n_B = number of holes

a) Joint
b) Rail number
c) Full rail identification on first and last sections
d) Joint number

New: Adjusting shaft

The sections of composite rails can be aligned with the aid of an adjusting shaft. For more detailed information see "Accessories" and the Instructions for Roller Rail Systems.



Rexroth Roller Rail Systems
Wide Steel Runner Blocks

Runner block 1872-

Wide

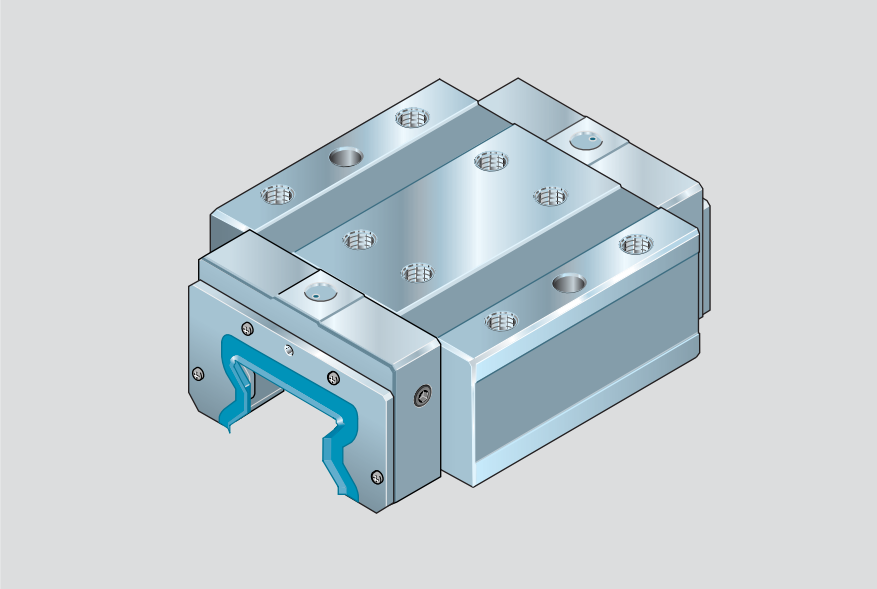
Special versions:

– hard chrome-plated
The part numbers for these versions are given in separate tables.

Mounting instructions

Mount the cover strip on the guide rail. Grease or oil the runner block seal and the bevels at the rail end. Then carefully slide the runner block onto the guide rail.

For initial and relubrication see the "Lubrication" section.



Part numbers

Size	Accuracy class	Part numbers for runner blocks with preload class	
		Preload 0.08 C	Preload 0.13 C
55/85	SP	1872-521-10	1872-531-10
	P	1872-522-10	1872-532-10
	H	1872-523-10	–
65/100	SP	1872-621-10	1872-631-10
	P	1872-622-10	1872-632-10
	H	1872-623-10	–

Hard chrome-plated

Note: For tolerances other than those specified here for dimensions H and A_3, see the table of accuracy classes and their tolerances in the "Technical Data" section.

Combining a hard chrome-plated runner block with a hard chrome-plated guide rail results in a preload of approx. 0.1 C.

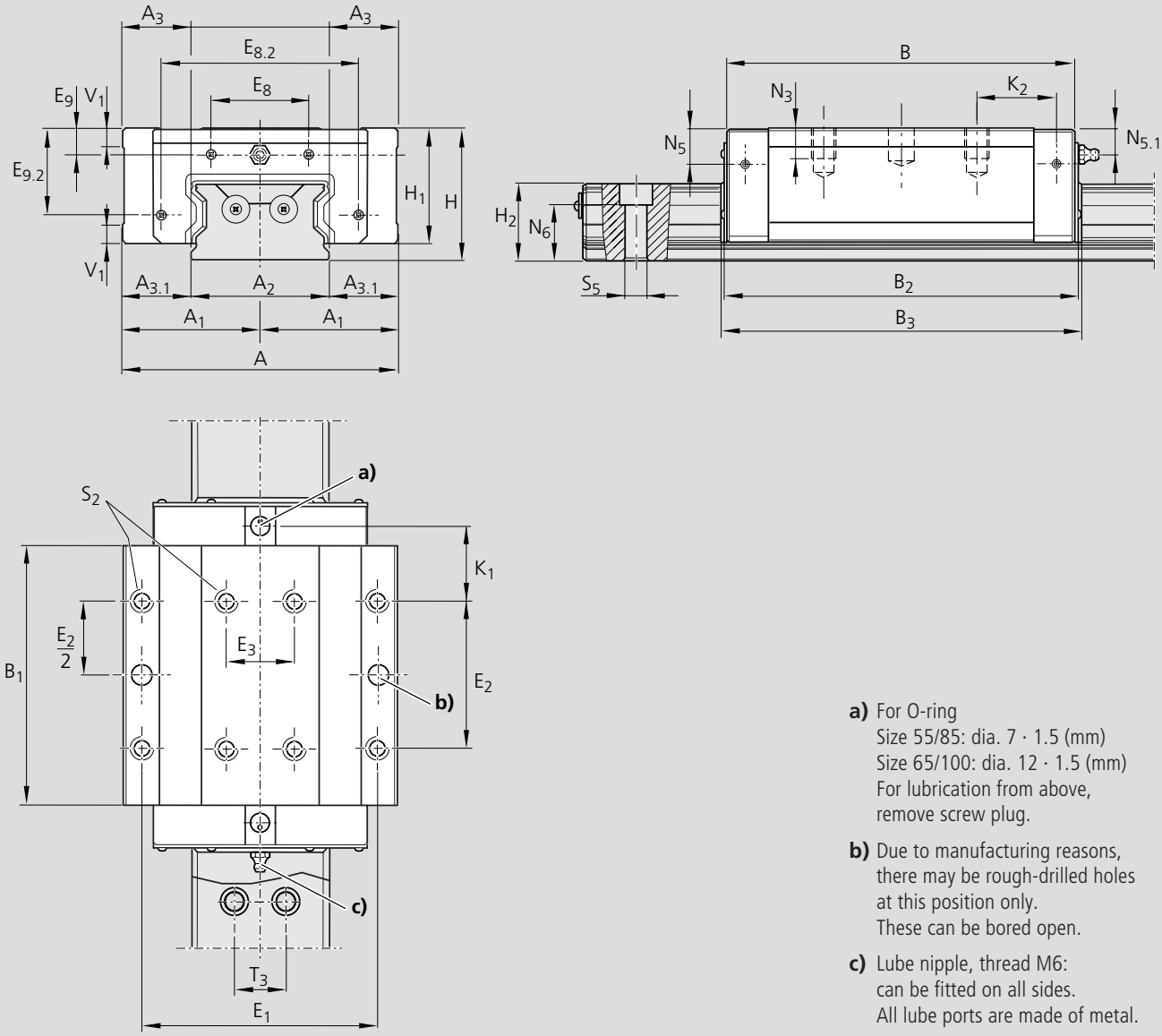
Size	Accuracy class	Part numbers for hard chrome-plated runner blocks with preload class	
		Preload 0.08 C	Preload 0.13 C
55/85	H	1872-523-60	–
65/100	H	1872-623-60	–

Load capacities and moments

Note on dynamic load capacities and moments

The dynamic load capacities and moments are based on 100,000 m travel. However, a travel of just 50,000 m is often taken as a basis. If this is the case, for comparison purposes:
Multiply values **C**, $\mathbf{M_t}$ and $\mathbf{M_L}$ from the Rexroth table by 1.23.

Size	Load capacities (N)		Moments (Nm)			
	C dyn.	C_0 stat.	M_t dyn.	M_{t0} stat.	M_L dyn.	M_{L0} stat.
55/85	165000	345300	7450	15650	4030	8440
65/100	265500	525600	14300	28350	7960	15760



a) For O-ring
Size 55/85: dia. 7 · 1.5 (mm)
Size 65/100: dia. 12 · 1.5 (mm)
For lubrication from above, remove screw plug.

b) Due to manufacturing reasons, there may be rough-drilled holes at this position only. These can be bored open.

c) Lube nipple, thread M6: can be fitted on all sides. All lube ports are made of metal.

Size	Dimensions (mm)																	
	A	A_1	A_2	A_3	$A_{3.1}$	B	B_1	B_2	B_3	H	H_1	H_2[1)]	V_1	T_3		E_1	E_2	E_3
55/85	165	82.5	85	40	40	205.5	162.1	209.5	216	80	68	47.85	12	32		140	95	40
65/100	200	100	100	50	50	254	194	258	264	100	86	58.15	15	38		172	110	50

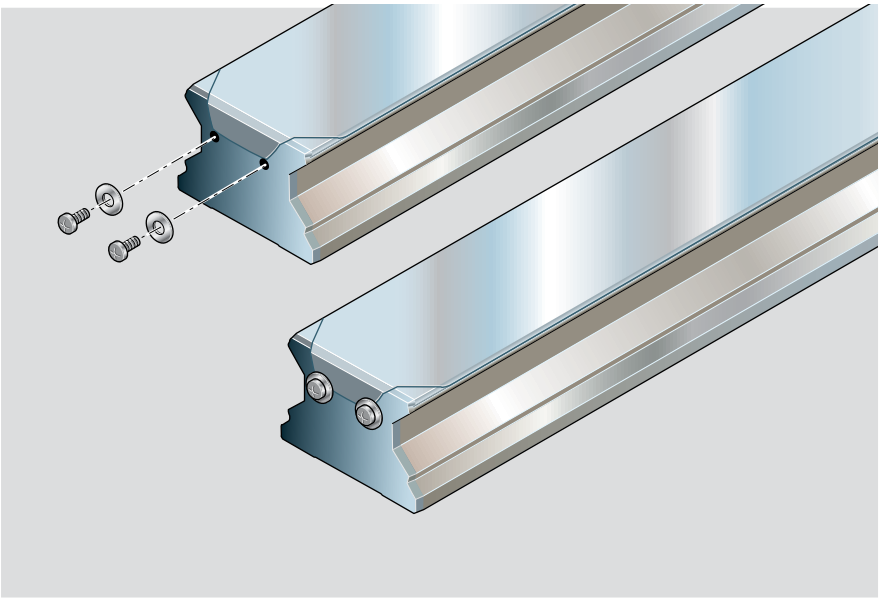
Size	Dimensions (mm)													Weight
	E_8	$E_{8.2}$	E_9	$E_{9.2}$		N_3	N_5	$N_{5.1}$	$N_6^{\pm 0.5}$	S_2	S_5		K_1	K_2	(kg)
55/85	40	113.6	10.75	50.75		19	19	19	31.2	M12	14		43.55	46.55	11.5
65/100	72	143	19.3	65		20	27	19.3	39	M14	16		55	59	20.7

[1)] Dimension H_2 with cover strip

Rexroth Roller Rail Systems
Wide Guide Rails

Guide rail 1875-

With double-row mounting hole pattern, for mounting from above, with cover strip of stainless spring steel



Special versions:

– hard chrome-plated

The part numbers for these versions are given on separate pages at the end of this section.

Observe the mounting instructions!

Send for the publication "Mounting Instructions for the Cover Strip".

Part numbers and rail lengths

Size	Accuracy class	Guide rail with cover strip	
		one-piece Part number, Rail length L (mm)	composite Part number, Number of sections, Rail length L (mm)
55/85	SP	1875-561-61, ...	1875-561-6., ...
	P	1875-562-61, ...	1875-562-6., ...
	H	1875-563-61, ...	1875-563-6., ...
65/100	SP	1875-661-61, ...	1875-661-6., ...
	P	1875-662-61, ...	1875-662-6., ...
	H	1875-663-61, ...	1875-663-6., ...

Recommended rail lengths

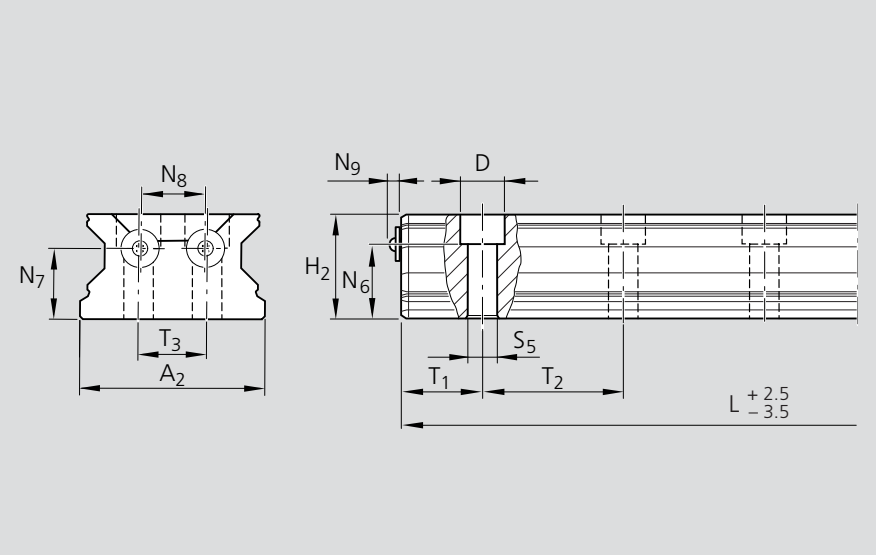
Size	Spacing T_2 (mm)	Recommended rail lengths Number of holes n_B / rail length L (mm)
55/85	60	according to formula $L = n_B \cdot T_2 - 4$ up to 66/3956 max.
65/100	75	according to formula $L = n_B \cdot T_2 - 4$ up to 53/3971 max.[1)]

1) Accuracy classes P and H up to 80/5996 max.; accuracy class SP on request.

Dimensions and weights

1) Dimension H_2 with 0.3 mm cover strip

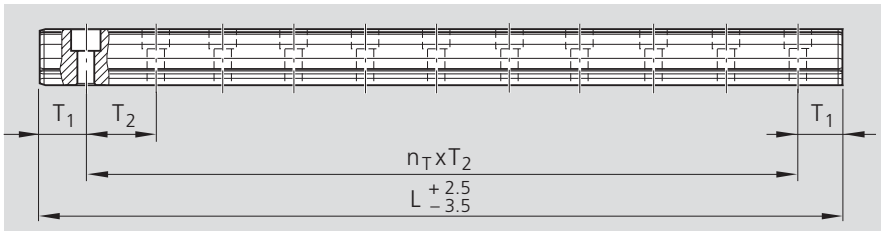
2) Rails with T_1 smaller than $T_{1\,min}$ have no tap hole at the end face for securing the strip!
Secure the cover strip!
Observe mounting instructions!
The washer and screw are included in the supply scope.



Size	Dimensions (mm)													Weight (kg/m)
	A_2	H_2 1)	$N_6^{\pm 0.5}$	N_7	N_8	N_9	D	S_5	$T_{1S}{}^{+1}_{-1.5}$	$T_{1\,min}$	T_2	T_3	L_{max}	
55/85	85	47.85	31.2	30	32	4.8	20	14	28.0	18	60	32	4000	24.62
65/100	100	58.15	39	40	37	4.8	24	16	35.5	20	75	38	6000	34.68

Ordering guide rails in recommended lengths

The following examples apply to all guide rail orders. Recommended rails lengths are delivered with priority.



From the desired length to the recommended length

$$L = \left(\frac{\text{desired length L}}{\text{hole spacing } T_2} \right)^{*} \cdot T_2 - 4$$

* round up to the next whole number

Example:

$$L = \left(\frac{2500\ \text{mm}}{60\ \text{mm}} \right) \cdot 60\ \text{mm} - 4\ \text{mm}$$

$L = 42 \cdot 60\ \text{mm} - 4\ \text{mm}$

$L = 2516\ \text{mm}$

Notes on ordering examples

- If the preferred dimension T_{1S} cannot be used:
  - Select an end space T_1 between T_{1S} and $T_{1\,min}$
  - Do not go below the minimum spacing $T_{1\,min}$!
- T_1, $T_{1\,min}$, T_{1S} are the same at either end of the rail.

$$L = n_B \cdot T_2 - 4$$
or
$$L = n_{T_2} \cdot T_2 + 2 \cdot T_{1S}$$

L	= rail length	(mm)
T_2	= hole spacing*)	(mm)
T_{1S}	= preferred dimension*)	(mm)
n_B	= number of holes	
n_{T_2}	= number of spaces	

*) see tables for values

Ordering example 1, up to L_{max}:

- Guide rail size 55/85 with cover strip
- Accuracy class P
- Calculated rail length 2516 mm ($41 \cdot T_2$, preferred dimension $T_{1S} = 28$ mm; number of holes $n_B = 42$)

Ordering data:

Part number, length (mm)

T_1 / $n_{T_2} \cdot T_2$ / T_1 (mm)

1875-562-61, 2516 mm

28 / 41 · 60 / 28 mm

Ordering example 2, length > L_{max}:

- Guide rail size 55/85 with cover strip
- Accuracy class P
- Calculated rail length 7556 mm, 2 sections ($125 \cdot T_2$, preferred dimension $T_{1S} = 28$ mm; number of holes $n_B = 126$)

Ordering data:

Part number and number of sections, length (mm)

T_1 / $n_{T_2} \cdot T_2$ / T_1 (mm)

1875-562-62, 7556 mm

28 / 125 · 60 / 28 mm

Rail lengths greater than L_{max} are made up of matching rail sections mounted end to end.

Rexroth Roller Rail Systems
Wide Guide Rails, Hard Chrome-Plated

Guide rail 1873-

With double-row mounting hole pattern, for mounting from above, with cover strip of stainless spring steel

Hard chrome-plated

Part numbers / end face coating:

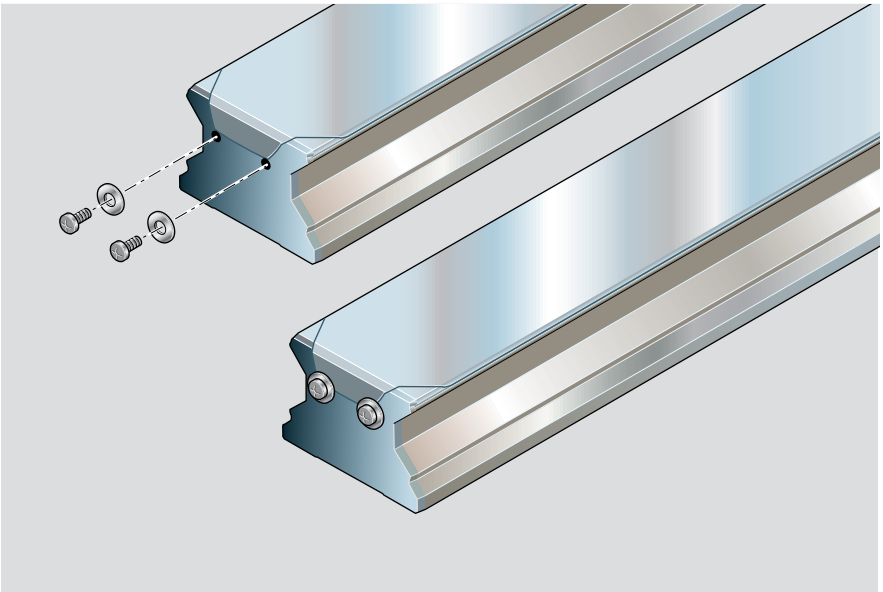
– 1873-...-7. (end faces coated)

Notes

The mounting holes and the tap holes at the end faces are chrome-plated.

Observe the mounting instructions!

Send for the publication "Mounting Instructions for the Cover Strip".



Part numbers and rail lengths

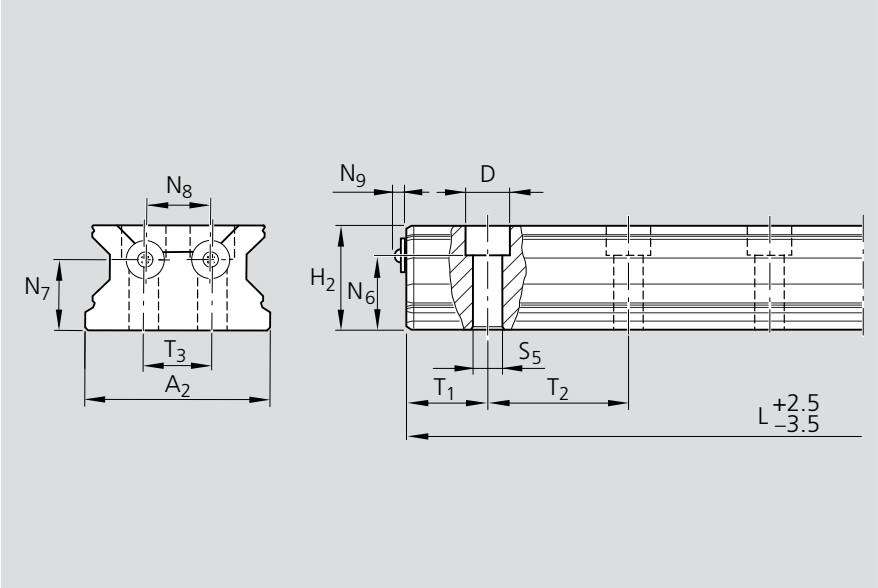
Size	Accuracy class	Guide rail with cover strip one-piece[1)] Part number, Rail length L (mm)
55/85	H	1873-563-71, ...
65/100	H	1873-663-71, ...

1) Composite guide rails on request

Recommended rail lengths

Size	Spacing T_2 (mm)	Recommended rail lengths Number of holes n_B / rail length L (mm)
55/85	60	according to formula $\mathbf{L = n_B \cdot T_2 - 4}$ up to 66 / 3956 max.
65/100	75	according to formula $\mathbf{L = n_B \cdot T_2 - 4}$ up to 53 / 3971 max.

Dimensions and weights



Size	Dimensions (mm)													Weight (kg/m)
	A_2	H_2 [1]	$N_6^{\pm 0.5}$	N_7	N_8	N_9	D	S_5	$T_{1S}^{+1}{}_{-1.5}$ [2]	$T_{1\,min}$ [3]	T_2	T_3	L_{max}	
55/85	85	47.85	31.2	30	32	4.8	20	14	28.0	18	60	32	4000	24.62
65/100	100	58.15	39	40	37	4.8	24	16	35.5	20	75	38	4000	34.68

1) Dimension H_2 with 0.3 mm cover strip

2) Preferred dimension

3) Rails with T_1 smaller than $T_{1\,min}$ have no tap hole at the end face for securing the strip!
Secure the cover strip!
Observe mounting instructions!
The washer and screw are included in the supply scope.

Rexroth Roller Rail Systems
Product Overview – Heavy Duty Steel Runner Blocks

Rexroth Heavy Duty Roller Rail Systems were specially developed for use in heavy machine tools, plastics processing equipment, forming machines, etc., calling for compact, rolling-element linear motion guideways. They are available in various accuracy classes, each with extremely high load capacity and high rigidity.

Make up your own compact linear motion guideways from interchangeable standard stock elements...

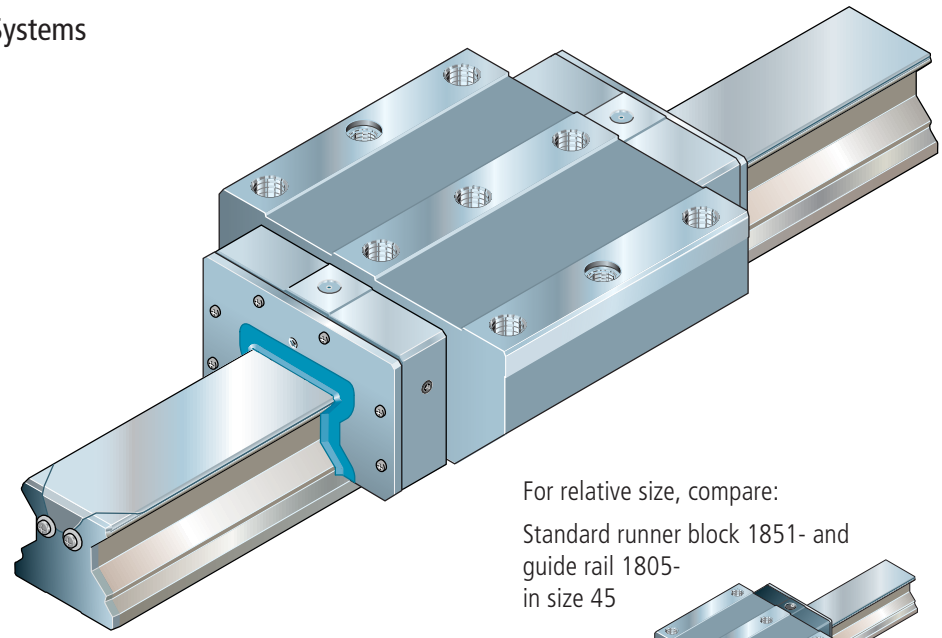
Rexroth fabricates its guide rails and runner blocks with such high precision that each individual component element can be replaced by another at any time. This makes infinite combinations possible.
Each element can be individually ordered and separately stocked.

Both sides of the guide rail can be used as reference edges.

- Uniform guide rail profile with or without cover strip allows unrestricted interchangeability of components across all runner block variants.
- Lube ports on all sides for maximum ease of maintenance.
- Novel lube duct design minimizes lubricant consumption.
- Innovative cage design allows for longer lubrication intervals.
- Smooth running thanks to optimized roller recirculation and guidance.
- Mounting of attachments to runner block from above or below.
- Improved rigidity under lift-off and side loading conditions through three additional mounting screw holes at the center of the runner block.
- Optimized entry-section geometry and high number of rollers per track minimizes variation in elastic deflection.
- Aluminum end caps.

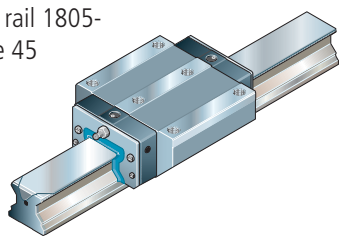
For heavy duty applications:

Rexroth Heavy Duty Roller Rail Systems
Standard width

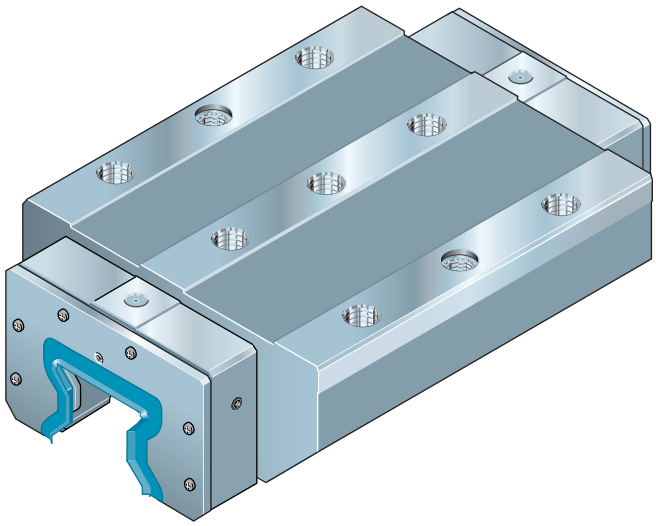


For relative size, compare:

Standard runner block 1851- and guide rail 1805- in size 45

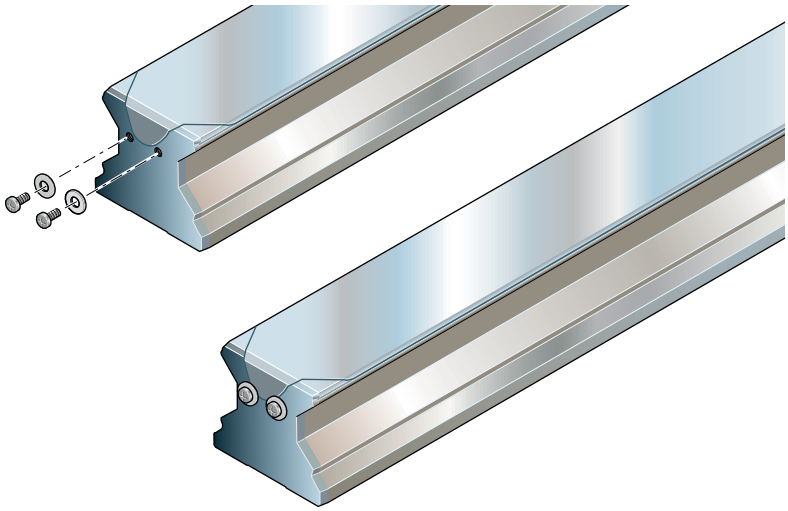


Rexroth Heavy Duty Roller Rail Systems
Standard width, long

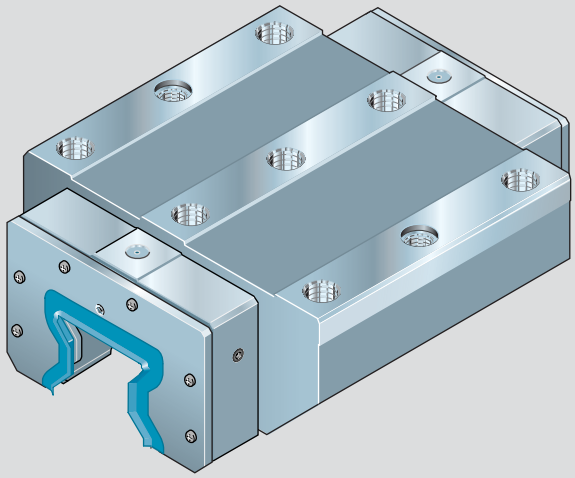


– Maximum rigidity under load from all directions
– High torque capacity
– Integrated all-round sealing
– End seal as standard
– Guide rails and runner blocks also available hard chrome-plated
– Aluminum end caps

Proven cover strip for guide rail mounting holes:
– A *single* cover for all holes
– Stainless spring steel to EN 10088
– Easy to fit – simply clip on and secure



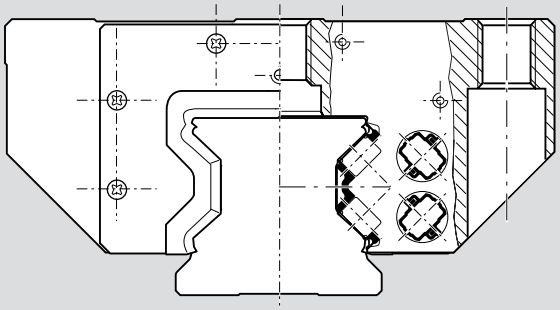
Rexroth Roller Rail Systems
Product Description – Heavy Duty Steel Runner Blocks



The Roller Rail Systems consist of:

– guide rail, all surfaces ground, hardened bearing surfaces

– runner block of anti-friction bearing steel, hardened and ground raceways, with:
  - rollers made of anti-friction bearing steel
  - cage designed for optimum roller recirculation
  - fully sealed roller raceways
  - aluminum end caps
  - two end seals for better sealing and to protect plastic parts.

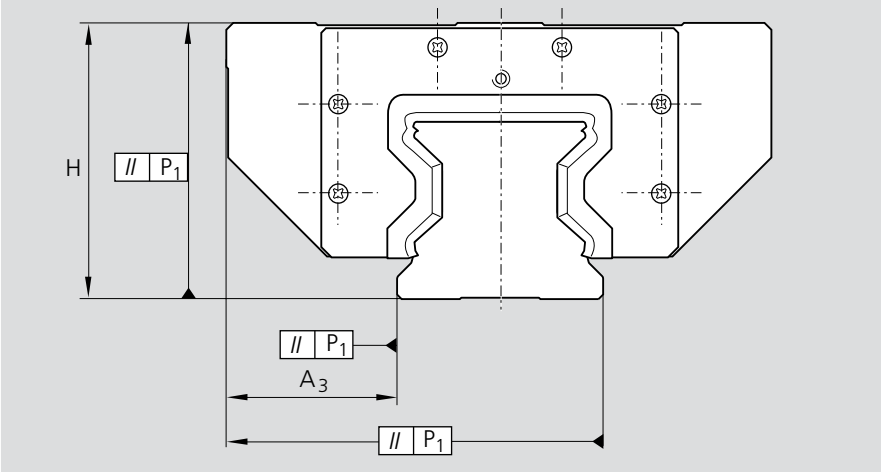


Technical Data – Heavy Duty Steel Runner Blocks

Accuracy classes and their tolerances (µm)

Rexroth Roller Rail Systems are available in up to 2 different accuracy classes.

For available versions see "Part number" tables.



Built-in interchangeability due to precision machining

Rexroth machines its guide rails and runner blocks, and the roller raceways in particular, with such high precision that each individual element is interchangeable.

Any runner block can be combined with any guide rail of the same size. It is also possible to install several different runner blocks on the same guide rail.

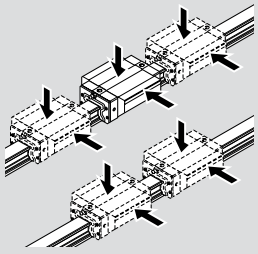
Heavy duty steel runner blocks

Accuracy classes	Dimensional tolerances (µm)		Max. difference in dimensions H and A_3 on the same guide rail Δ H, Δ A_3 (µm)
	H	A_3	
P	± 20	± 10	7
H	±40	± 20	15

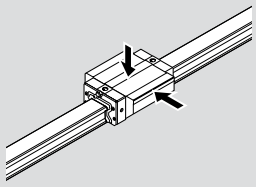
Special versions: hard chrome-plated

	H		A_3		Δ H, Δ A_3 (µm)	
	RB/GR	GR	RB/GR	GR	RB/GR	GR
P	+ 27 – 18	+ 24 – 19	± 13	+9 -14	10	7
H	+ 47 – 38	+ 44 – 39	± 23	+ 19 – 24	18	15

Measured at middle of runner block:



For any runner block/rail combination at any position on rail



For different runner blocks at same position on rail

Abbreviations

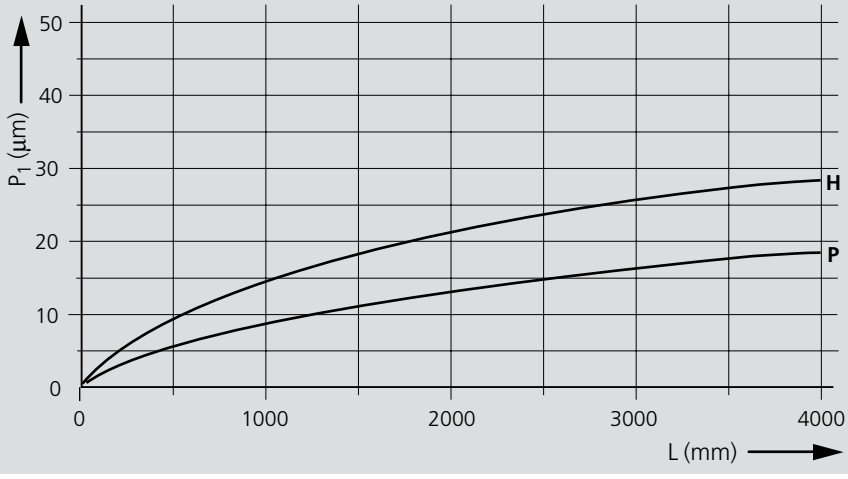
RB/GR = runner block and guide rail hard chrome-plated
GR = only the guide rail is hard chrome-plated

Parallelism offset P_1 of Roller Rail Systems when properly installed

Measured at middle of runner block

Values apply to roller rail systems without surface coating.

With hard chrome-plated guide rails, the values may increase by up to 2 µm.



Legend

P_1 = parallelism offset
L = rail length

Rexroth Roller Rail Systems
Technical Data – Heavy Duty Steel Runner Blocks

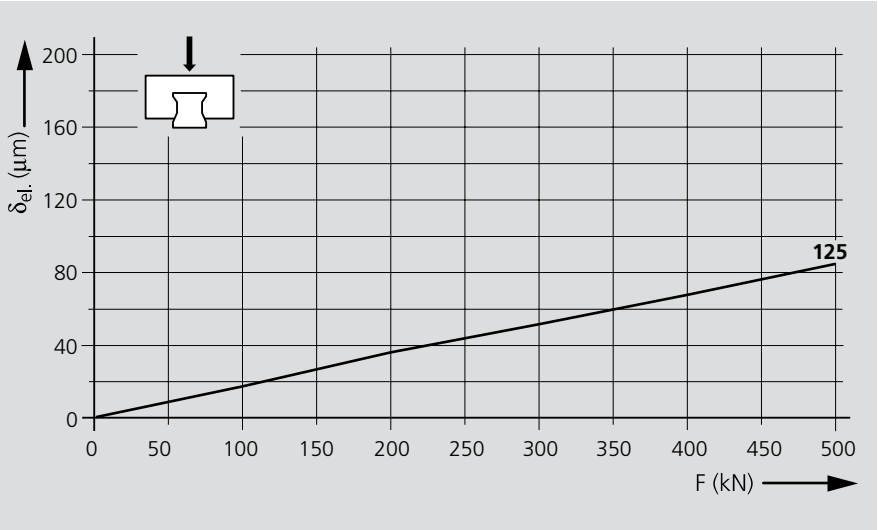
Rigidity of the Roller Rail System at 0.13 C preload

**Runner block 1861-
Standard width**

——————— measured values

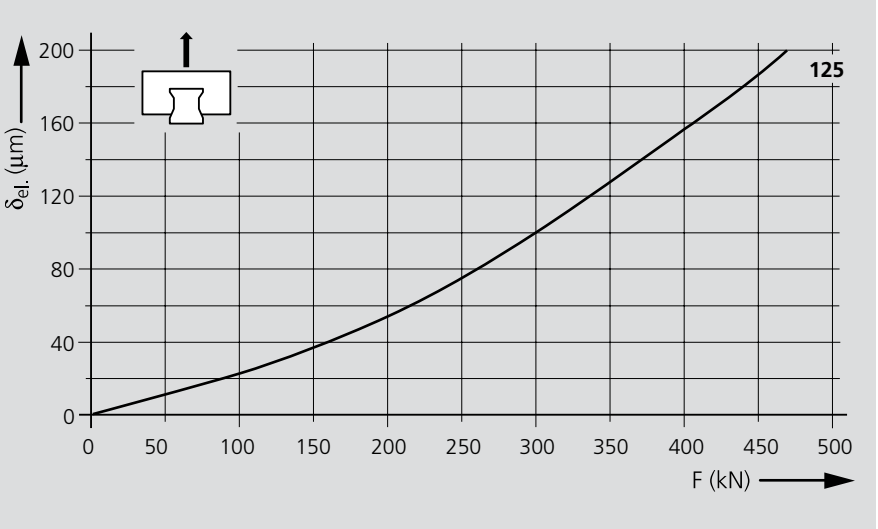
Runner block mounted using 9 screws:

- 6 outer screws of strength class 12.9
- 3 centerline screws of strength class 8.8

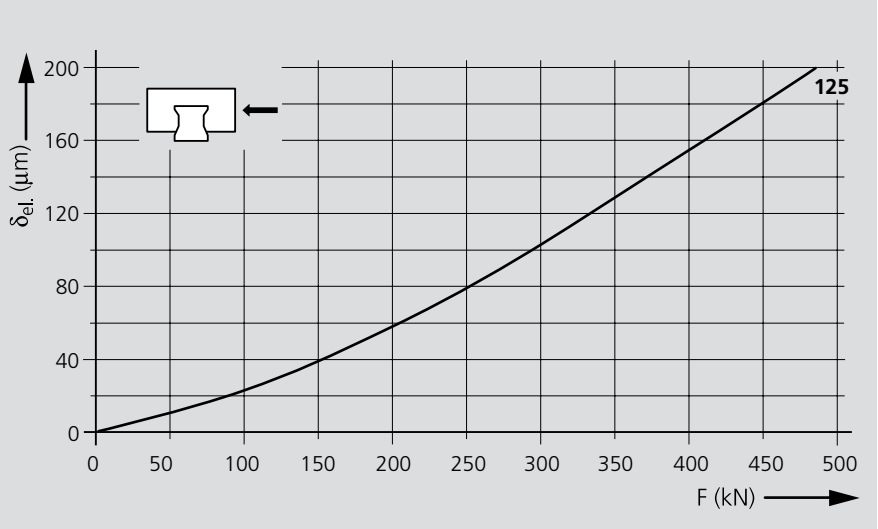


1. Down load

2. Lift-off load



3. Side load



Legend

$\delta_{el.}$ = elastic deflection
F = load

Technical Data – Heavy Duty Steel Runner Blocks

Rigidity of the Roller Rail System at 0.13 C preload

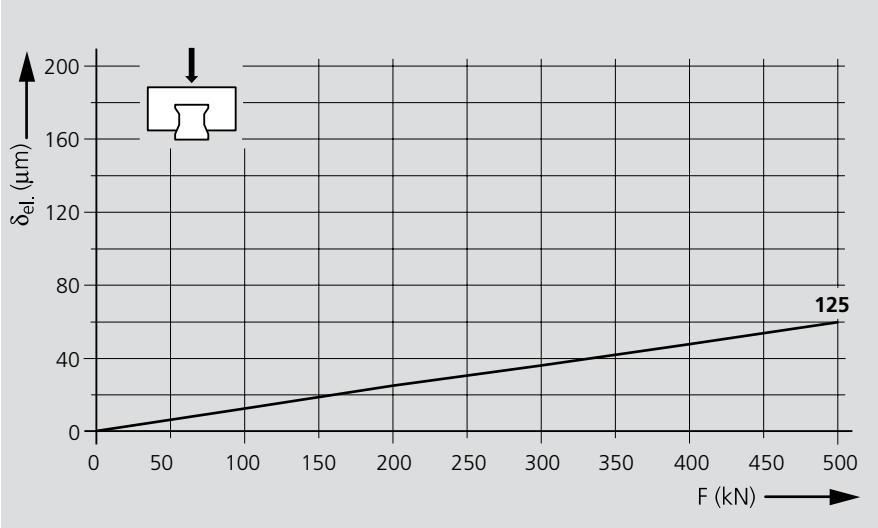
**Runner block 1863-
Standard width**

——————— measured values

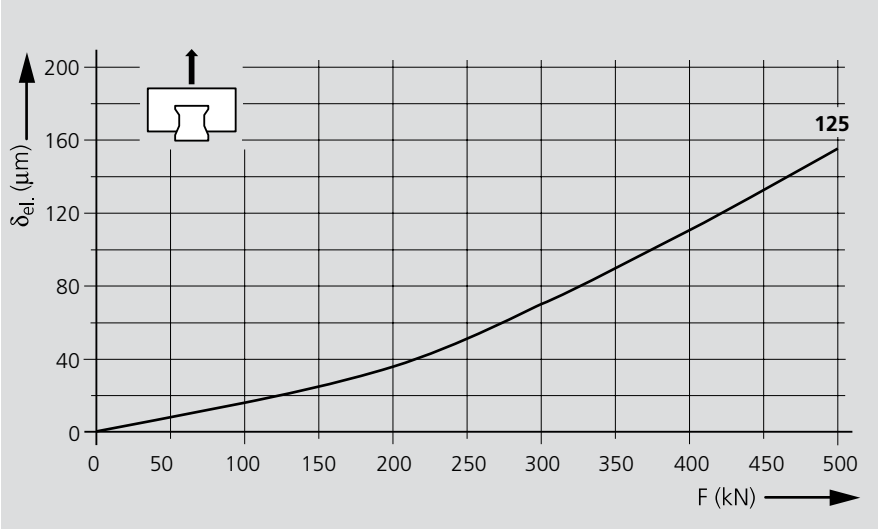
Runner block mounted using 9 screws:

- 6 outer screws of strength class 12.9
- 3 centerline screws of strength class 8.8

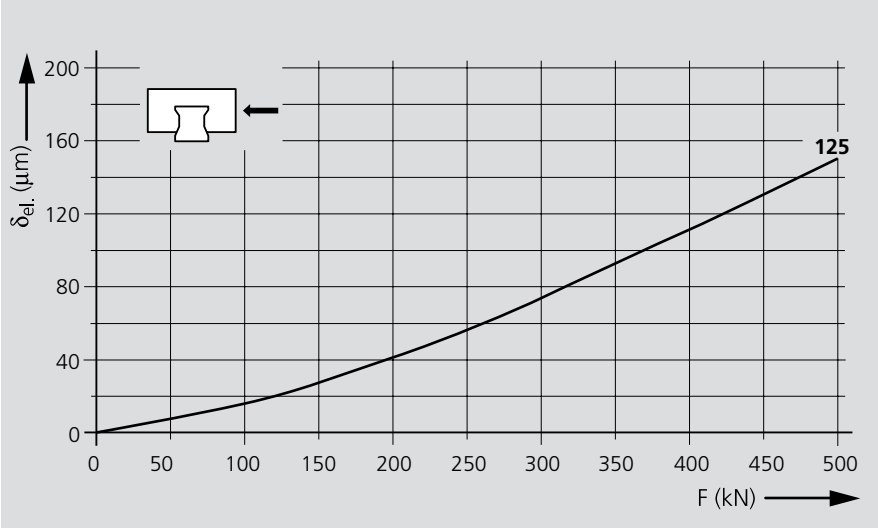
1. Down load



2. Lift-off load



3. Side load



Legend

$\delta_{el.}$ = elastic deflection
F = load

Rexroth Roller Rail Systems
Mounting Instructions for Heavy Duty Steel Runner Blocks

Reference edges, corner radii, screw sizes and tightening torques

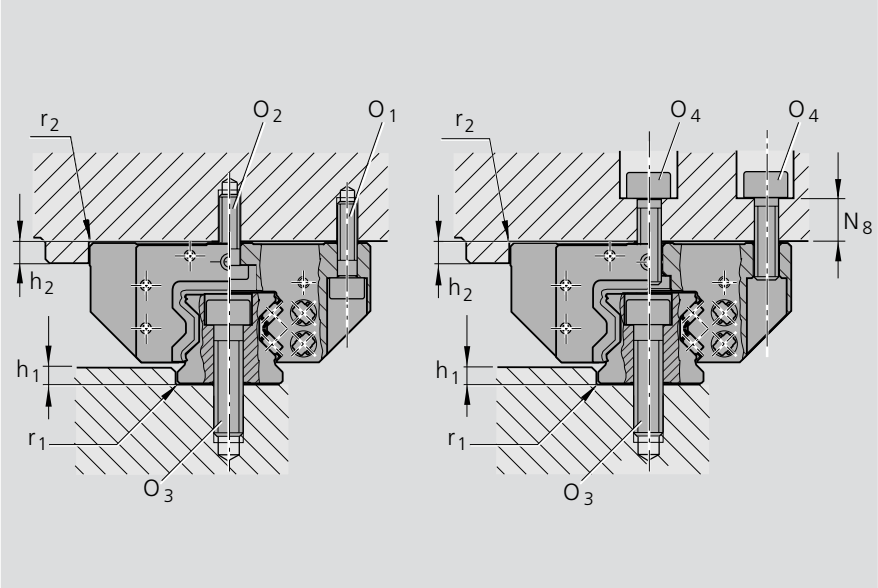
Runner block 186.- with guide rails 1835-, 1865-

Note

The recommended limits for permissible side loads **without additional lateral retention** indicate the approximate upper limits for screws in two strength classes. In other cases, the permissible side load must be calculated from the screw tension force. This can be up to about 15% less when using screws in strength class 10.9 instead of 12.9.

⚠ Always check the strength factor of the screws in the case of high lift-off loads!

See "Load on the screw connections between the guide rail and the mounting base".



Dimensions and recommended limits for permissible side loads if no additional lateral retention is provided

Size	h_1 min. (mm)	h_1 max. (mm)	r_1 max. (mm)	h_2 (mm)	r_2 max. (mm)	O_1 DIN 912 6 screws	O_2 DIN 6912 3 screws	O_4 [1)2)] DIN 912 9 screws	O_3 DIN 912	N_8 (mm)
125	15	20	1.8	23	1.8	M24x85	M24x70	M27x80	M30x120	40

Screw strength class		Permissible side load if no lateral retention is provided[4)] Runner block						Rail	
8.8	*				0.09 C	0.13 C[3)]	0.20 C	0.10 C	
12.9	*				0.15 C	0.19 C[3)]	0.30 C	0.17 C	
8.8	**				0.07 C	0.11 C[3)]	0.16 C	0.07 C	
12.9	**				0.12 C	0.16 C[3)]	0.23 C	0.12 C	

1) For runner block mounting from above with only 6 O_4 screws:
– Permissible side load 1/3 lower
– Lower rigidity

2) For runner block mounting with 9 screws:
Tighten the centerline O_2 screws with the torque for strength class 8.8.

3) For mounting with 3 O_2 screws and 6 O_1 screws

4) Calculated with friction coefficient $\mu = 0.12$

*** Runner block 1861-**

****Runner block 1863-**

Tightening torques for mounting screws

		M24	M27	M30
Nm	**8.8**	660	980	1350
	10.9	930	1400	1850
	12.9	1100	1650	2250

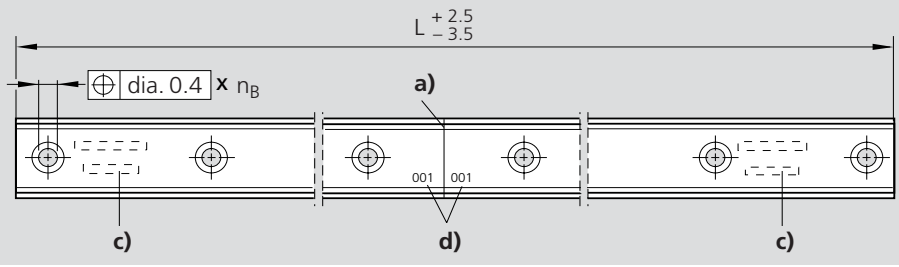
Mounting the runner block

Before sliding on the runner block, mount the cover strip on the guide rail and oil or grease the runner block seal and the bevels at the rail end!

Sliding the runner block onto the rail is easier with the aid of a mounting handle, which is available on request (see "Accessories").

Instructions for mounting composite guide rails

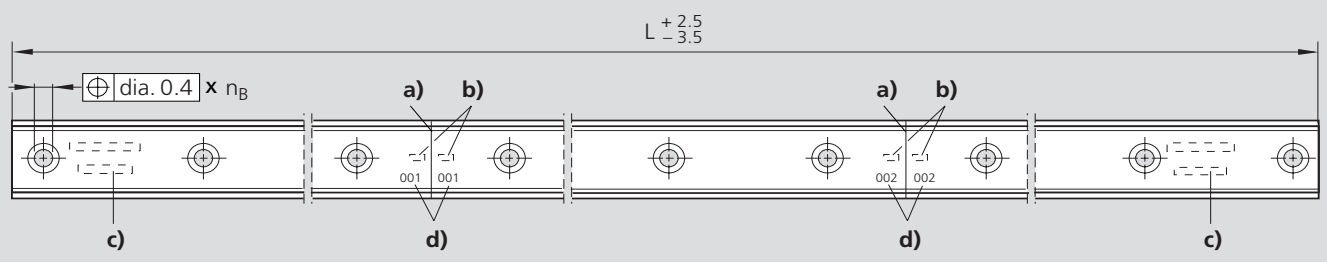
Rails made up of two sections



Matching sections of a composite guide rail are identified as such by a label on the packaging.

Rails made up of three or more sections

All sections of the same rail have the same number, which is marked on the top of the guide rail.



n_B = number of holes

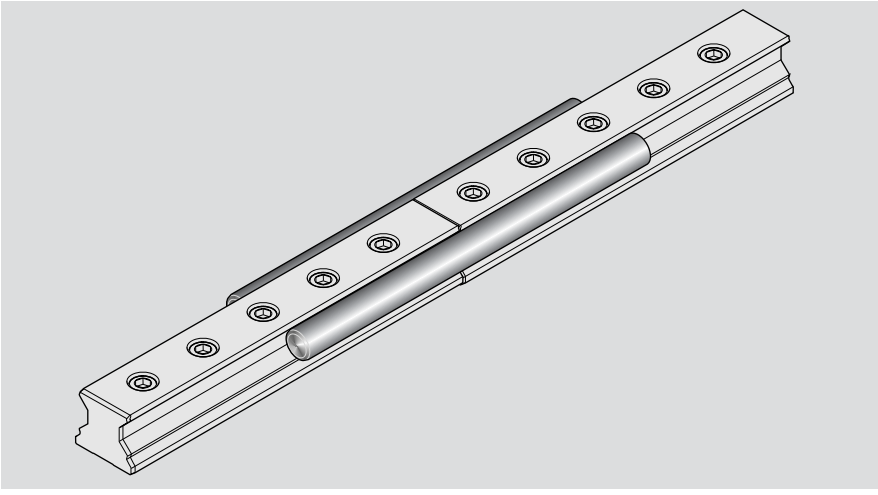
a) Joint
b) Rail number
c) Full rail identification on first and last sections
d) Joint number

Note on cover strip

For composite rails, a cover strip to cover the total length L is supplied separately along with the rails.

New: Adjusting shaft

The sections of composite rails can be aligned with the aid of an adjusting shaft. For more detailed information see "Accessories" and Mounting Instructions for Roller Rail Systems.



Rexroth Roller Rail Systems
Heavy Duty Steel Runner Blocks

Heavy duty runner block 1861-

Standard width

Notes

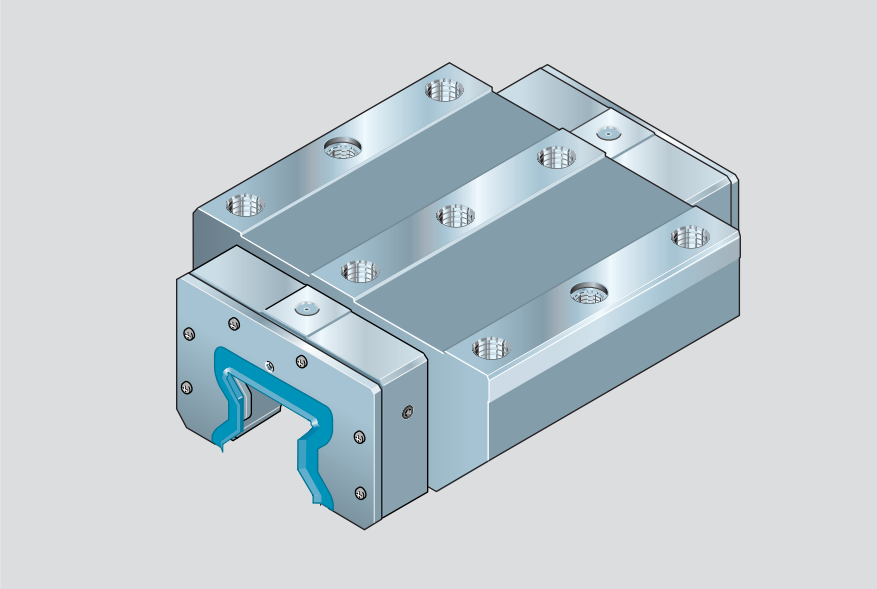
For short-stroke applications (stroke < 2 runner block lengths), use additional lube ports (B_4, N_7).
All lube ports:
M8x1 tap holes in the metal.

Friction force:
≈ 1000 N when freshly lubricated
≈ 600 N after the run-in phase

Mounting instructions

Before sliding on the runner block, mount the cover strip on the guide rail and oil or grease the runner block seal and the bevels at the rail end!

Sliding the runner block onto the rail is easier with the aid of a mounting handle (part number 1869-340-09, see "Accessories").



Special version

– hard chrome-plated,
  Part number 1861-...-60

Note: For tolerances other than those specified here for dimensions H and A_3, see the table of accuracy classes and their tolerances in the "Technical Data" section.

Combining a hard chrome-plated runner block with a hard chrome-plated guide rail results in a preload of approx. 0.15 C.

Part numbers

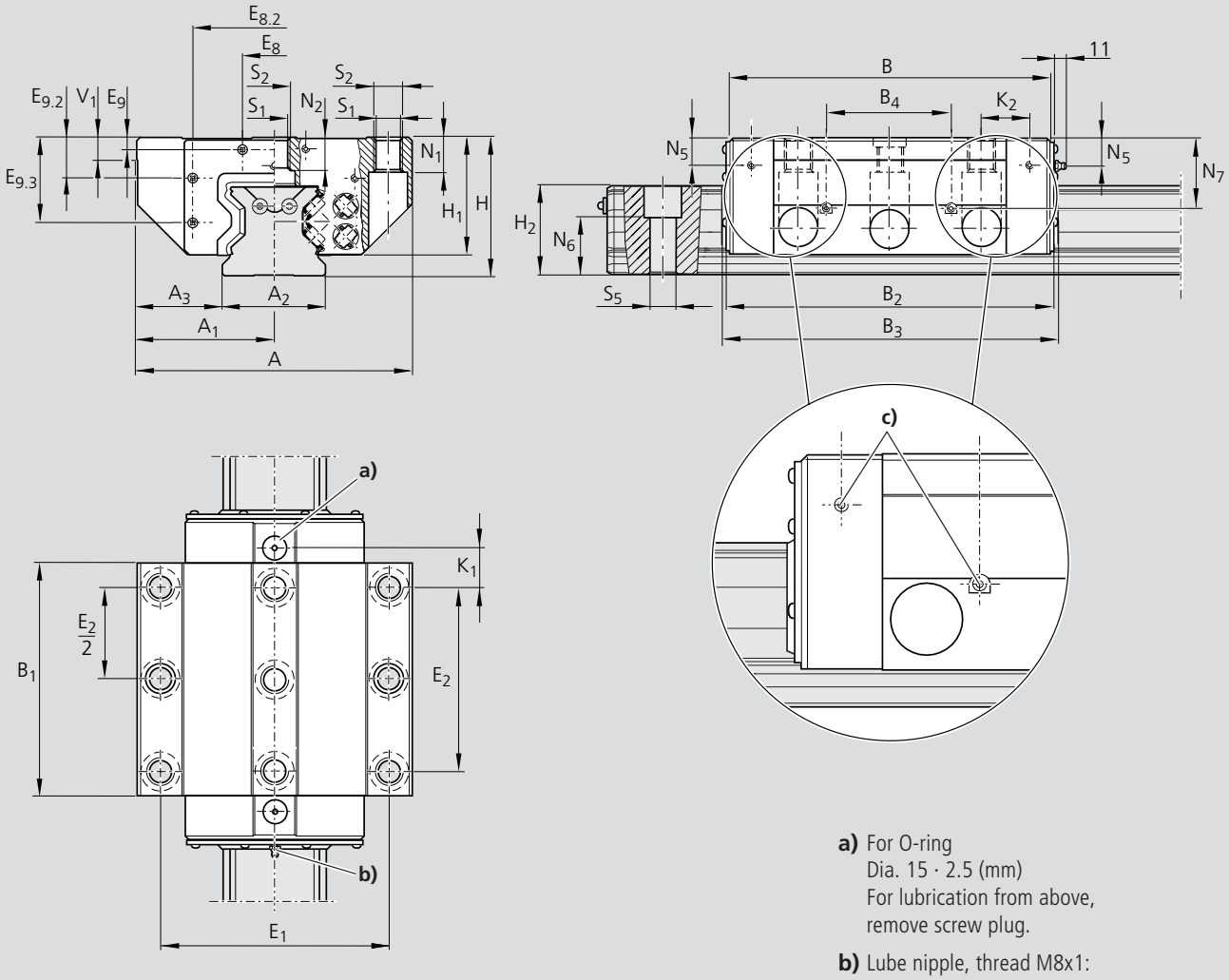
Size	Accuracy class	Part numbers Preload 0.13 C
125	P	1861-332-10
	H	1861-333-10

Load capacities and moments

Note on dynamic load capacities and moments

The dynamic load capacities and moments are based on 100,000 m travel.
However, a travel of just 50,000 m is often taken as a basis. If this is the case, for comparison purposes:
Multiply values **C**, $\mathbf{M_t}$ and $\mathbf{M_L}$ from the Rexroth table by 1.23.

Size	Load capacities (N)		Moments (Nm)			
	C dyn.	C_0 stat.	M_t dyn.	M_{t0} stat.	M_L dyn.	M_{L0} stat.
125	603000	1324000	43420	95330	23620	51860



a) For O-ring
Dia. 15 · 2.5 (mm)
For lubrication from above, remove screw plug.

b) Lube nipple, thread M8x1: can be fitted on all sides. All lube ports are in metal.

c) Side lube ports on both sides.

	Dimensions (mm)																
Size	**A**	**A_1**	**A_2**	**A_3**	**B**	**B_1**	**B_2**	**B_3**	**B_4**	**H**	**H_1**	**H_2[1)]**		**V_1**		**E_1**	**E_2**
125	320	160	125	97.5	371	255	377	386.5	130	160	135	115.3		25		270	205

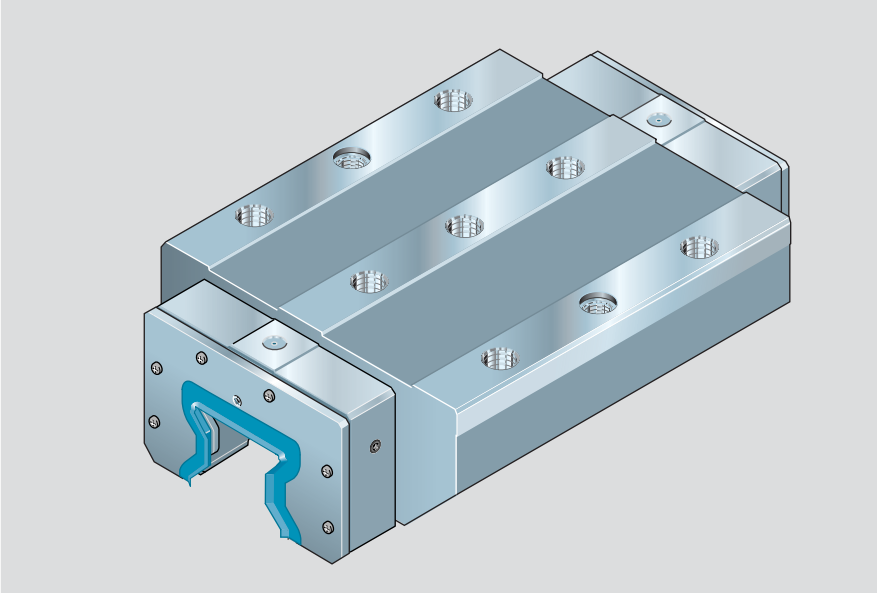
	Dimensions (mm)															Weight
Size	**E_8**	**$E_{8.2}$**	**E_9**	**$E_{9.2}$**	**$E_{9.3}$**	**N_1**	**N_2**	**N_5**	**$N_6^{\pm 0.5}$**	**N_7**	**S_1**	**S_2**	**S_5**	**K_1**	**K_2**	**(kg)**
125	80	205	12	40	92	45	29	29	74.5	92	25	M27	33	50.0	50.0	62.1

[1)] Dimension H_2 with cover strip

Rexroth Roller Rail Systems
Heavy Duty Steel Runner Blocks

Heavy duty runner block 1863-

Standard width, long



Notes

For short-stroke applications (stroke < 2 runner block lengths), use additional lube ports (B_4, N_7).
All lube ports:
M8x1 tap holes in the metal.

Friction force:
≈ 1000 N when freshly lubricated
≈ 600 N after the run-in phase

Mounting instructions

Before sliding on the runner block, mount the cover strip on the guide rail and oil or grease the runner block seal and the bevels at the rail end!

Sliding the runner block onto the rail is easier with the aid of a mounting handle (part number 1869-340-09, see "Accessories").

Special version

– hard chrome-plated,
  Part number 1863-...-60

Combining a hard chrome-plated runner block with a hard chrome-plated guide rail results in a preload of approx. 0.15 C.

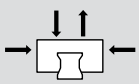
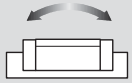
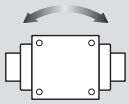
Part numbers

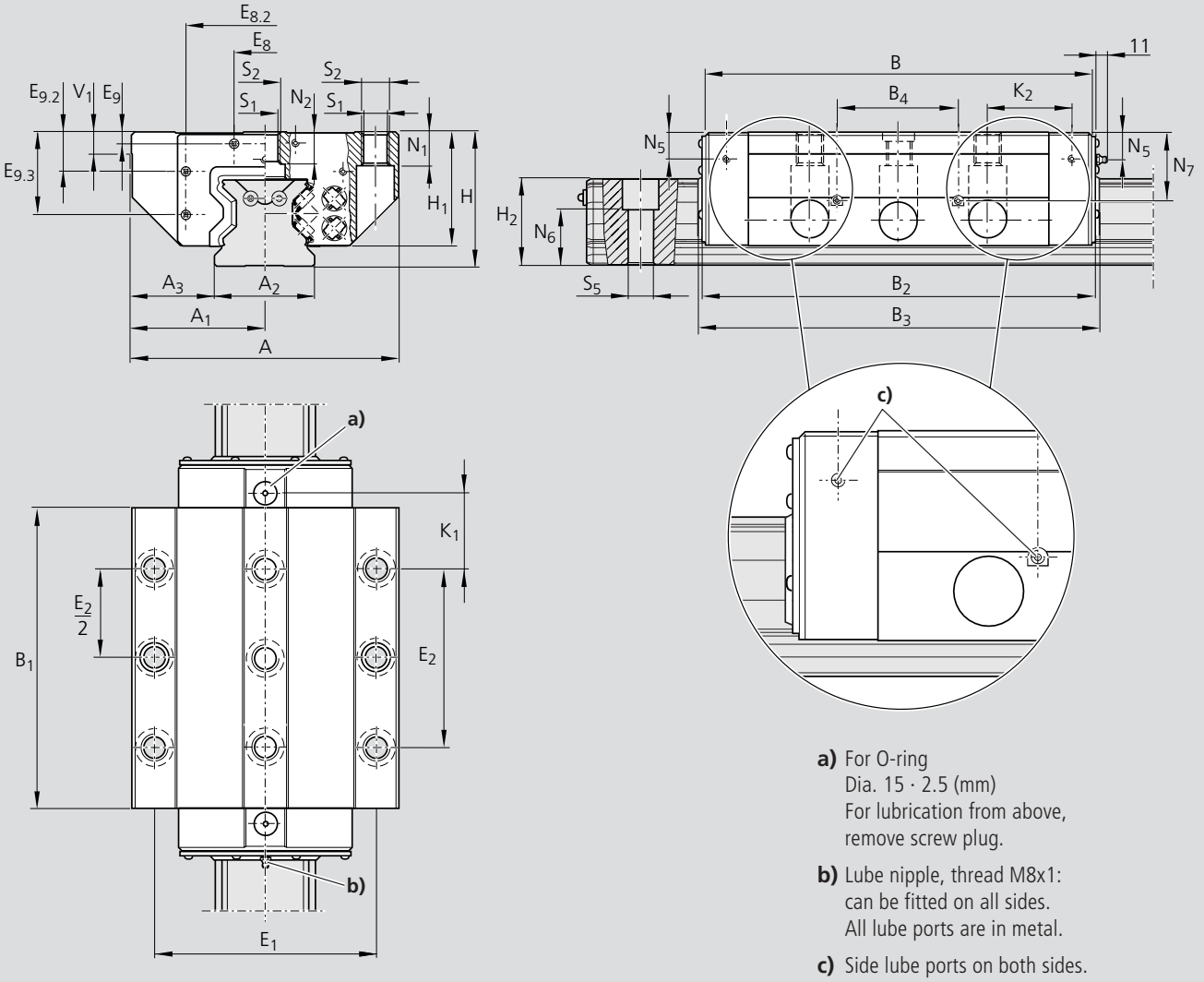
Size	Accuracy class	Part numbers Preload 0.13 C
125	P	1863-332-10
	H	1863-333-10

Load capacities and moments

Note on dynamic load capacities and moments

The dynamic load capacities and moments are based on 100,000 m travel.
However, a travel of just 50,000 m is often taken as a basis. If this is the case, for comparison purposes:
Multiply values **C**, $\mathbf{M_t}$ and $\mathbf{M_L}$ from the Rexroth table by 1.23.

Size	Load capacities (N)		Moments (Nm)			
						
	C dyn.	C_0 stat.	M_t dyn.	M_{t0} stat.	M_L dyn.	M_{L0} stat.
125	802000	1941900	57740	139820	45080	109150



a) For O-ring
Dia. 15 · 2.5 (mm)
For lubrication from above,
remove screw plug.

b) Lube nipple, thread M8x1:
can be fitted on all sides.
All lube ports are in metal.

c) Side lube ports on both sides.

	Dimensions (mm)																
Size	**A**	**A_1**	**A_2**	**A_3**	**B**	**B_1**	**B_2**	**B_3**	**B_4**	**H**	**H_1**	**H_2[1)]**		**V_1**		**E_1**	**E_2**	
125	320	160	125	97.5	476	360	482	491.5	150	160	135	115.3		25		270	205	

	Dimensions (mm)															Weight
Size	**E_8**	**$E_{8.2}$**	**E_9**	**$E_{9.2}$**	**$E_{9.3}$**	**N_1**	**N_2**	**N_5**	**$N_6^{\pm 0.5}$**	**N_7**	**S_1**	**S_2**	**S_5**	**K_1**	**K_2**	**(kg)**
125	80	205	12	40	92	45	29	29	74.5	92	25	M27	33	102.5	102.5	89.8

[1)] Dimension H_2 with cover strip

Rexroth Roller Rail Systems
Heavy Duty Guide Rails

Guide rail 1835-

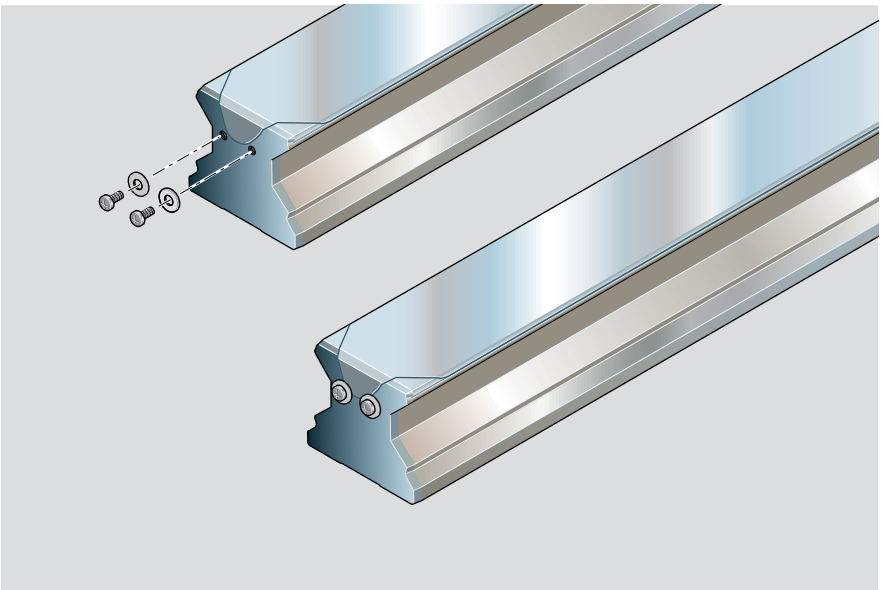
For mounting from above, heavy duty rail with cover strip of stainless spring steel

Special version:
– hard chrome-plated
The part numbers for this version are given on separate pages at the end of this section.

The cover strip, screws and washers are included in the supply scope; they are supplied along with the rails but in a separate packing unit.

Observe the mounting instructions!

Send for the publication "Mounting Instructions for the Cover Strip".



Part numbers and rail lengths

Size	Accuracy class	Guide rail with cover strip	
		one-piece Part number, Rail length L (mm)	composite Part number, Number of sections, Rail length L (mm)
125	P	1835-362-61, ...	1835-362-6., ...
	H	1835-363-61, ...	1835-363-6., ...

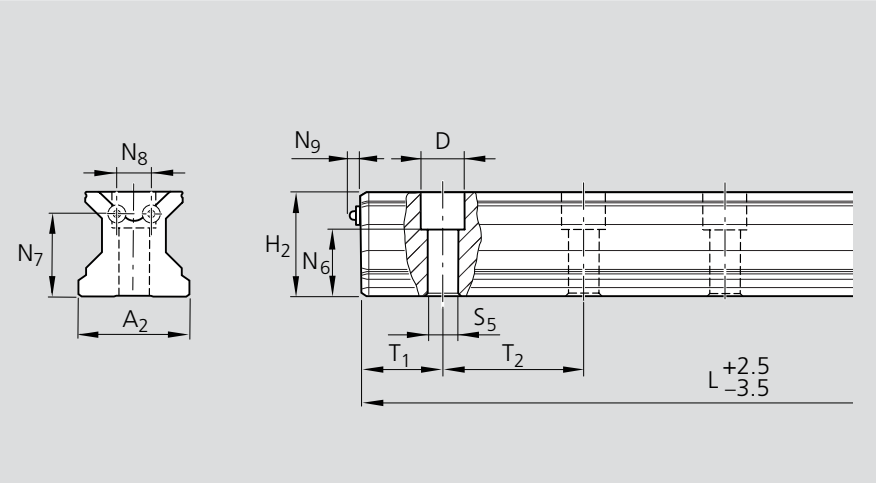
Recommended rail lengths

Size	Spacing T_2 (mm)	Recommended rail lengths Number of holes n_B / rail length L (mm)
125	120	according to formula $L = n_B \cdot T_2 - 7$ up to 22/2634 max.

Dimensions and weights

1) Dimension H_2 with 0.3 mm cover strip

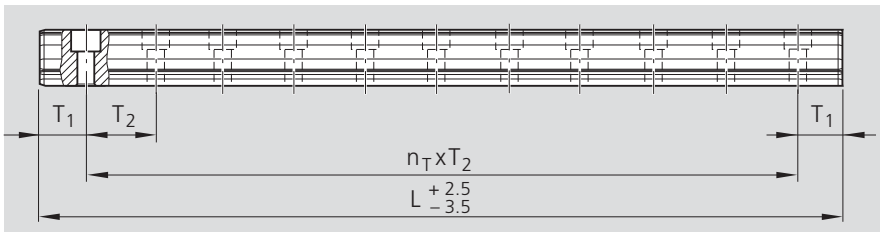
2) Rails with T_1 smaller than $T_{1\,min}$ have no tap hole at the end face for securing the strip!
Secure the cover strip!
Observe mounting instructions!
The washer and screw are included in the supply scope.



Size	Dimensions (mm)												Weight
	A_2	H_2 1)	$N_6^{\pm 0.5}$	N_7	N_8	N_9	D	S_5	$T_{1S}{}^{+1.0}_{-1.5}$	$T_{1\,min}$	T_2	L_{max}	kg/m
125	125	115.3	74.5	91	38	4.8	49	33	56.5	40	120	2634	75.6

Ordering guide rails in recommended lengths

The following examples apply to all guide rail orders. Recommended rails lengths are delivered with priority.



From the desired length to the recommended length

$$L = \left(\frac{\text{desired length L}}{\text{hole spacing } T_2} \right)^{*} \cdot T_2 - 7$$

* round up to the next whole number

Example:

$$L = \left(\frac{1650\ \text{mm}}{120\ \text{mm}} \right) \cdot 120\ \text{mm} - 7\ \text{mm}$$

$L = 14 \cdot 120\ \text{mm} - 7\ \text{mm}$

$L = 1673\ \text{mm}$

Notes on ordering examples

- If the preferred dimension T_{1S} cannot be used:
  - Select an end space T_1 between T_{1S} and $T_{1\,min}$
  - Do not go below the minimum spacing $T_{1\,min}$!
- T_1, $T_{1\,min}$, T_{1S} are the same at either end of the rail.

$$L = n_B \cdot T_2 - 7$$
or
$$L = n_{T_2} \cdot T_2 + 2 \cdot T_{1S}$$

L	= rail length	(mm)
T_2	= hole spacing*)	(mm)
T_{1S}	= preferred dimension*)	(mm)
n_B	= number of holes	
n_{T_2}	= number of spaces	
	*) see tables for values	

Ordering example 1, up to L_{max}:

- Guide rail size 125 with cover strip
- Accuracy class P
- Calculated rail length 1673 mm ($13 \cdot T_2$, preferred dimension $T_{1S} = 56.5$ mm; number of holes $n_B = 14$)

Ordering data:

Part number, length (mm)

T_1 / $n_{T_2} \cdot T_2$ / T_1 (mm)

1835-362-61, 1673 mm

56.5 / 13 · 120 / 56.5 mm

Ordering example 2, length > L_{max}:

- Guide rail size 125 with cover strip
- Accuracy class P
- Calculated rail length 5033 mm, 2 sections ($41 \cdot T_2$, preferred dimension $T_{1S} = 56.5$ mm; number of holes $n_B = 42$)

Ordering data:

Part number and number of sections, length (mm)

T_1 / $n_{T_2} \cdot T_2$ / T_1 (mm)

1835-362-62, 5033 mm

56.5 / 41 · 120 / 56.5 mm

Rail lengths greater than L_{max} are made up of matching rail sections mounted end to end.

Rexroth Roller Rail Systems
Heavy Duty Guide Rails, Hard Chrome-Plated

Guide rail 1865-

For mounting from above, heavy duty rail with cover strip in stainless spring steel

Hard chrome-plated

Notes

For dimensions see guide rail 1835-

Hard chrome-plated one-piece guide rails are available in lengths of up to L_{max} = 2634 mm.

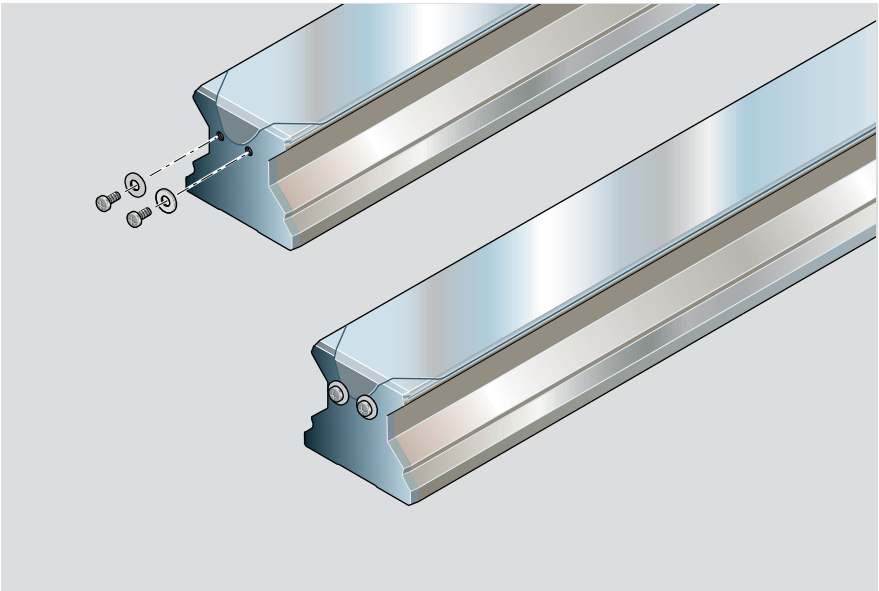
Part numbers / end face coating:
– 1865-...-71 (end faces coated, all composite guide rails are supplied with coated end faces)

The mounting holes and the tap holes at the end faces are chrome-plated.

The cover strip, screws and washers are included in the supply scope; they are supplied along with the rails but in a separate packing unit.

Observe the mounting instructions!

Send for the publication "Mounting Instructions for the Cover Strip".



Part numbers and rail lengths

Size	Accuracy class	Guide rail with cover strip one-piece[1)] Part number, Rail length L (mm)
125	P	1865-362-71, ...
	H	1865-363-71, ...

1) Composite guide rails on request

Recommended rail lengths

Size	Spacing T_2 (mm)	Recommended rail lengths Number of holes n_B / rail length L (mm)
125	120	according to formula $L = n_B \cdot T_2 - 7$ up to 22 / 2634 max.

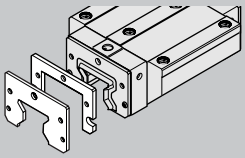
Rexroth Roller Rail Systems
Product Overview – Accessories and Combination Options

Rexroth offers a broad array of accessories to cover almost all conceivable application requirements.

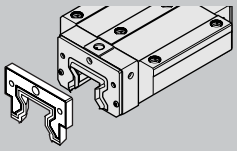
The complete range from a single source. Optimally matched for maximum efficiency.

Accessories for standard runner blocks

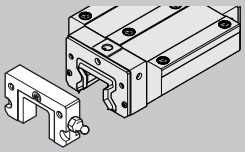
Metal scrapers with spacer plate



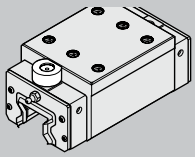
Viton / NBR wiper seals one- and two-piece versions



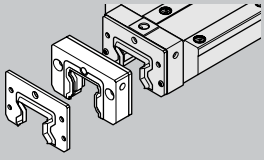
Lube plate



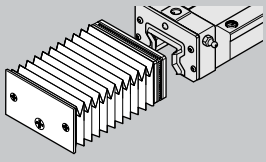
Lube adaptors (only for high runner blocks 1821-/1824-)



Front lube unit



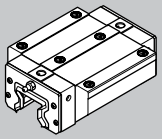
Bellows



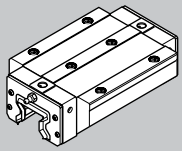
suitable for

Standard runner blocks

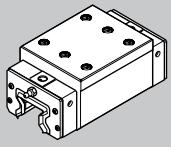
Runner block	**1851-...-10**
standard width	
with aluminum end caps	**1851-...-13**
hard chrome-plated	**1851-...-60**



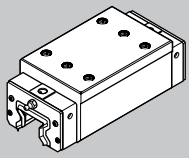
Runner block	**1853-...-10**
standard width, long	
with aluminum end caps	**1853-...-13**
hard chrome-plated	**1853-...-60**



Runner block	**1821-...-10**
slimline, high	
with aluminum end caps	**1821-...-13**
hard chrome-plated	**1821-...-60**



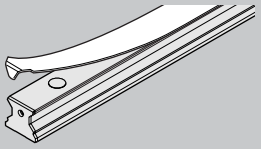
Runner block	**1824-...-10**
slimline, high, long	
with aluminum end caps	**1824-...-13**
hard chrome-plated	**1824-...-60**



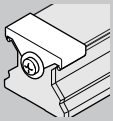
Product Overview – Accessories

Accessories for standard guide rails

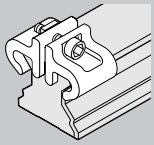
Cover strip



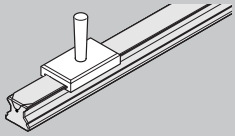
Protective caps



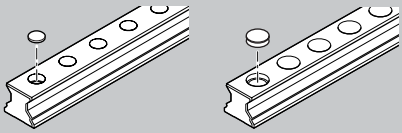
Strip clamp



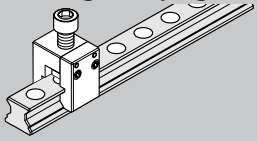
Mounting kit
with tool and lift-off plate



Mounting hole plugs, plastic
Mounting hole plugs, steel



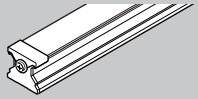
Two-piece tool for
steel mounting hole plugs



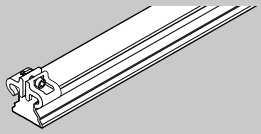
suitable for

Standard guide rails

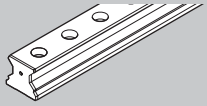
Guide rail **1805-.6.-**
for mounting from above,
with cover strip and protective caps
hard chrome-plated **1845-.5.-**



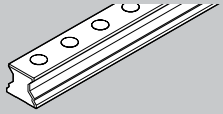
Guide rail **1805-.3.-**
for mounting from above,
with cover strip and strip clamp



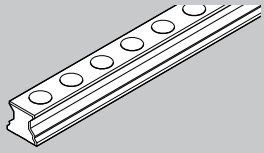
Guide rail **1805-.2.-**
for mounting from above,
for cover strip
hard chrome-plated **1845-.8.-**



Guide rail **1805-.5.-**
for mounting from above,
with plastic mounting hole plugs
hard chrome-plated **1845-.1.-**

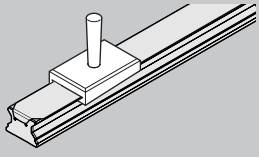


Guide rail **1806-.5.-**
for mounting from above,
for steel mounting hole plugs



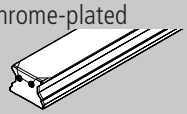
Accessories for wide guide rails and heavy duty guide rails

Mounting kit
with tool and lift-off plate



suitable for

Wide guide rail **1875-.6.-**
hard chrome-plated **1873-.5.-**



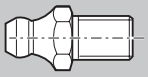
Heavy duty guide rail

1835-36.-
1865-35.-
hard chrome-plated

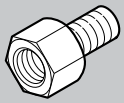
Rexroth Roller Rail Systems
Product Overview – Accessories and Combination Options

General accessories for runner blocks

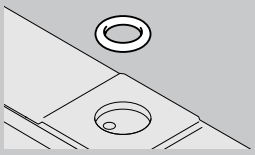
Lube nipples



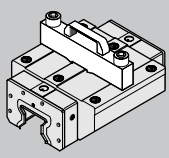
Lube fittings
- **Reducers**
- **Connectors**
- **Extension pieces**
- **Swivel fittings**
- **Tube connectors**



O-rings



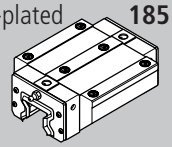
Mounting handle **1869-340-09**



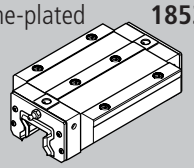
With the corresponding dimensions, suitable for

Standard runner blocks

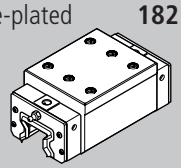
Runner block **1851-...-10**
standard width
for wall mounting **1851-...-18**
with aluminum end caps **1851-...-13**
hard chrome-plated **1851-...-60**



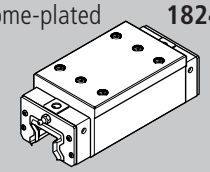
Runner block **1853-...-10**
standard width, long
for wall mounting **1853-...-18**
with aluminum end caps **1853-...-13**
hard chrome-plated **1853-...-60**



Runner block **1821-...-10**
slimline, high
for wall mounting **1821-...-18**
with aluminum end caps **1821-...-13**
hard chrome-plated **1821-...-60**

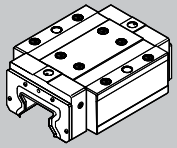


Runner block **1824-...-10**
slimline, high, long
for wall mounting **1824-...-18**
with aluminum end caps **1824-...-13**
hard chrome-plated **1824-...-60**



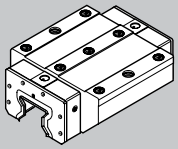
Wide runner blocks

Runner block **1872-...-10**
wide



Heavy duty runner blocks

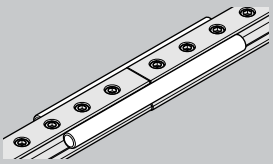
Runner block **1861-/1863-**
heavy duty



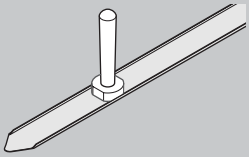
Product Overview – Accessories

General accessories for guide rails

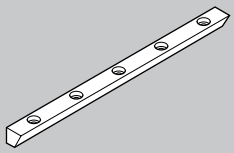
Adjusting shafts



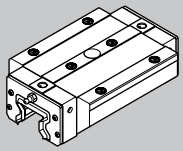
Expanding tool



Wedge profile

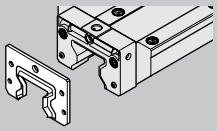


Mounting runner block

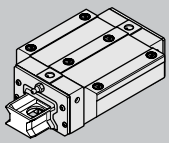


Product Overview – Spare Parts

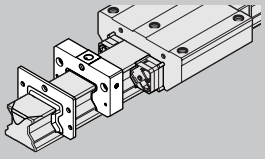
End seal



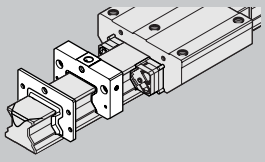
Transport and mounting arbor



End cap with end seal



Aluminum end cap with end seal

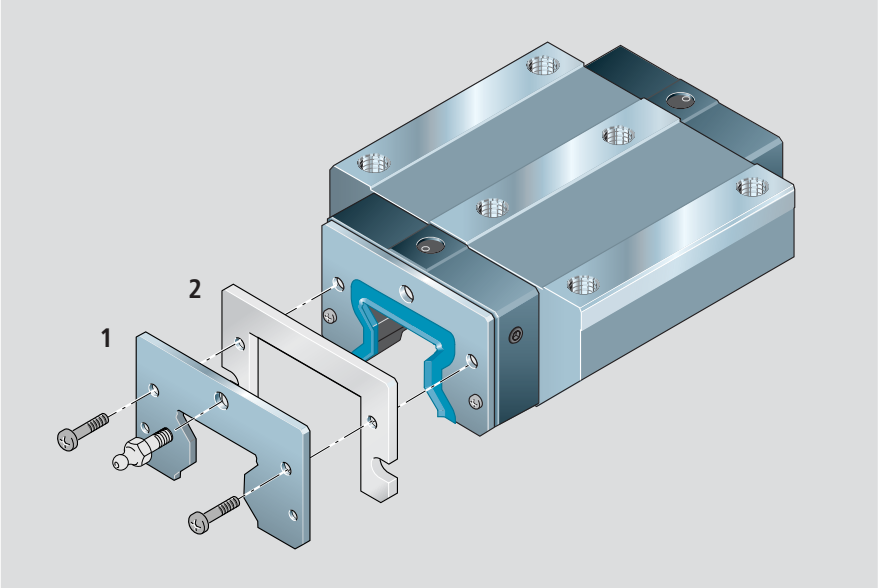


Rexroth Roller Rail Systems
Accessories for Standard Runner Blocks

Metal scraper

1 Metal scraper
- Material: stainless spring steel to EN 10088
- Finish: bright

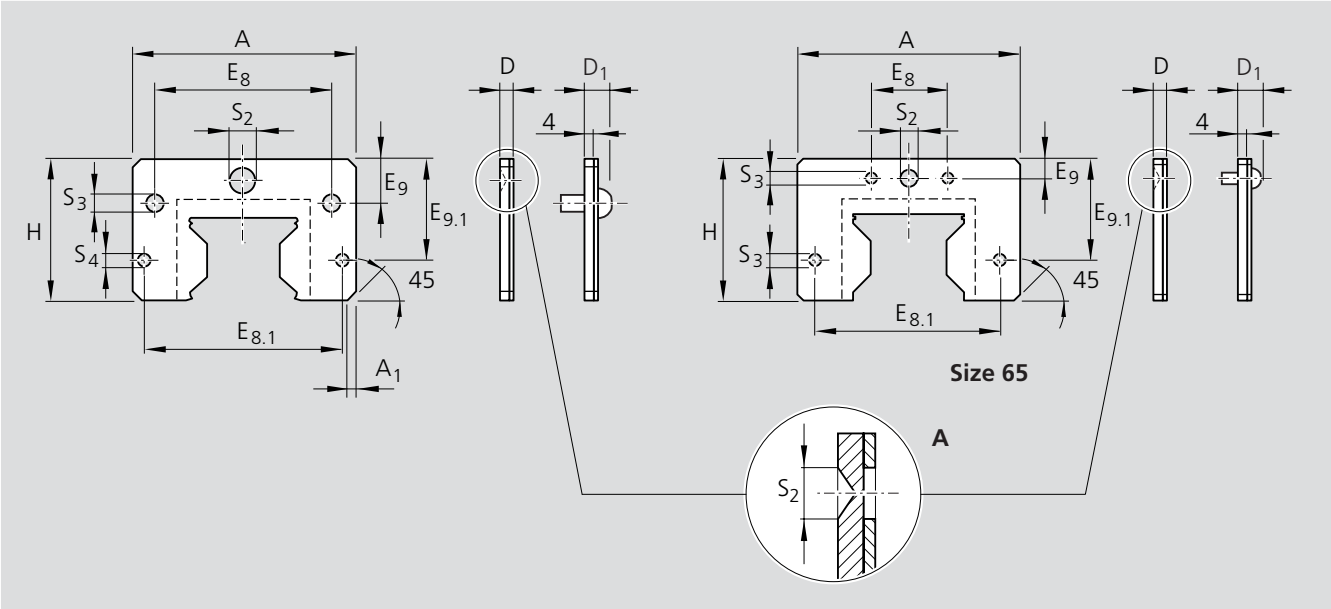
2 Spacer plate
- Material: aluminum



Mounting instructions:

Comes complete with spacer plate and mounting screws (the lube nipple is not included).
When mounting the scraper, make sure there is a uniform gap between the guide rail and the scraper.

For lubricating from the end face:
Bore open hole S_2 in the spacer plate.
Lube nipples, see "Accessories".



Part numbers, dimensions and weights

Size 25:
for 0.15 mm cover strip

Sizes 35 - 65:
for 0.30 mm cover strip

Size	Part numbers	Dimensions (mm)												Weight
		A	A_1	H	E_8	$E_{8.1}$	E_9	$E_{9.1}$	dia. S_2 [1]	dia. S_3	dia. S_4	D	D_1	(g)
25	1820-210-**00**	44.0	1.2	28.5	33.4	40.2	7.9	20.9	7	4	3	5	7.00	22
35	1820-310-**40**	63.0	2.0	39.8	50.3	56.6	12.4	28.4	7	4	3	5	7.50	30
45	1820-410-**40**	77.0	2.0	49.8	62.9	69.6	16.0	35.8	7	5	4	6	9.00	71
55	1820-510-**40**	90.5	2.0	56.2	74.2	81.6	18.2	40.0	7	6	4	6	9.25	96
65	1820-610-**40**	119.0	3.0	74.5	35.0	106.0	8.3	54.0	7	5	5	6	8.75	170

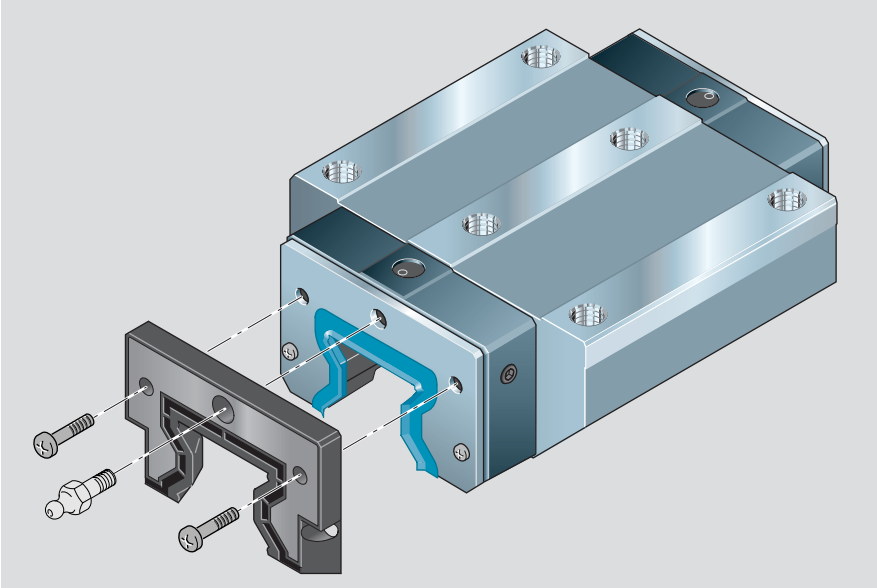
[1] Rough-drilled hole in spacer plate.
Bore open as required.

Accessories for Standard Runner Blocks

One-piece Viton wiper seal

for mounting on the runner block

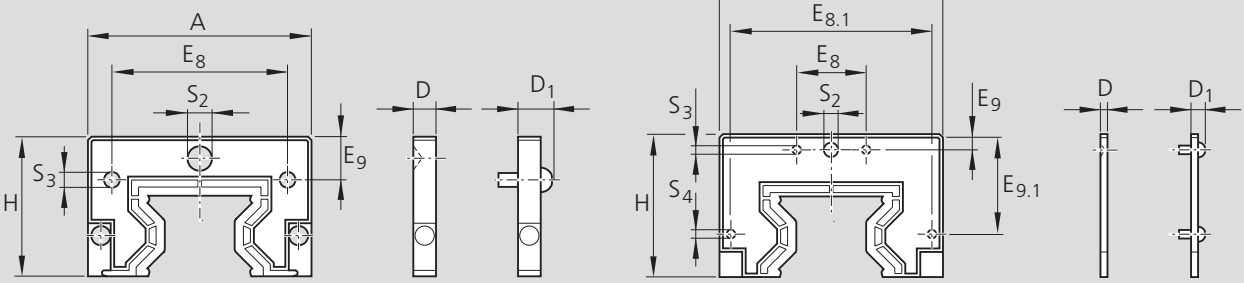
– Material:
stainless steel frame with integral Viton seal



Mounting instructions:

Comes complete with mounting screws (the lube nipple is not included).

For lubricating from the end face:
Bore open hole S_2.
Lube nipples, see "Accessories".



Size 65

Part numbers, dimensions and weights

Size	Part numbers	Dimensions (mm)										Weight
		A	H	E_8	$E_{8.1}$	E_9	$E_{9.1}$	dia. S_2 [1]	dia. S_3	D	D_1	(g)
25	1810-200-**30**	44.0	29.5	33.4	–	7.75	–	–	4	6.25	8.25	20
35	1810-300-**30**	64.0	40.0	50.3	–	12.35	–	7	4	6.50	9.00	40
45	1810-400-**30**	78.0	50.0	62.9	–	16.00	–	7	5	6.50	9.50	60
55	1810-500-**30**	91.5	57.0	74.2	–	18.20	–	7	6	6.50	9.75	80
65	1810-600-**30**	119.0	77.0	35.0	106	8.55	54.25	7	5	6.50	9.25	160

[1] Rough-drilled hole.
Bore open as required.

Rexroth Roller Rail Systems
Accessories for Standard Runner Blocks

One-piece Viton wiper seal

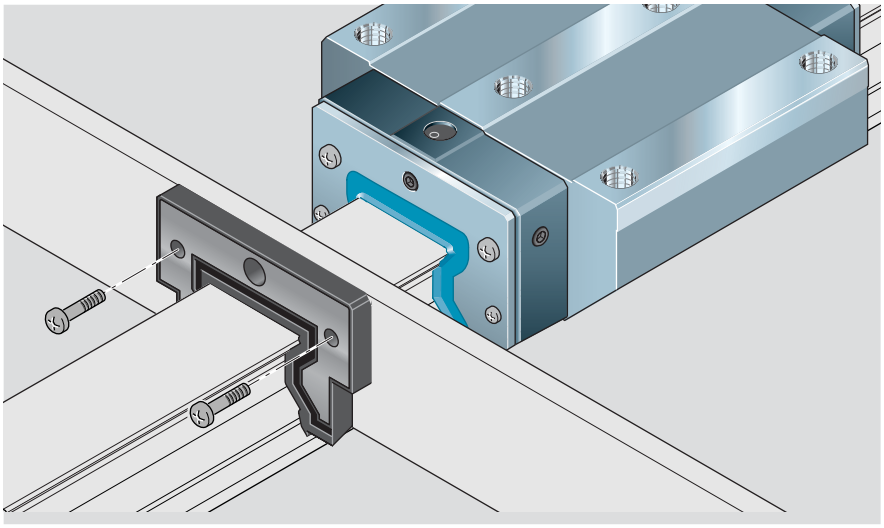
for mounting on the machine carriage as a distributed element

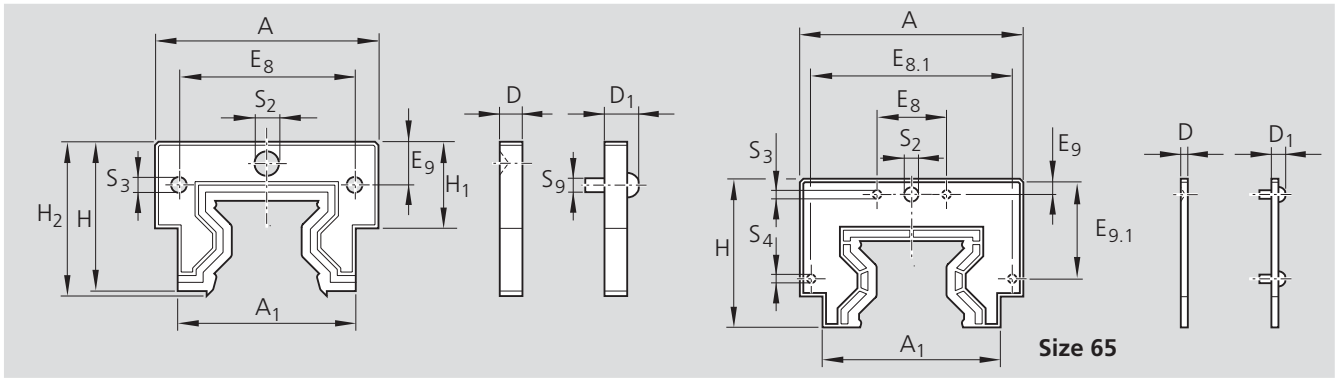
Variant:
- for mounting on the machine carriage (not to the runner block)
- with recess for machine bed wiper

Material:
- stainless steel frame with integral Viton seal

Mounting instructions:

Comes complete with mounting screws.



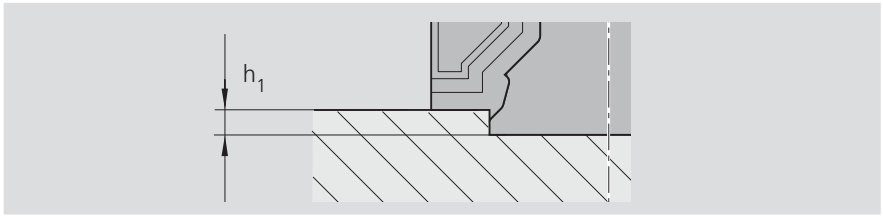


Part numbers, dimensions and weights

Size	Part numbers	Dimensions (mm)														Weight
		A	A_1	H	H_1	H_2	E_8	$E_{8.1}$	E_9	$E_{9.1}$	dia. S_2 [1]	dia. S_3	dia. S_9	D	D_1	(g)
25	1810-200-**40**	44.0	31.5	31.2	13.5	33.00	33.4	–	7.75	–	–	4	M3	6.25	8.25	18
35	1810-300-**40**	64.0	51.0	42.75	24.8	44.20	50.3	–	12.35	–	7	4	M3	6.50	9.00	35
45	1810-400-**40**	77.0	65.0	53.75	36.0	55.35	62.9	–	16.00	–	7	5	M4	6.50	9.50	58
55	1810-500-**40**	90.5	78.5	60.75	43.0	62.55	74.2	–	18.20	–	7	6	M5	6.50	9.75	78
65	1810-600-**40**	119.0	106.0	79.95	62.2	79.95	35.0	106	8.55	54.25	7	5	M4	6.50	9.25	160

[1] Rough-drilled hole. Bore open as required.

Size	H matching h_1	
	h_1	Tolerance
25	4.5	± 0.1
35	5	+ 0.1 - 0.2
45	6	+ 0.1 - 0.2
55	9	+ 0.1 - 0.2
65	10	0 - 0.3



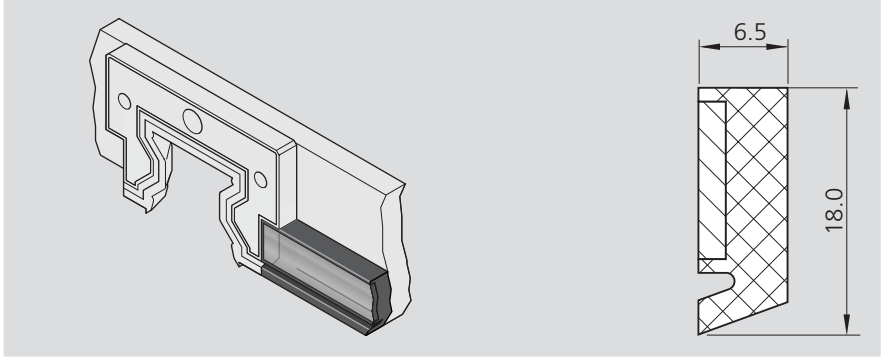
Machine bed wiper for Viton wiper seal -40

Length: 500 mm

Part number: 8411-070-04

Mounting instructions:

The mounting holes are to be drilled by the customer as required.



Accessories for Standard Runner Blocks

Two-piece Viton / NBR wiper seal

– Material:
stainless steel frame plus Viton or NBR seal

Mounting instructions:

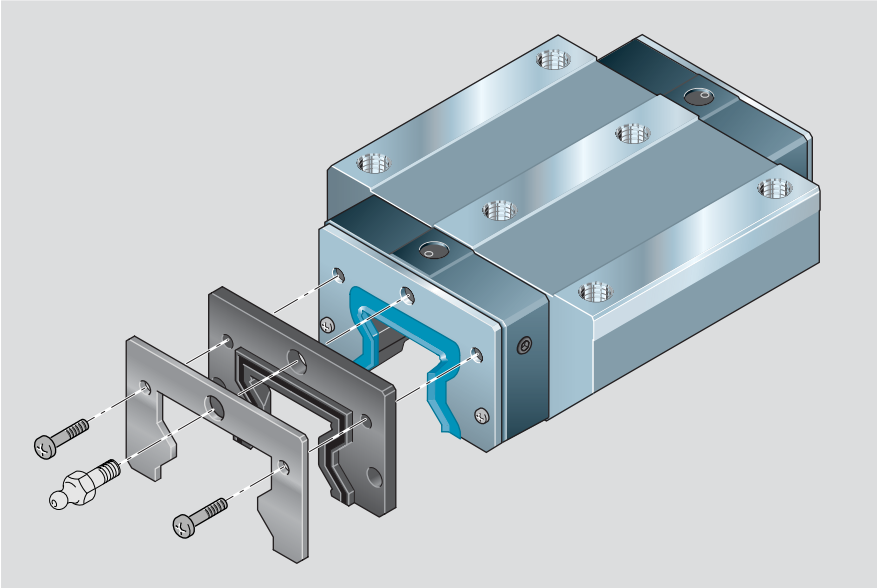
Comes complete with mounting screws.

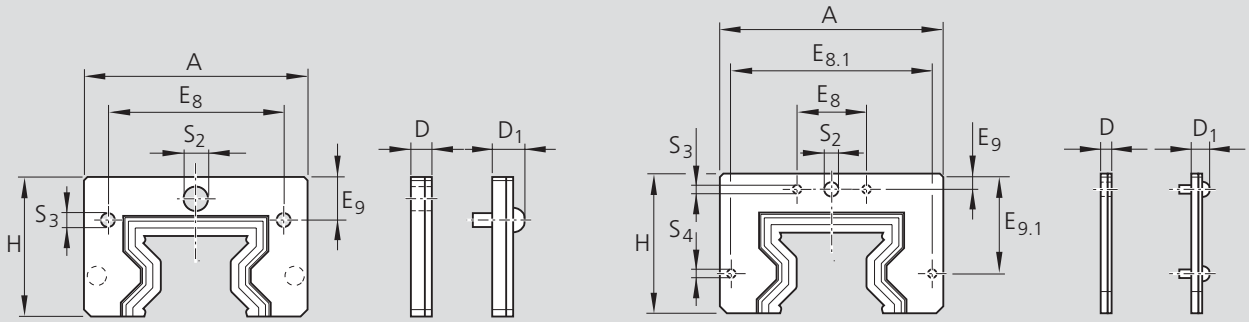
For lubricating from the end face:
Lube nipples, see "Accessories".

Easy mounting / removal with the guide rail fixed in place.

Observe the mounting instructions.

Can be combined with an addition metal scraper; please consult us.





Size 65

Part numbers, dimensions and weights

Viton wiper seal

Size	Part numbers	Dimensions (mm)										Weight
		A	H	E_8	$E_{8.1}$	E_9	$E_{9.1}$	dia. S_2	dia. S_3	D	D_1	(g)
25*	1810-200-**70**	–	–	–	–	–	–	–	–	–	–	–
35	1810-300-**70**	64.0	40.0	50.3	–	12.35	–	7	4	6.0	8.50	40
45	1810-400-**70**	78.0	50.0	62.9	–	16.00	–	7	5	6.0	9.00	60
55	1810-500-**70**	91.5	57.0	74.2	–	18.20	–	7	6	6.5	9.75	80
65	1810-600-**70**	119.0	75.0	35.0	106	8.55	54.25	7	5	6.5	9.25	160

Part numbers, dimensions and weights

NBR wiper seal

Size	Part numbers	Dimensions (mm)										Weight
		A	H	E_8	$E_{8.1}$	E_9	$E_{9.1}$	dia. S_2	dia. S_3	D	D_1	(g)
25*	1810-200-**90**	–	–	–	–	–	–	–	–	–	–	–
35	1810-300-**90**	64.0	40.0	50.3	–	12.35	–	7	4	6.0	8.50	40
45	1810-400-**90**	78.0	50.0	62.9	–	16.00	–	7	5	6.0	9.00	60
55	1810-500-**90**	91.5	57.0	74.2	–	18.20	–	7	6	6.5	9.75	80
65	1810-600-**90**	119.0	75.0	35.0	106	8.55	54.25	7	5	6.5	9.25	160

* In preparation

Rexroth Roller Rail Systems
Accessories for Standard Runner Blocks

Standard lube plate

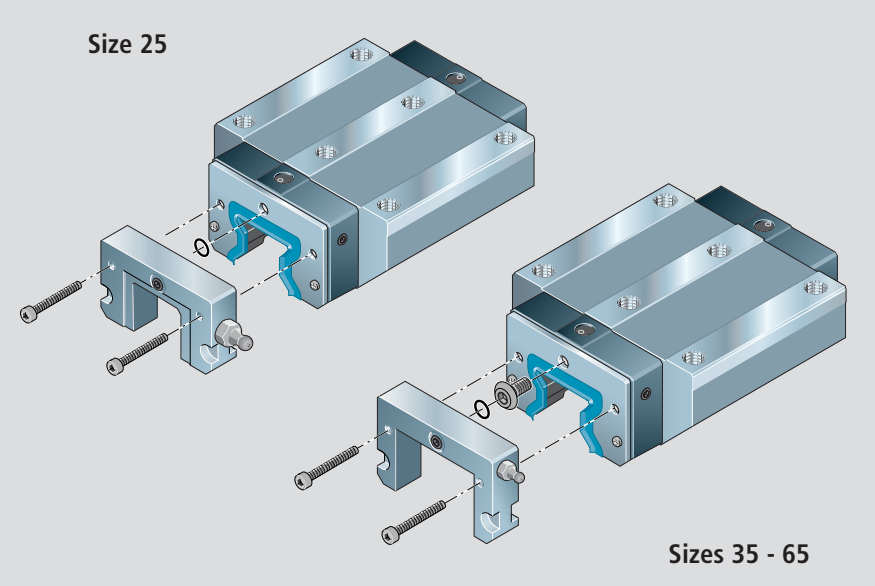
– Material: aluminum
– for standard lube nipples

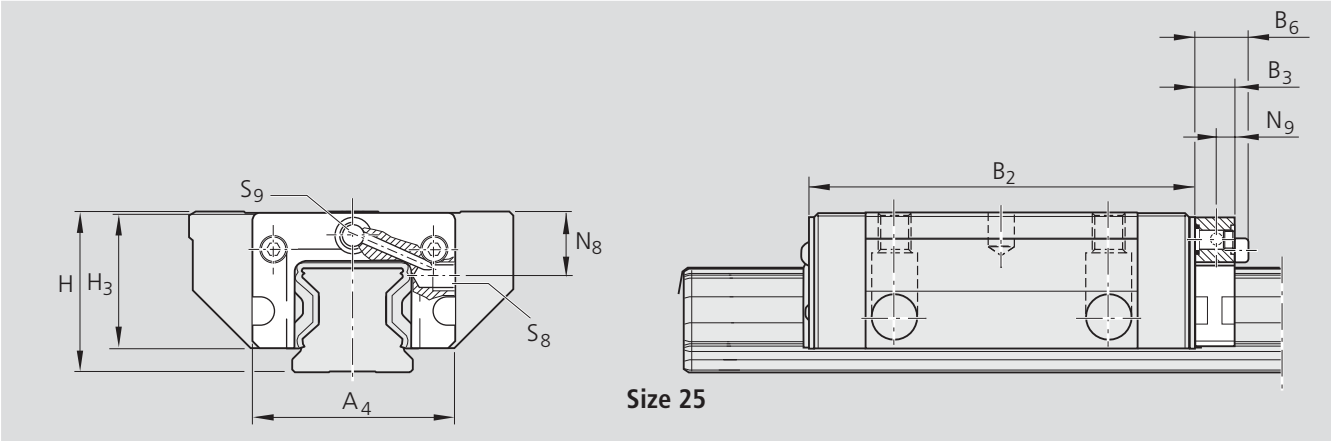
Mounting instructions:

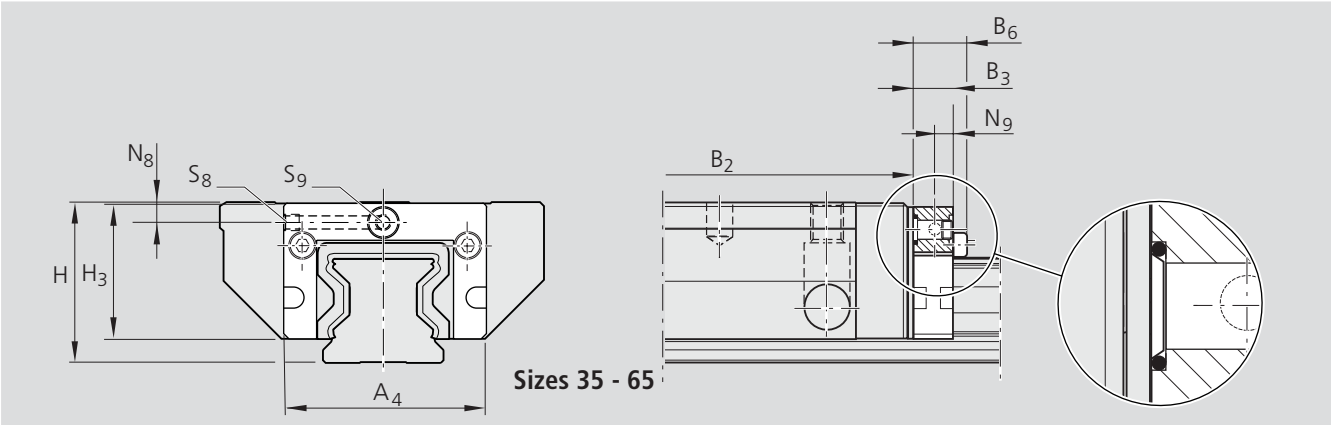
Comes complete with all the necessary parts for the various mounting options.

The runner block lube nipple can be used.

Refer to "Mounting Instructions for Roller Rail Systems".







Part numbers, dimensions and weights

Size	Part numbers	Dimensions (mm)									Weight (g)
		A_4	B_3	B_6	H	H_3	N_8 [1)]	N_9	S_8	S_9	
25	1820-211-**20**	44.0	12	15	36	28.30	14.0	6	M6	M6	32
35	1820-311-**20**	69.0	12	15	48	39.75	7.0	6	M6	M6	60
45	1820-411-**20**	77.0	12	16	60	49.75	8.0	6	M6	M6	70
55	1820-511-**20**	90.5	12	17	70	56.00	9.0	6	M6	M6	90
65	1820-611-**20**	119.0	12	16	90	74.50	18.0	6	M6	M6	200

[1)] Referred to the runner block mounting face

Accessories for Standard Runner Blocks

Lube plate G 1/8 / M8 x 1

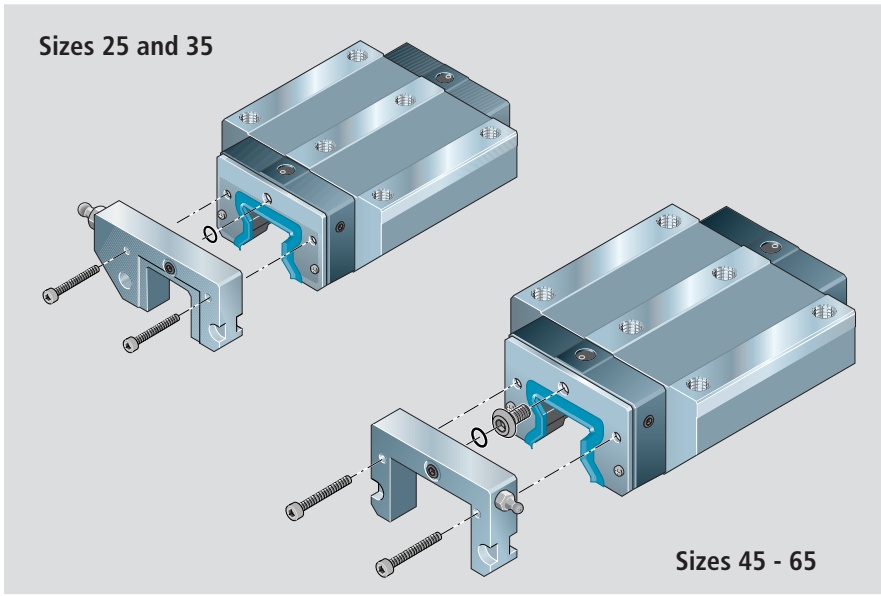
– Material: aluminum
– Lube port S_8 = G1/8 or
– Lube port S_8 = M8 x 1
  for sizes 35 and 45
  Part numbers 1820-.11-40

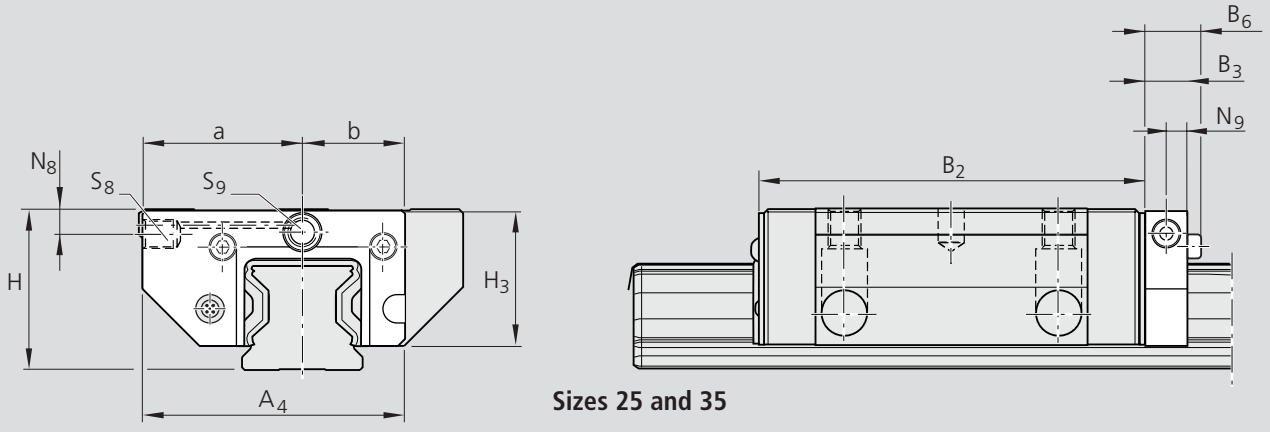
Mounting instructions:

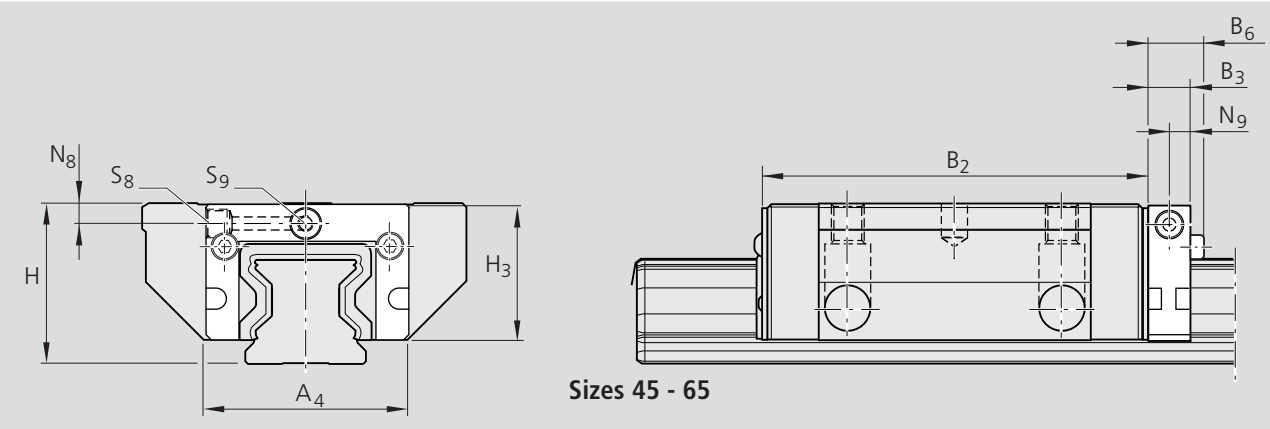
Comes complete with all the necessary parts for the various mounting options.

With slimline runner block sizes 25 and 35, note that the lube plate protrudes on one side!

Refer to "Mounting Instructions for Roller Rail Systems".







Part numbers, dimensions and weights

Size	Part numbers[2]	Dimensions (mm)												Weight
		A_4	B_3	B_6	a	b	H	H_3	N_8[1]	N_9	S_8		S_9	(g)
25	1820-211-**30**	55.5	16	19	33.5	22	36	28.30	7.5	8	G1/8-8 deep	–	M6	32
35	1820-311-**30**	71.0	16	19	39.5	31.5	48	39.75	8.0	8	G1/8-8 deep	M8x1-8 deep[2]	M6	72
45	1820-411-**30**	77.0	16	20	–	–	60	49.75	8.0	8	G1/8-8 deep	M8x1-8 deep[2]	M6	90
55	1820-511-**30**	90.5	16	21	–	–	70	56.00	9.0	8	G1/8-8 deep	–	M6	115
65	1820-611-**30**	119.0	16	20	–	–	90	74.50	18.0	8	G1/8-8 deep	–	M6	240

[1] Referred to the runner block mounting face

[2] Part numbers 1820-.11-**40**

Rexroth Roller Rail Systems
Accessories for Standard Runner Blocks

Lube adaptor

for high runner blocks **1821-/1824-**

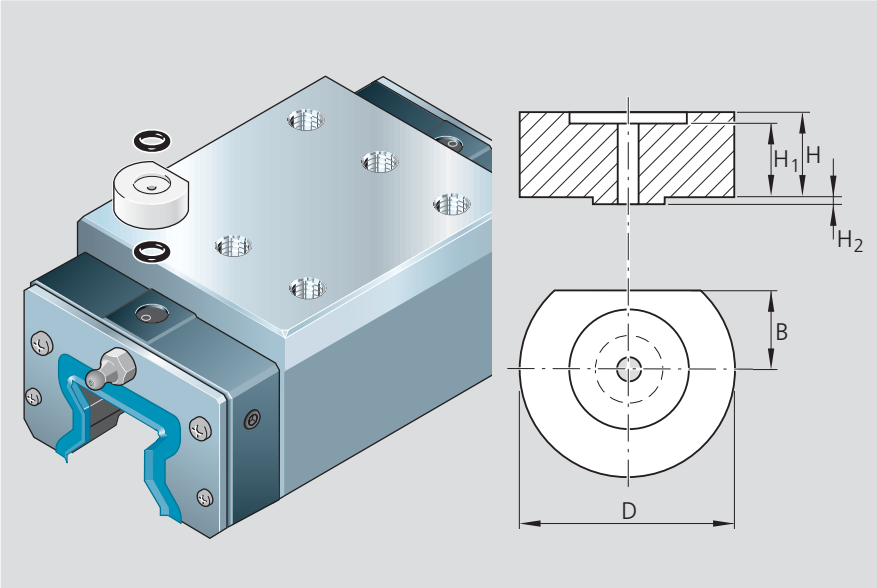
– Material: plastic

Mounting instructions:

Comes complete with all the necessary parts for the various mounting options.

Before mounting, bore open the lube hole in the runner block. Alternatively, a special runner block version with open lube hole can be ordered.

Send for "Mounting Instructions for Roller Rail Systems".



Part numbers and dimensions

Size	Part numbers	Dimensions (mm)				
		D	B	H	H_1	H_2
25	1821-200-05	15	4.60	3.65	2.65	0.5
35	1821-300-05	18	6.55	7.00	6.00	0.5
45	1821-400-05	22	6.50	10.00	9.00	0.5
	1821-400-15[1)]	22	6.50	10.00	9.00	0.5
55	1821-500-05	24	7.50	10.00	9.00	0.5

[1)] For aluminum end caps

Accessories for Standard Runner Blocks

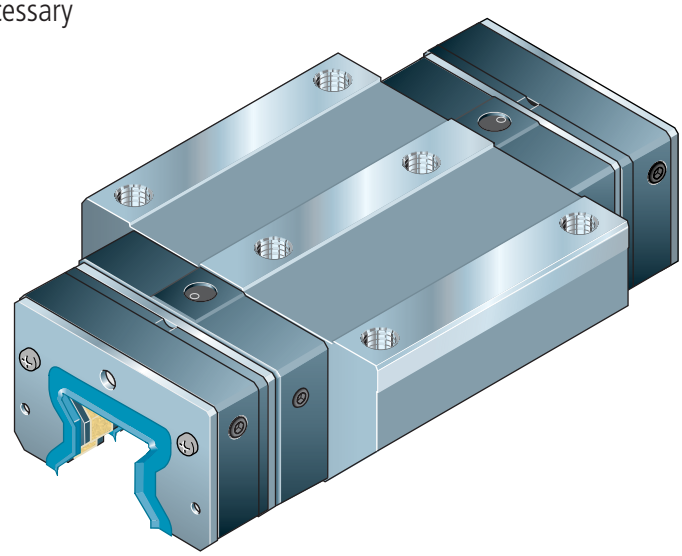
Front Lube Units

Advantages during mounting and in service:

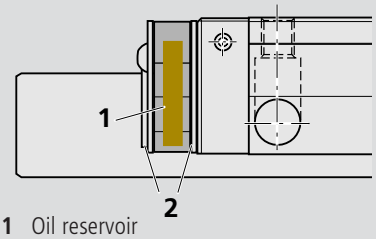
- Up to 5000 km travel
- Only initial lubrication of the runner block necessary
- Front lube units at both runner block ends
- Minimal lubricant loss
- Reduced oil consumption
- No lube lines
- Max. operating temperature 60°C

▶ In-service refilling possible using lube nipple on end face or side

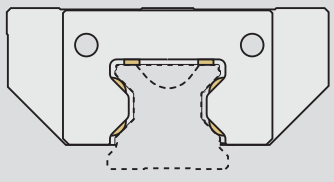
▶ Size 25: lube port on end face suitable for lubricating runner block with grease



Rexroth Roller Rail Systems
Runner block with two front lube units and end seals



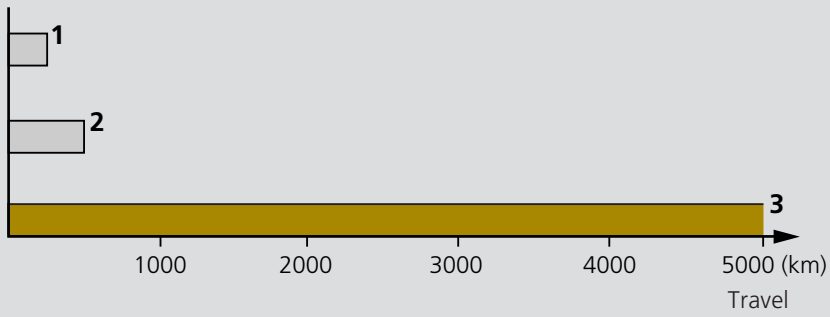
1 Oil reservoir
2 End seals



Specially designed distribution channels ensure that the lubricant is applied only where needed: directly to the raceways and to the guide rail surface.

Oil consumption comparison, size 35

Front lube units	Lubricant quantity per lubrication cycle (cm^3)	Travel (m)	Consumption (cm^3/km)
without	1.3	20 000	0.065 ➡ 100%
with	**16.6**	**5 000 000**	**0.0033 ➡ 5.08%**



Previous travel:
1 With oil lubrication: up to 250 km
2 With grease lubrication: up to 500 km
Travel with front lube units:
3 Up to 5000 km

Rexroth Roller Rail Systems
Accessories for Standard Runner Blocks

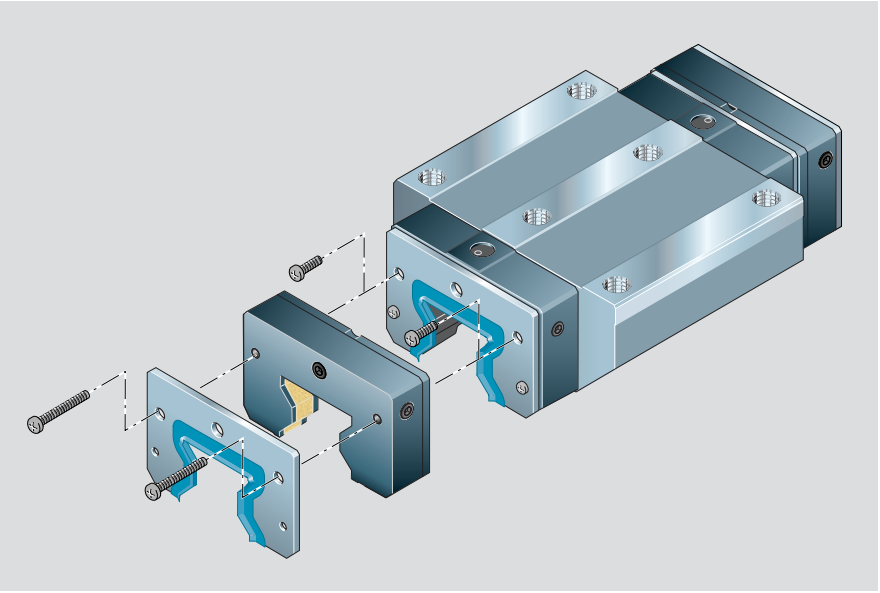
Front lube units for roller rail systems

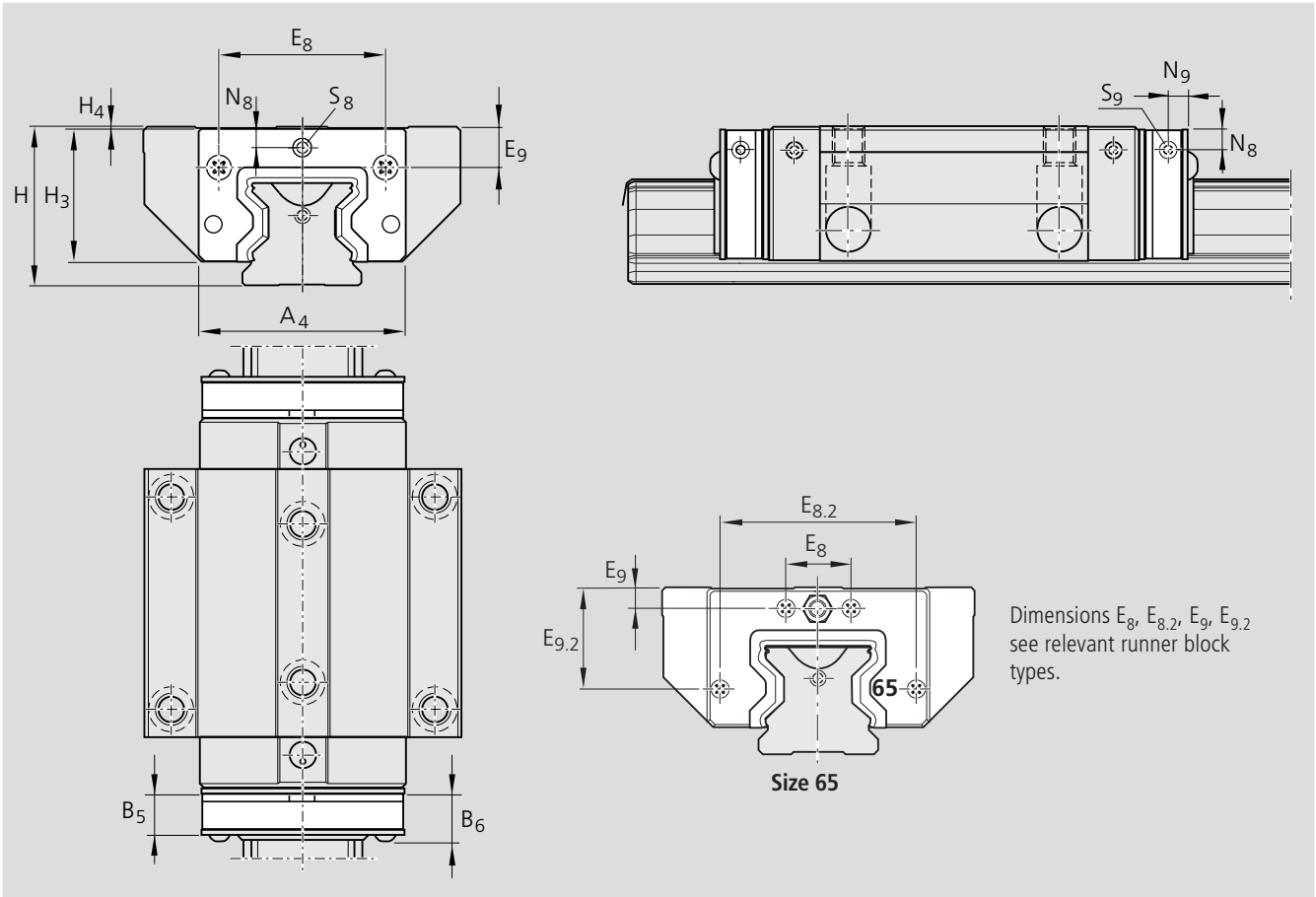
– Material: special plastic

Mounting instructions:

Front lube units are supplied complete with coated screws, additional end seals and lube nipple.

Front lube units with ...-**00** part numbers (see table below) are supplied ready-filled with oil and can be mounted immediately after greasing the runner block.





Part numbers and dimensions

Size	Part numbers	Dimensions (mm)										Oil
		A_4	B_5	B_6	H	H_3	H_4	N_8	N_9	S_8	S_9	(cm^3)
25	1810-225-00	44.0	13.0	15.5	36	29.2	0.50	5.00	–	M6	–	2.6
35	1810-325-00	64.0	16.5	19.0	48	40.0	0.75	6.25	5.5	M6	M6	8.3
45	1810-425-00	78.0	18.5	21.8	60	50.0	0.75	7.25	7.5	M6	M6	13.8
55	1810-525-00	91.5	20.3	24.3	70	56.3	0.75	8.25	9.0	M6	M6	22.8
65	1810-625-00	119.0	21.0	24.3	90	74.8	0.75	8.55	8.5	M6	M6	47.6

Accessories for Standard Runner Blocks

Initial lubrication of the runner block

⚠ Before mounting the front lube units, always lubricate the runner blocks first **using grease!**

Recommended grease types:

- Paragon EP 1, from DEA, KP 1 N-30
- Optimol Longtime PD 1, from Optimol Oelwerke, KP 1 N-40
- Optimol Longtime PD 2, from Optimol Oelwerke, KP 2 N-40
- Klüber Isoflex NCA 15
- Klüber Polylub GLY 151
- Klüber Microlube GL 261

Lubricating the runner block

☞ If there already is grease in the runner block, or if grease types other than those recommended have to be used, refer to the "Lubricant compatibility" section.

1. Grease the runner block as specified in the table.
2. Slide runner blocks back and forth over at least three times the block length for three full cycles.
3. Repeat steps 1. and 2. twice more.
4. Check whether a film of lubricant is visible on the guide rail.

Size	Partial lubricant quantity for initial lubrication of the runner block (cm^3)
25	0.8
35	0.9
45	1.0
55	1.4
65	2.7

Front lube units

As-supplied condition

There are two types of front lube units.
The part numbers stand for:
....-...-00: ready to mount and filled with lube oil
....-...-10: without lube oil filling

Initial filling of an unfilled front lube unit (part numbers ....-...-10)

Recommended lube oil:

- Mobil SHC 639 (viscosity 1000 mm^2/s at 40°C)

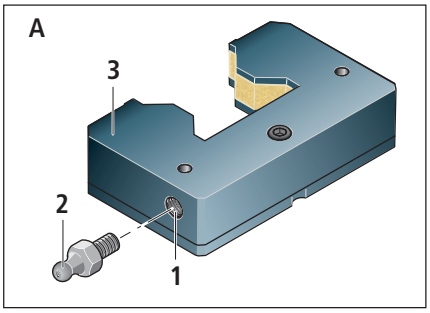
☞ If other oils have to be used, see "Lubricant compatibility".

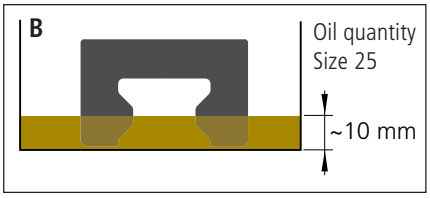
- Remove the set screw from the lube hole (1) and keep it ready for later use.
- Screw in lube nipple (2).
- Lay front lube units (3) down flat and fill with quantity of oil specified in the table. Leave in that position for 36 hours.

Size	Oil quantity for initial filling of front lube unit (cm^3)
25	➠ Figure **B**
35	8.3
45	14.6
55	22.8
65	47.6

- For size 25: Stand the front lube units in oil 10 mm deep for 36 hours (➠ Fig. **B**).

- Check whether the lube insert is completely soaked with oil. Add oil, if necessary.
- Remove lube nipple, screw in set screw.





Rexroth Roller Rail Systems
Accessories for Standard Runner Blocks

Lubricant compatibility

Synthetic base lubricants are superior to those with a mineral oil base, and especially to paraffin oils.

The standard filling in the front lube units is Mobil SHC 639. This oil is a fully synthetic lubricant with a synthetic hydrocarbon base (polyalphaolefins).

Mobil SHC 639 can be mixed with mineral base oils in any proportion. Compatibility with Rexroth anti-corrosion oil is assured.

Mobil SHC 639 is also chemically compatible with lubricant greases with a synthetic hydrocarbon oil, polyalphaolefin, mineral oil or ester oil base.

⚠ If other lubricants are used, check compatibility of lube oil and grease.

Minimum requirements for other lube oils: ISO viscosity class 1000 to DIN 51519, without solid particles, e.g. CLP lube oil to DIN 51517, part 3.

☞ Lube oils must be chemically and physically comparable to Mobil SHC 639 oil.

⚠ Compatibility problems can be expected particularly with grease lubricants with a silicone oil, polyglycol oil, polyphenyl ether oil or perfluoroalkyl ether oil base.

Mounting instructions for the front lube unit

Front lube units are supplied complete with all the necessary coated screws, additional end seals and lube nipple.

⚠ Mount one front lube unit (3) at each end of the runner block.

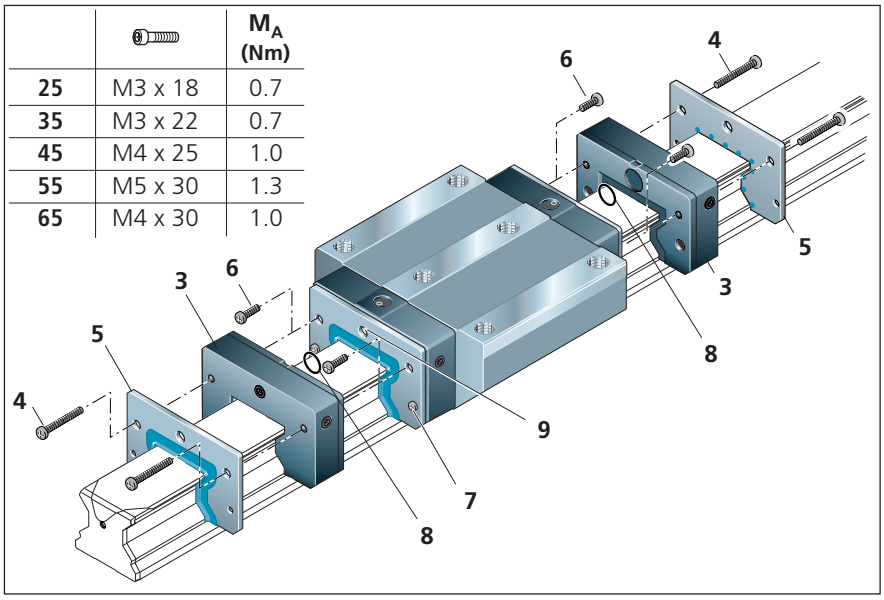
⚠ Do not remove runner blocks from the rail!

- Remove screws (6) – in size 65, there are four screws. Discard these screws (6)!
- If there are any end seals (7) already mounted on the runner block, leave them in place.
- Slide on the front lubrication units (3) and the additional end seals (5) and align them with the runner block.
- For size 25, remove the set screw (9) and insert the O-ring (8) between the runner block and the front lubrication unit.

⚠ Mount additional end seals (5) so that the sealing lips fit snugly all around the guide rail.

- Tighten screws (4) with tightening torque M_A.

		M_A (Nm)
25	M3 x 18	0.7
35	M3 x 22	0.7
45	M4 x 25	1.0
55	M5 x 30	1.3
65	M4 x 30	1.0



In-service lubrication intervals for runner blocks

- Check the front lubrication units when the system has covered the travel distance specified in the table.

The travel specification applies to:

– normal operating conditions and the load specified in the table.

We recommend replacing the front lube units when the specified travel (see table) has been reached or, at the latest, after 3 years. Before mounting the new front lube units, the runner block has to be relubricated with grease.

In clean operating environments, the front lube units can be refilled with oil. Runner block sizes 35–65 can be regreased from the side and size 25 runner blocks from the end.

See "Initial lubrication of the runner block" and/or "Initial filling of an unfilled front lube unit" for lubricant quantities.

☞ Longer travel has already been recorded in ongoing nominal life tests. Please consult us as necessary!

Size	Travel under normal operating conditions (km)
	Load ≤ 0.15 C
25	5000
35	5000
45	3000
55	2000
65	1000

⚠ The recommended in-service lubrication intervals depend on environmental factors, load and type of loading.

Typical environmental factors include fine metal particles, mineral and similar abraded material, solvents, and temperature. Load types include vibrations, impacts and tilting.

⚠ The service conditions are unknown to the manufacturer. Users can only determine the in-service lubrication intervals with certainty by conducting their own in-house tests or by close observation.

⚠ Do not allow the guide rails and runner blocks to come into contact with aqueous coolants!

Rexroth Roller Rail Systems
Accessories for Standard Runner Blocks

Protective bellows

– Material: bellows-type protective cover of polyurethane-coated polyester fabric

For size 25:

– aluminum lube plates

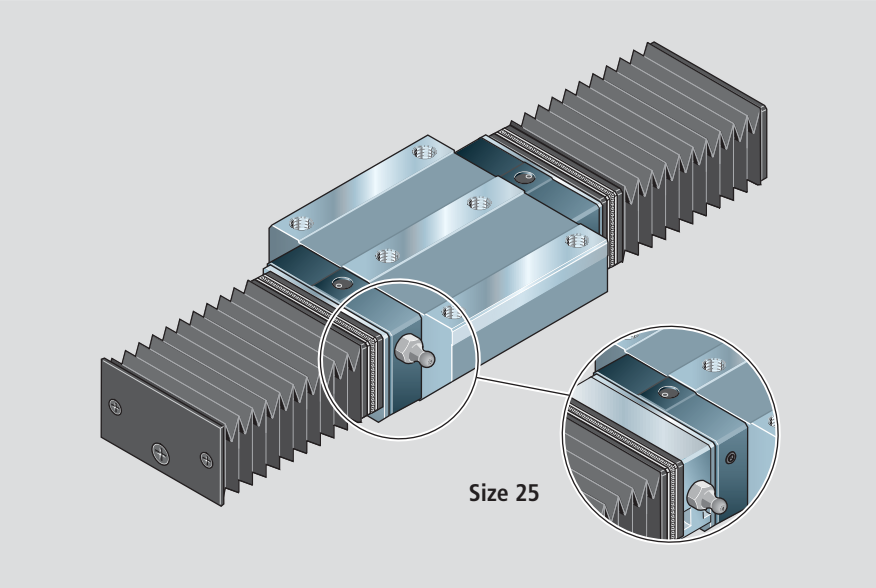
The runner block lube nipple can be used.

Heat resistant bellows

– Material: Nomex fabric, metallized on both sides
– Non combustible, non flammable
– Resistant to sparks, welding splashes and hot chips
– Temperature resistance:
  Peak temperatures of up to 200°C near the protective metal coat possible.
  Operating temperature for the entire bellows: 100°C

Available in sizes 25, 35, 45, 55.

The runner block lube nipple can be used.



Part numbers, protective bellows

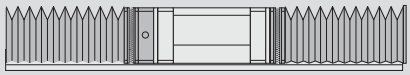
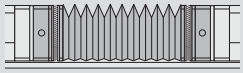
Ordering example, protective bellows

Size 35, Type 2,
Number of folds: 36
1820-3**0**2-00, 36 folds

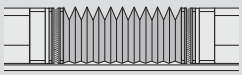
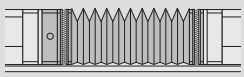
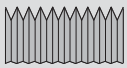
Part numbers, heat resistant bellows

Ordering example, heat resistant bellows

Size 35, Type 2,
Number of folds: 36
1820-3**5**2-00, 36 folds

Size	Type 1		Type 2		Type 3	
	With lubrication plate and end plate	Number of folds	With mounting frame and end plate	Number of folds	With 2 lubrication plates	Number of folds
25	1820-201-00	...	1820-202-00	...	1820-203-00	...
35	–	...	1820-302-00	...	–	...
45	–	...	1820-402-00	...	–	...
55	–	...	1820-502-00	...	–	...
65	–	...	1820-602-00	...	–	..
25	1820-251-00	...	1820-252-00	...	1820-253-00	...
35	–	...	1820-352-00	...	–	...
45	–	...	1820-452-00	...	–	...
55	–	...	1820-552-00	...	–	...

Size	Type 4		Type 5		Type 9	
	With 2 mounting frames	Number of folds	With lubrication plate and mounting frame	Number of folds	Bellows (spare part)	Number of folds
25	1820-204-00	...	1820-205-00	...	1600-209-00	...
35	1820-304-00	...	–	...	1600-309-00	...
45	1820-404-00	...	–	...	1600-409-00	...
55	1820-504-00	...	–	...	1600-509-00	...
65	1820-604-00	...	–	...	1600-609-00	...
25	1820-254-00	...	1820-255-00	...	1600-259-00	...
35	1820-354-00	...	–	...	1600-359-00	...
45	1820-454-00	...	–	...	1600-459-00	...
55	1820-554-00	...	–	...	1600-559-00	...

Accessories for Standard Runner Blocks

Mounting instructions

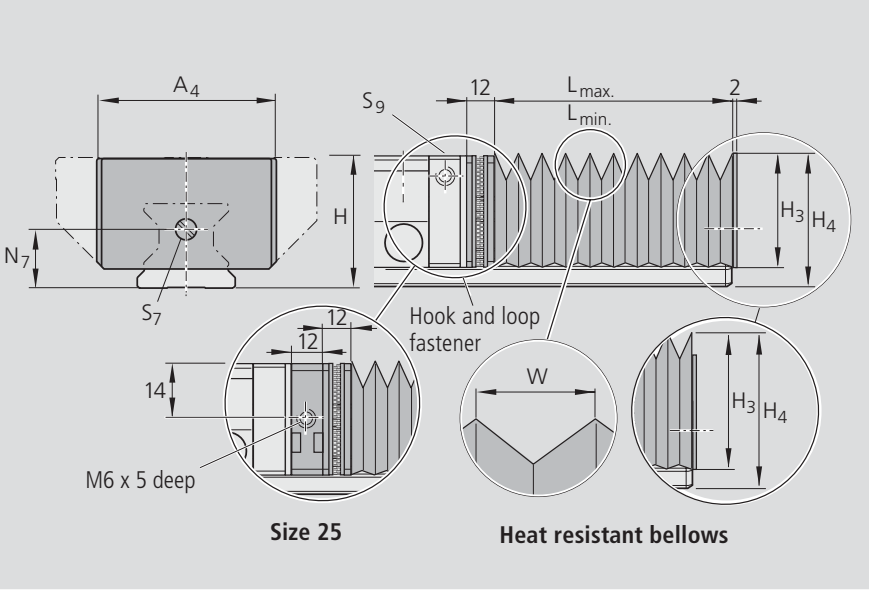
The bellows are delivered preassembled, complete with mounting screws.

In types 1 and 2, a tapped hole size M4, 10 mm deep and countersunk 2 x 45°, must be drilled into each end face of the rail.

Sizes 25 - 65:

The runner block lube nipple can be used.

See "Mounting Instructions, Bellows" for mounting.



Dimensions, bellows

	Dimensions (mm)								Factor
Size	A_4	H	H_3	H_4	N_7	S_7	S_9	W	U
25	45	36	28.5	35.0	15	M4	–	12.9	1.32
35	64	48	39.0	47.0	22	M4	M6	19.9	1.18
45	83	60	49.0	59.0	30	M4	M6	26.9	1.13
55	96	70	56.0	69.0	30	M4	M6	29.9	1.12
65	120	90	75.0	89.0	40	M4	M8x1	40.4	1.08

Dimensions, heat resistant bellows

	Dimensions (mm)								Factor
Size	A_4	H	H_3	H_4	N_7	S_7	S_9	W	U
25	62	36	39.0	44.5	15	M4	–	25.9	1.25
35	74	48	46.0	54.0	22	M4	M6	29.9	1.21
45	88	60	54.0	64.0	30	M4	M6	32.9	1.18
55	102	70	62.0	75.0	30	M4	M6	37.9	1.16

Bellows calculation

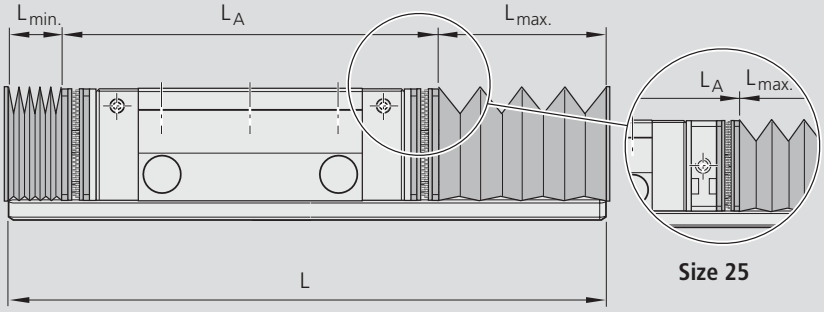
$$L_{max} = (Stroke + 30) \cdot U$$

$$L_{min} = L_{max} - Stroke$$

$$Number\ of\ folds = \frac{L_{max}}{W} + 2$$

L_{max} = bellows extended
L_{min} = bellows compressed
Stroke = stroke (mm)
U = calculation factor
W = maximum extension (mm)

Rail length calculation



$$L = L_{min} + L_{max} + L_A$$

L = rail length (mm)

Rexroth Roller Rail Systems
Accessories for Standard Runner Blocks

a) Mounting the bellows to the runner block (types 2 and 4), including mounting at the rail end (types 2 and 1)

Type 2 and type 1 only:
- Before mounting the bellows, drill and tap a hole in the end face of the guide rail (5), see dimensions N_7 and S_7 in the table and diagram alongside "Mounting instructions" on the previous page.

Types 2 and 4:
- If there is a lube nipple in the front lube hole (1), remove it and screw it into a lateral lube hole (relubrication side) (3).
- Use a set screw (2) to plug the open lube hole.
- Remove the upper mounting screws from the scraper plate.
- Screw the mounting frame with hook and loop fastener (4) to the runner block using the screws supplied along with the bellows.
- Push on the bellows.

Type 2 and type 1 only:
- Once the bellows are installed, screw them tight to the end of the rail (5).

For all types:

Hook and loop fastener for the mounting frame (4)

- Position the bellows at one side.
- Make sure the fastener is properly aligned!
- Press on firmly!

Disconnecting the hook and loop fastener:
- Use a flat tool.
- Start at one side (preferably a corner) and carefully lever the two halves apart.

⚠ Be careful not to shear off the hook and loop fastener!

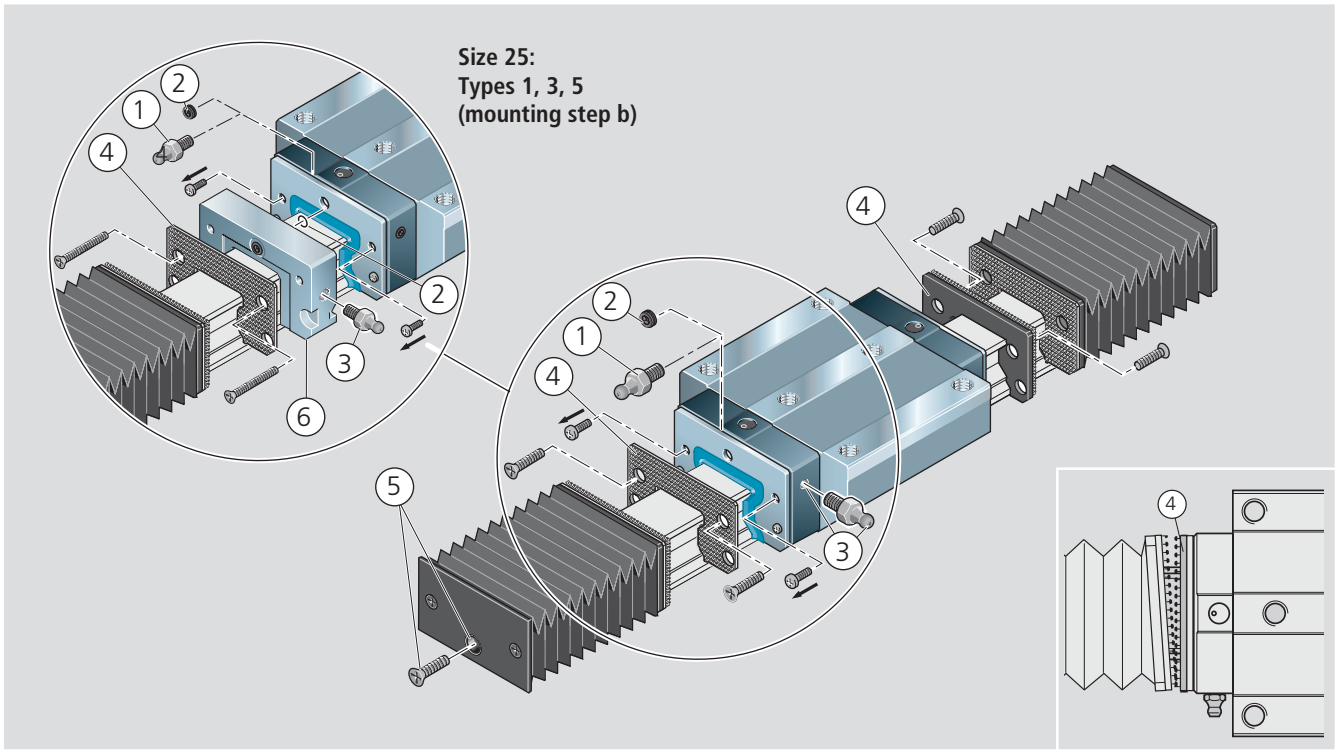
b) Size 25 only:
Mounting the lubrication plate and the bellows

(type 1, type 3 and type 5)

In size 25, the lube port is hidden by the bellows. Consequently, a lube plate has to be fitted to at least one side of a runner block for in-service lubrication. The lube plate can be turned round, thus allowing lubrication from the preferred side.

- Remove the lube nipple (1) or set screw (2) from the runner block (relubrication side).
- Screw the lube nipple (3) into the side of the lube plate (6).
- Insert the O-ring (7) into the recess.
- Screw the lube plate (6) and the mounting frame (4) to the runner block.
- Plug unused lube hole with set screw.

⚠ Set screws must lie flush with the outer surface of the lube plate.

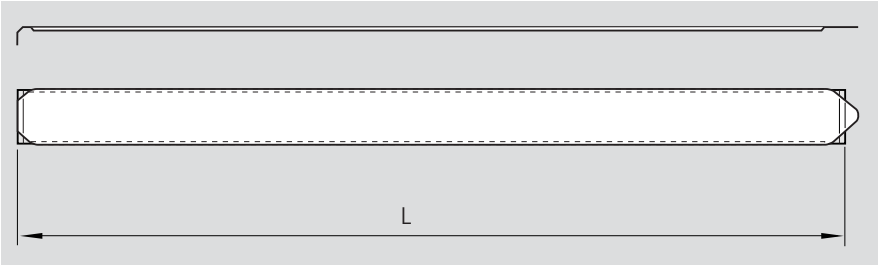


Accessories for Guide Rails

Cover strip, separate

(for initial mounting / as spare part / as replacement part)

A matching cover strip (sliding or snap fit) can be supplied for each rail length.



Ordering a standard snap-fit cover strip

Ordering example:

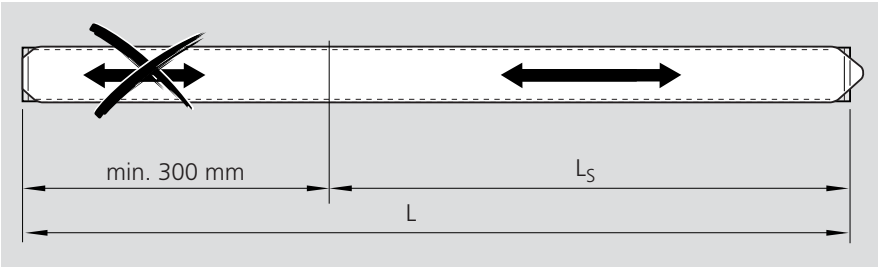
Guide rail size 35
Rail length L = 2696 mm

Ordering data:

Part number, length L (mm)

1619-330-20, 2696 mm

Size	Standard cover strips Part numbers, length (mm)
25	1619-230-00, ...
35	1619-330-20, ...
45	1619-430-20, ...
55	1619-530-20, ...
65	1619-630-20, ...
55/85	1810-532-20, ...
65/100	1810-632-20, ...
125	1810-331-20, ...



L_S = sliding fit length
L = rail length

Ordering a sliding-fit cover strip

Ordering example:

Guide rail size 35
Rail length L = 2696 mm
Sliding fit length L_S = 1200 mm

Ordering data:

Part number, length L (mm)
Sliding fit length L_S (mm)

1619-330-30, 2696, 1200 mm

Size	Cover strips with sliding fit Part numbers, length (mm)
25	1619-230-10, ...
35	1619-330-30, ...
45	1619-430-30, ...
55	1619-530-30, ...
65	1619-630-30, ...
55/85	1810-532-30, ...
65/100	1810-632-30, ...
125	1810-331-30, ...

Detailed information about how to order and mount cover strips is contained in our "Mounting Instructions for the Cover Strip" RDEFI 82 070.

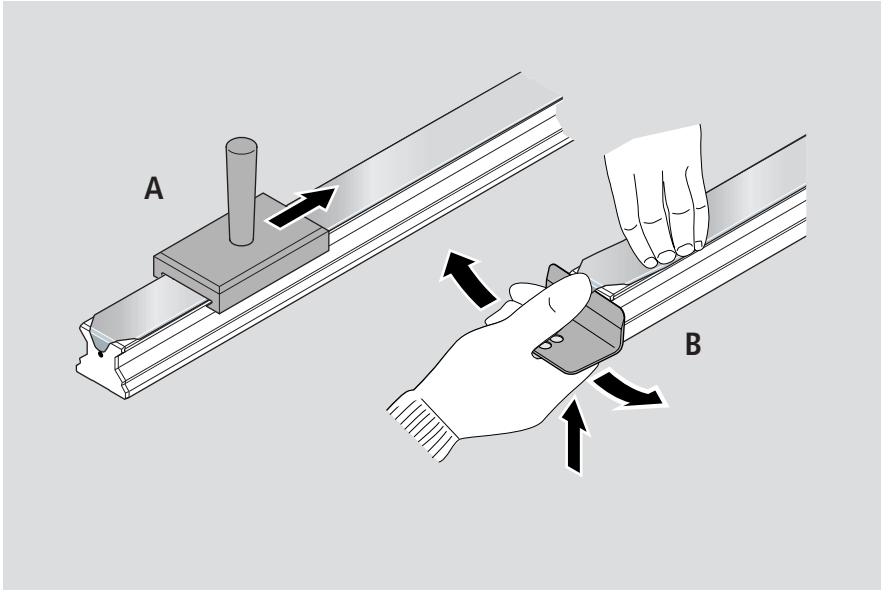
Rexroth Roller Rail Systems
Accessories for Guide Rails

Cover strip mounting kit

The kit comprises a mounting tool (A) for clipping on the cover strip and a lift-off plate (B) for removing the cover strip.

Size	Part numbers Mounting tool + lift-off plate
25	1619-210-70
35	1619-310-50
45	1619-410-50
55	1619-510-50
65	1619-610-50
55/85	1810-592-53
65/100	1810-692-53
125	1810-391-53

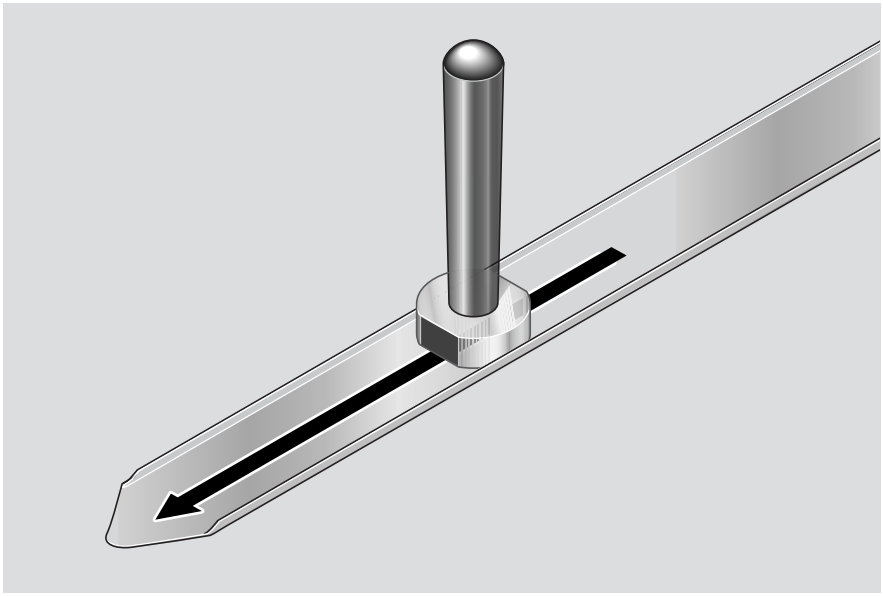
Detailed information is contained in our "Mounting Instructions for the Cover Strip" RDEFI 82 070.



Expanding tool for creating a sliding fit in the cover strip

Detailed information about how to produce and mount sliding-fit cover strips is contained in our "Mounting Instructions for the Cover Strip" RDEFI 82 070.

Size	Part numbers Expanding tool
25	1619-215-10
35	1619-315-30
45	1619-415-30
55	1619-515-30
65	1619-615-30
55/85	1810-592-30
65/100	1810-692-30
125	1810-391-30



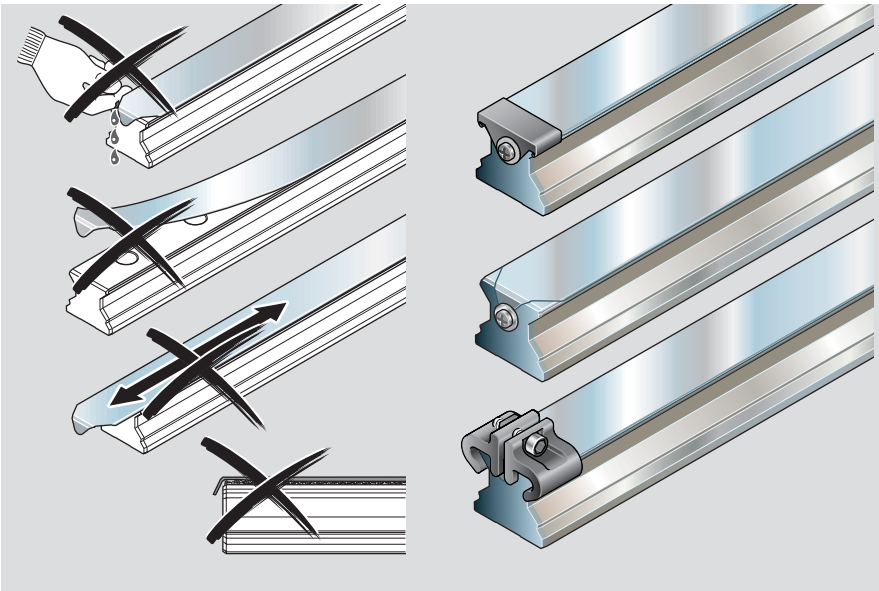
Accessories for Guide Rails

Protective caps, strip clamp

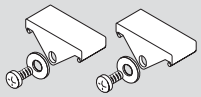
Rexroth recommends securing the cover strip with:

– protective caps
– screw and washer
– strip clamp (new)

– For other means of securing the cover strip, see our "Mounting Instructions for the Cover Strip" RDEFI 82 070.



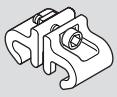
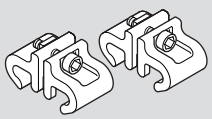
Part numbers for protective caps

Size	Part numbers Protective caps			
				
	Single cap	Bulk pack	/qty	Set with screws
25	1619-239-00	1619-239-01	/1000	1619-239-20
35	1619-339-10	1619-339-01	/1000	1619-339-30
45	1619-439-00	1619-439-01	/ 700	1619-439-20
55	1619-539-00	1619-539-01	/ 500	1619-539-20
65	1619-639-00	1619-639-01	/ 300	1619-639-20

Part numbers for screws and washers

Size	Part numbers	
	Screw	Washer
		
	1200 screws	1200 washers
25	8427-046-05	8448-026-01
35	8427-046-05	8448-024-01
45	8427-046-05	8448-024-01
55	8427-046-05	8448-027-01
65	8427-046-05	8448-027-01
55/85	8427-046-05	8448-027-01
65/100	8427-046-05	8448-027-01
125	8427-046-05	8448-027-01

Part numbers for the strip clamp

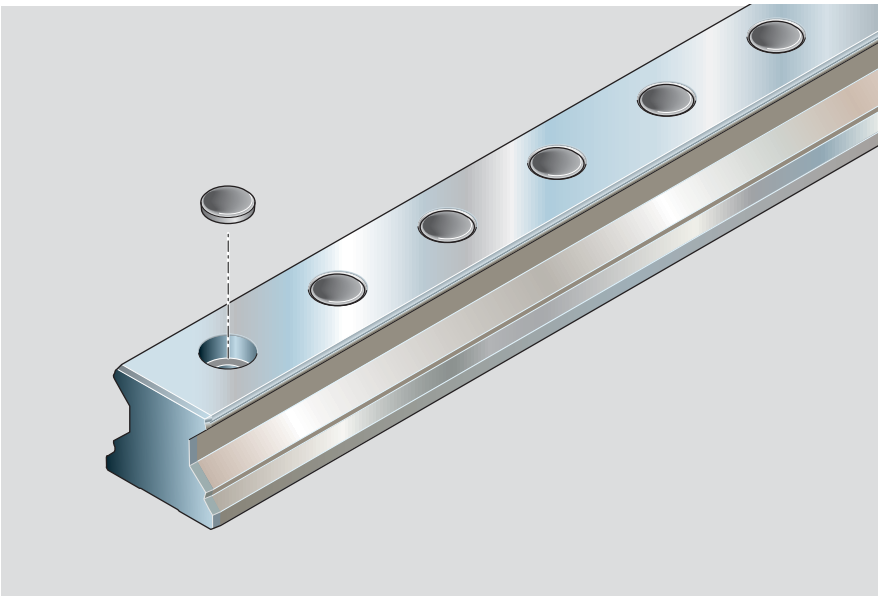
Size	Part numbers Strip clamp	
		
	Bulk pack, 100 clamps	Set (2 clamps)
25	1619-239-60	1619-239-50
35	1619-339-60	1619-339-50
45	1619-439-60	1619-439-50
55	1619-539-60	1619-539-50
65	1619-639-60	1619-639-50

Rexroth Roller Rail Systems
Accessories for Guide Rails

Plastic mounting hole plugs

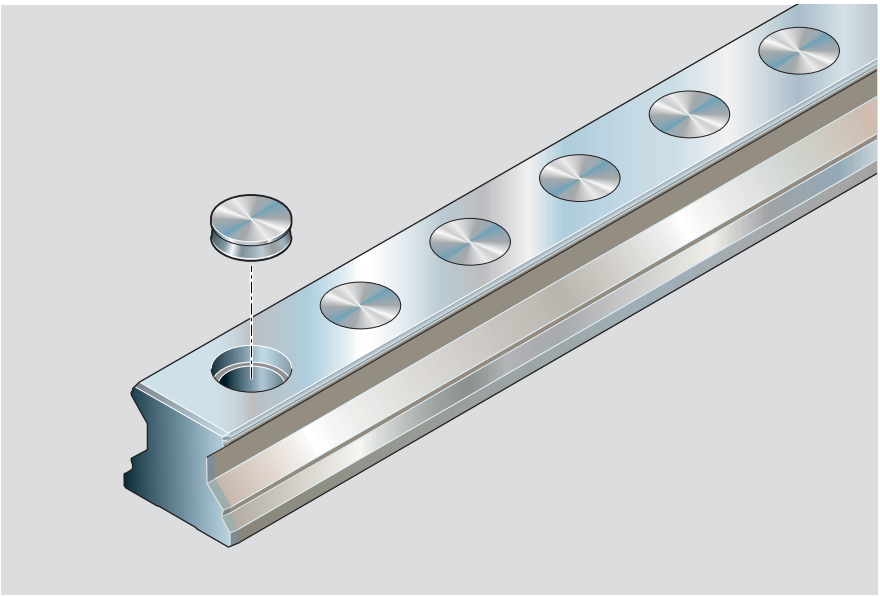
Size	Part numbers Plastic mounting hole plugs Single plug	Bulk pack qty[1)]
25	1605-200-80	5000
35	1605-300-80	2000
45	1605-400-90	1000
55	1605-500-90	500
65	1605-600-90	–

1) When ordering bulk packs, add the required quantity to the part number of the single plug.



Steel mounting hole plugs

Size	Part numbers Steel mounting hole plugs Single plug
25	1606-200-75
35	1606-300-75
45	1606-400-75
55	1606-500-75
65	1606-600-75



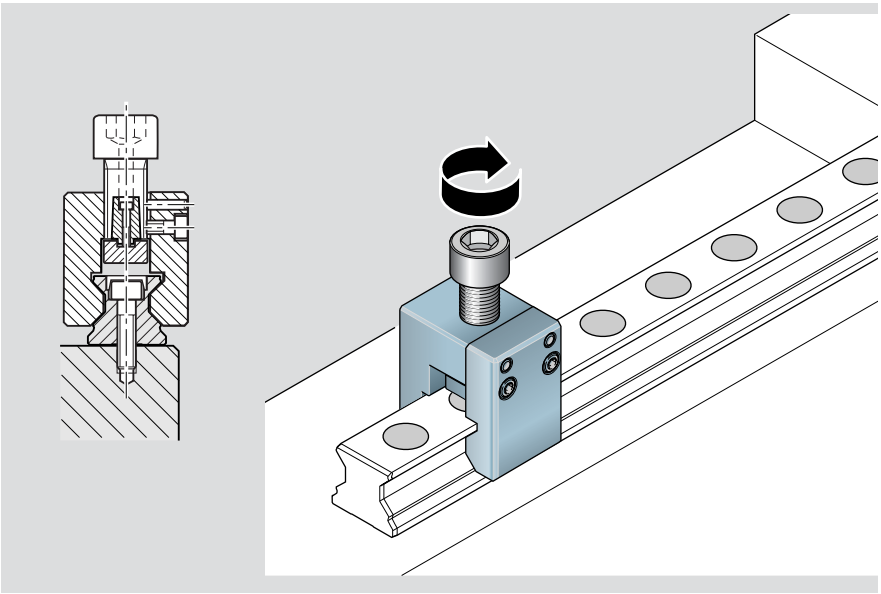
Mounting tool for steel mounting hole plugs

two-piece

A mounting tool with mounting instructions is available for fitting steel mounting hole plugs.

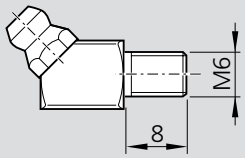
Size	Part numbers Two-piece mounting tool
25	1619-210-20[1)]
35	1619-310-30
45	1619-410-30
55	1619-510-30
65	1619-610-30

1) One-piece tool, two-piece tool on request

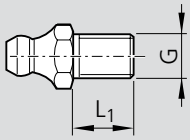


General Accessories – Runner Blocks

Tapered lube nipple



Part number
8417-007-02

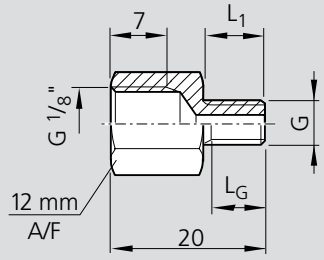


(included in the supply scope)

Part numbers	Dimensions (mm)	
	G	L_1
8417-008-02	M6	8.0
8417-014-02	M8	10.0

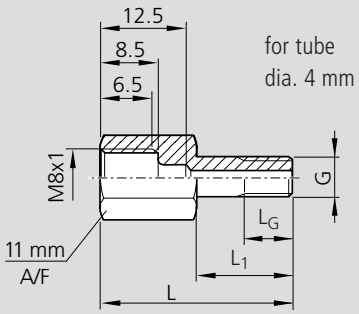
Lube fittings

Reducers

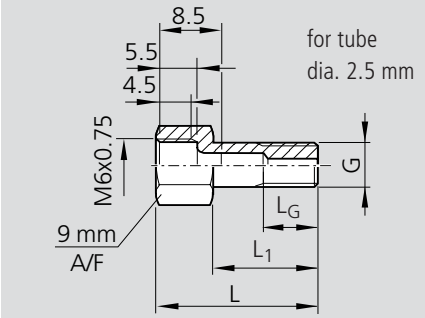


Part numbers	Dimensions (mm)		
	G	L_1	L_G
8455-030-34	M6	8.0	6.5
8455-030-51	M8	8.0	6.5

Connectors

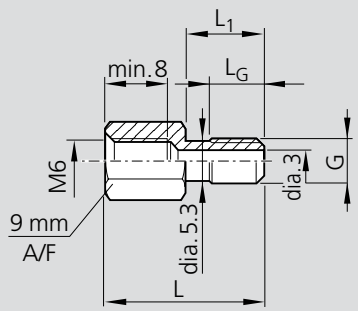


Part numbers	Dimensions (mm)			
	L	L_1	G	L_G
8455-030-37	22.0	8.0	M6	6.5
8455-030-79	23.8	9.8	M6	7.5
8455-030-88	28.5	14.5	M6	8.0
8455-030-52	30.0	16.0	M6	8.0



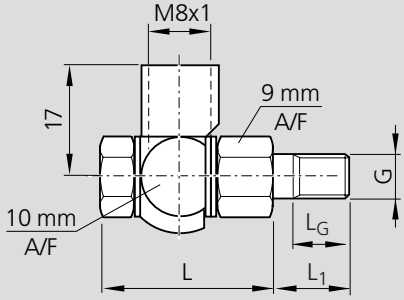
Part numbers	Dimensions (mm)			
	L	L_1	G	L_G
8455-030-38	15.5	8.0	M6	6.5
8455-030-92	17.3	9.8	M6	7.5
8455-030-90	20.0	12.5	M6	8.0
8455-030-50	22.0	14.5	M6	8.0
8455-030-89	24.0	16.5	M6	8.0

Extension pieces



Part numbers	Dimensions (mm)			
	L	L_1	G	L_G
8455-030-69	21.0	10.5	M6	7.0
8455-030-87	25.0	14.5	M6	8.0
8455-030-85	26.5	16.0	M6	7.0

Swivel fittings

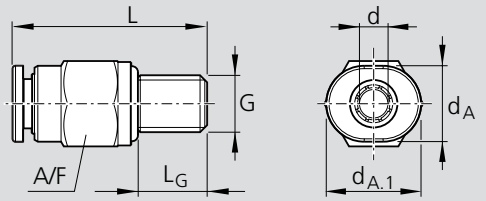


Part numbers	Dimensions (mm)			
	L	L_1	G	L_G
8417-018-09	22	8.0	M6	6.5
8417-045-09	22	9.8	M6	7.5
8417-044-09	22	12.5	M6	8.0
8417-023-09	22	14.5	M6	8.0
8417-043-09	22	16.5	M6	8.0

Rexroth Roller Rail Systems
General Accessories – Runner Blocks

Tube connectors
Tube materials: copper, brass, PU, nylon

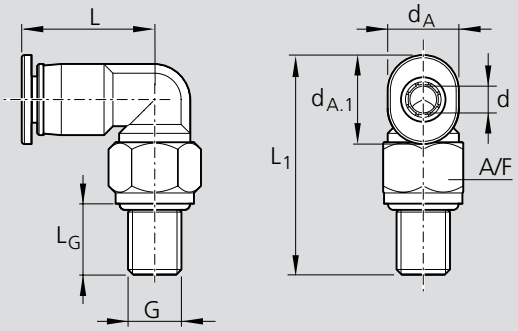
Straight connector



Part numbers	Dimensions (mm)						
	d_A	$d_{A.1}$	d[1)]	L	A/F	G	L_G
8417-035-09	8	10	4	20.5	9	M6x1	8.0
8417-036-09	10	12	6	21.3	10	M6x1	8.0

1) Tube diameter

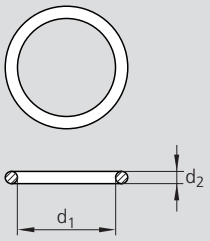
Angled socket connector, rotatable



Part numbers	Dimensions (mm)							
	d_A	$d_{A.1}$	d[1)]	L	L_1	A/F	G	L_G
8417-038-09	8	10	4	14.95	24.7	9	M6x1	8.0
8417-039-09	10	12	6	15.90	24.9	9	M6x1	8.0

1) Tube diameter

O-rings



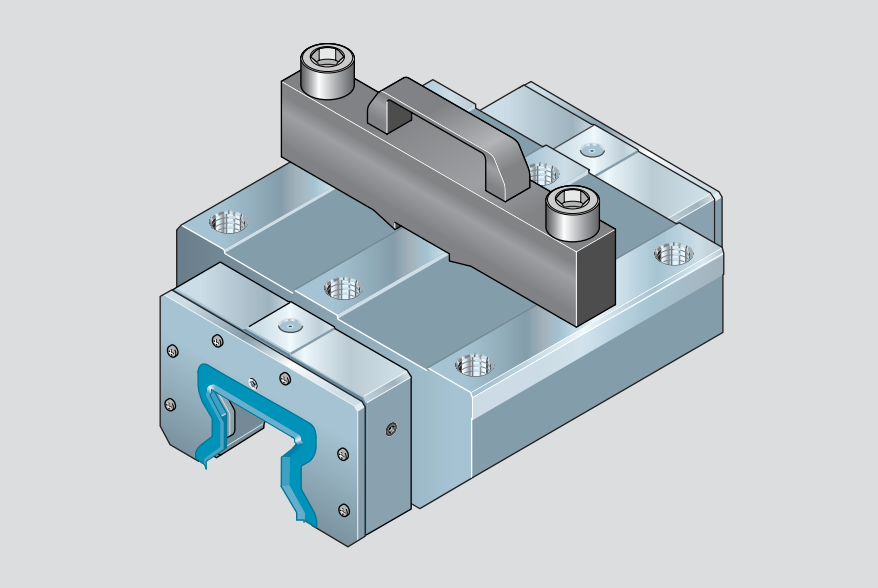
O-rings Part numbers	d_1 x d_2 (mm)
8411-128-01	4 x 1.5
8411-108-01	5 x 1.5
8411-136-01	6 x 1
8411-004-01	6 x 2
8411-122-01	7 x 1.5
8411-008-01	8 x 2
8411-135-01	10 x 1.5
8411-018-01	12 x 1.5
8411-145-01	15 x 2.5

General Accessories – Runner Blocks

Mounting handle

as mounting aid for heavy duty runner blocks

Part number 1869-340-09



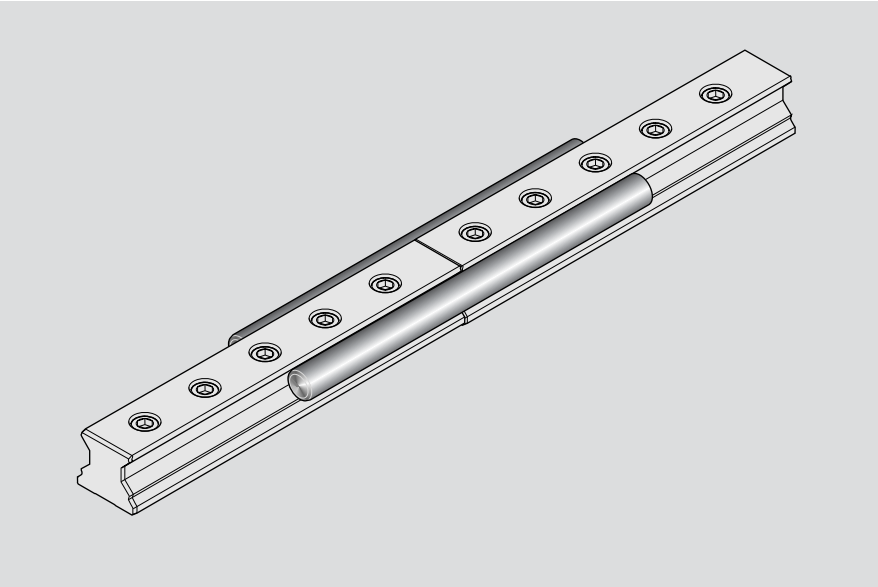
General Accessories – Guide Rails

Adjusting shafts

as mounting aid for composite guide rails

Especially when there is no reference edge.

Observe the Mounting Instructions for Roller Rail Systems.



Part numbers and dimensions

Always order two adjustment shafts for mounting.

Size	Part number Adjusting shaft (single)	Dimensions (mm) Shaft dia.	Length
25	–	–	–
35	1810-390-01	20	160
45	1810-490-01	25	200
55 and 55/85	1810-590-01	30	250
65 and 65/100	–	–	–
125	1810-391-01	80	600

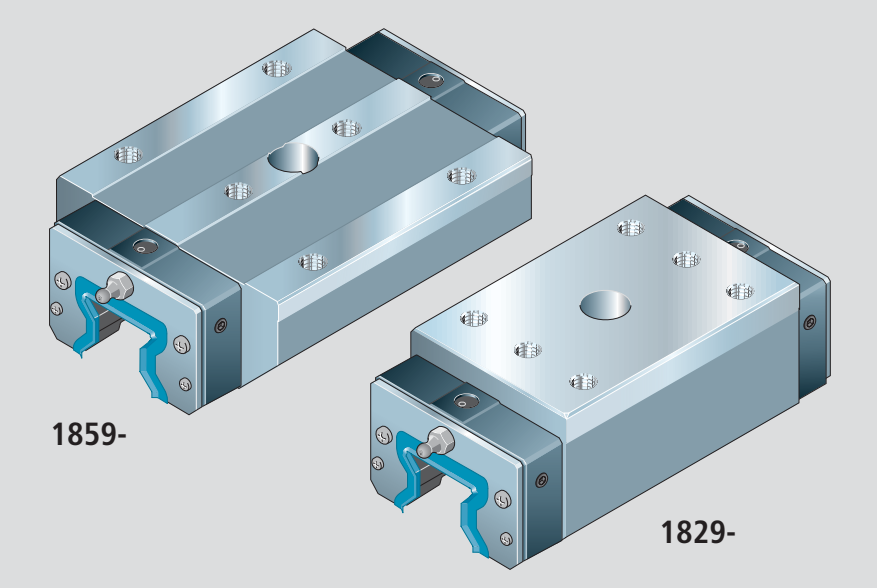
Rexroth Roller Rail Systems
General Accessories – Guide Rails

Mounting runner block

as mounting aid for parallel alignment of the guide rails

Note

Hole D serves both as key hole and screw hole.



Mounting runner block, standard width

Size	Part numbers, mounting runner block, standard width, long Preload 0.13 C
25	1859-220-19
35	1859-320-46
45	1859-420-76
55	1859-520-43
65	1859-620-29

Mounting runner block, slimline

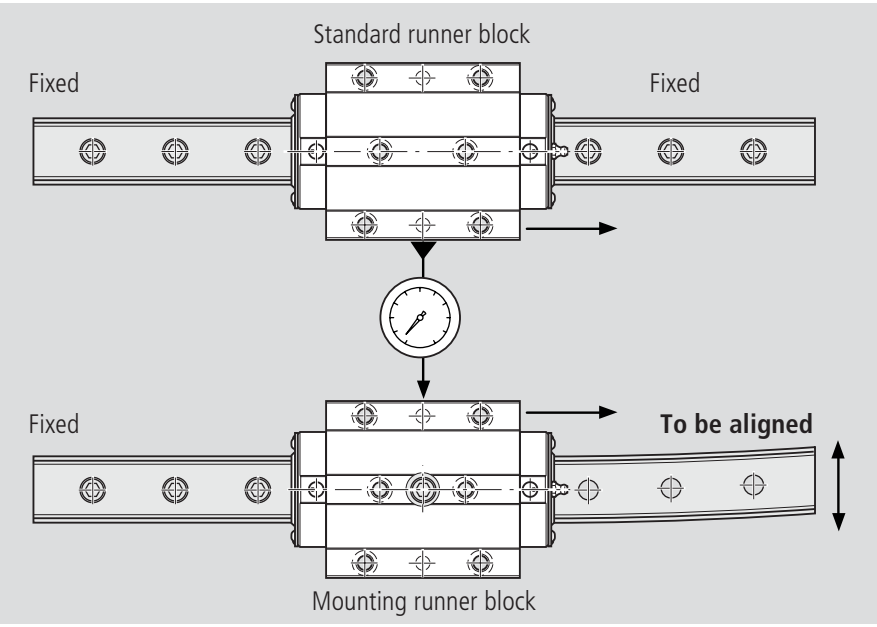
Size	Part numbers, mounting runner block, slimline, high, long Preload 0.13 C
25	1829-220-27
35	1829-320-39
45	1829-420-53
55	1829-520-14
65	1829-620-04

Mounting instructions

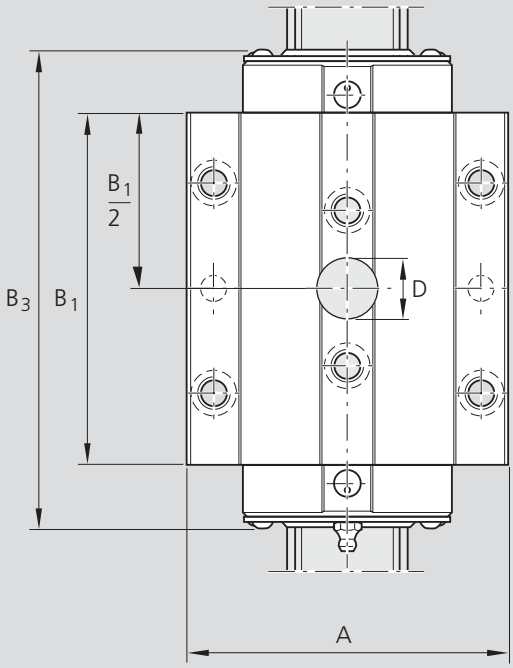
The central hole D in the mounting runner block allows precise measurement of the relative rail position. The rail mounting screws can also be driven down through this hole.

Aligning the rails:

- Align and mount the first rail using a graduated straightedge.
- Set up a mounting bridge with dial gauge between the runner blocks.
- Move both runner blocks in parallel until hole D in the mounting runner block is positioned precisely above a mounting hole.
- Align the guide rail manually until the dial gauge shows the correct dimension.
- Then screw down the rail through hole D in the mounting runner block.

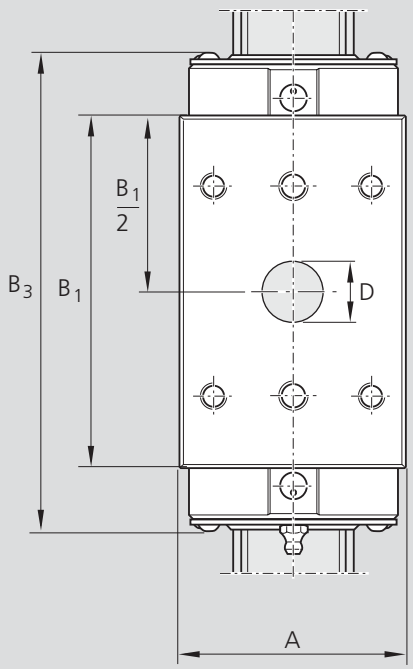


1859-



Size	Dimensions 1859- (mm)			
	A	B_1	B_3	D
25[1)]	70	81.5	115	19
35	100	103.6	145	25
45	120	134.0	183	27
55	140	162.1	216	27
65	170	194.0	264	30

1829-



Size	Dimensions 1829- (mm)			
	A	B_1	B_3	D
25[1)]	48	81.5	115	19
35[1)]	70	103.6	145	25
45	86	134.0	183	27
55	100	162.1	216	27
65	126	194.0	264	30

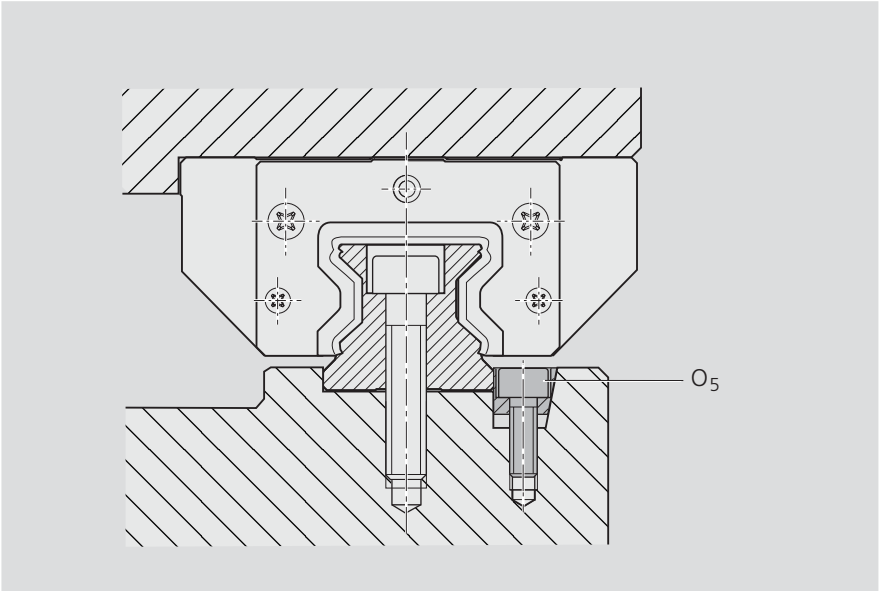
1) In preparation

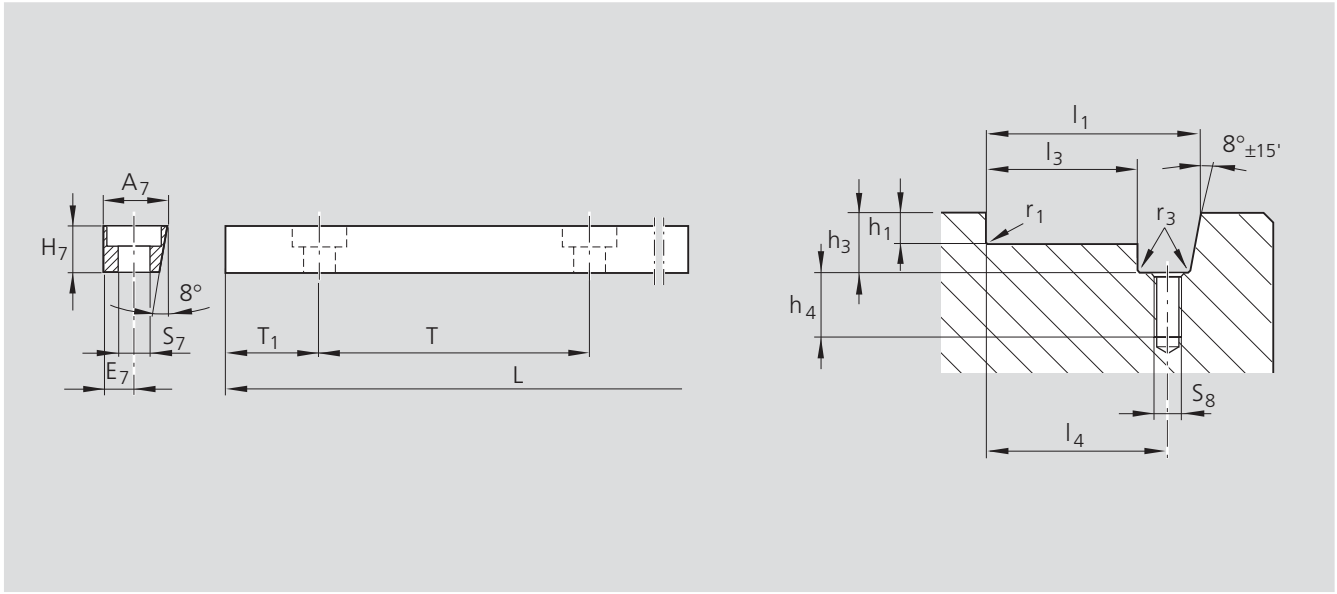
For all other dimensions, see runner block 1853- (corresponds to 1859-) or 1824- (corresponds to 1829-)

Rexroth Roller Rail Systems
General Accessories – Guide Rails

Wedge profile for lateral retention of the guide rails

– Material: steel
– Finish: black finished





Part numbers and dimensions

Size	Part numbers	Wedge profile Dimensions (mm)								Wedge profile groove Dimensions (mm)								
		A_7	E_7	H_7	S_7	T	T_1	L	O_5 DIN 6912	h_1 -0.2	h_3 +1	h_4 +2	l_1 ±0.05	l_3 -0.1 -0.2	l_4 ±0.1	S_8	r_1 max.	r_3 max.
25	1619-200-01	12	6	10	5.5	60	28.5	957	M5x20	4.5	12.5	15	35.1	23	29	M5	0.8	0.5
35										5.0	12.5	15	46.1	34	40	M5	0.8	0.5
45	1619-400-01	19	9	16	9.0	105	51.0	942	M8x25	7.0	19.0	16	64.1	45	54	M8	0.8	0.5
55										9.0	19.0	16	72.1	53	62	M8	1.2	0.5
65										9.0	19.0	16	82.1	63	72	M8	1.2	0.5
125	1810-391-02	47.5	23	30	17.5	120	57.0	954	M16x45	20.0	34.0	29	172.6	125	148	M16	1.8	1.0

Rexroth Roller Rail Systems
Spare Parts

End seal

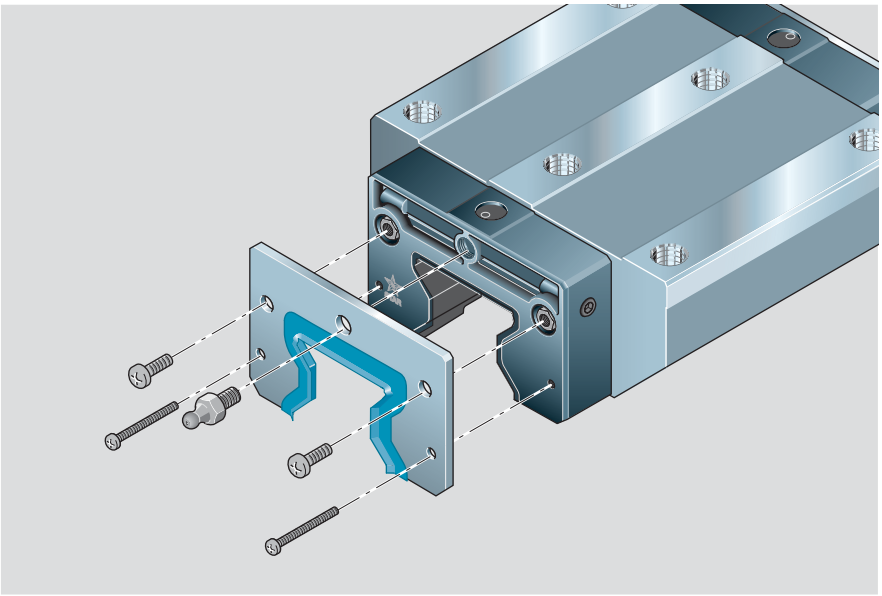
– Material: stainless spring steel to EN 10088 with plastic seal
– Finish: bright

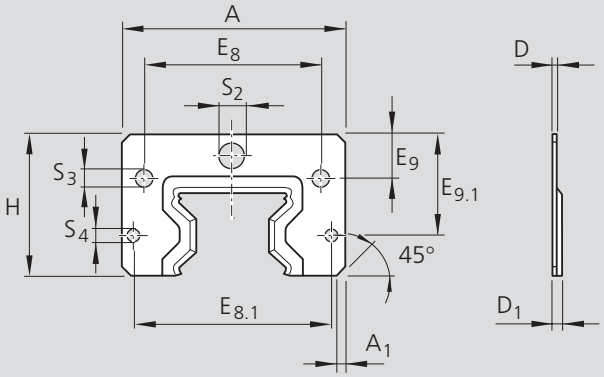
Mounting instructions:

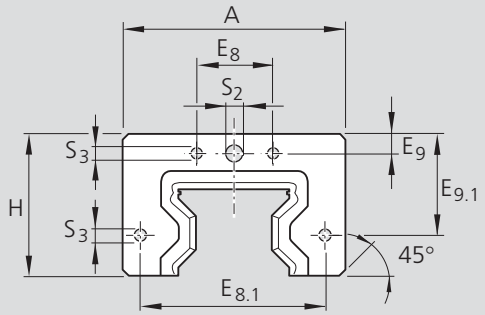
Comes complete with mounting screws. Dispose of the old screws.

Detailed information is contained in our "Mounting Instructions for Roller Rail Systems" RDEFI 82 370.

Only for replacement on new runner block, if front lube unit damaged during mounting.







Size 65

Part numbers and dimensions

Size	Kit Part numbers	Dimensions (mm) A	A_1	H	E_8	$E_{8.1}$	E_9	$E_{9.1}$	dia. S_2	dia. S_3	dia. S_4	D	D_1
25	1810-210-00	44.0	1.2	28.5	33.4	40.2	7.9	20.7	7	4	3	1	2.6
35	1810-310-00	63.0	2.0	39.8	50.3	56.6	12.4	28.4	7	4	3	1	2.6
45	1810-410-00	77.0	2.0	49.8	62.9	69.6	16.0	35.8	7	5	4	2	4.0
55	1810-510-00	90.5	2.0	56.2	74.2	81.6	18.2	40.0	7	6	4	2	4.8
65	1810-610-00	119.0	3.0	74.5	35.0	106.0	8.3	54.0	7	5	5	2	5.0

Rexroth Roller Rail Systems
Spare Parts

☞ For further information, see our "Mounting Instructions for Roller Rail Systems" RDEFI 82 370.

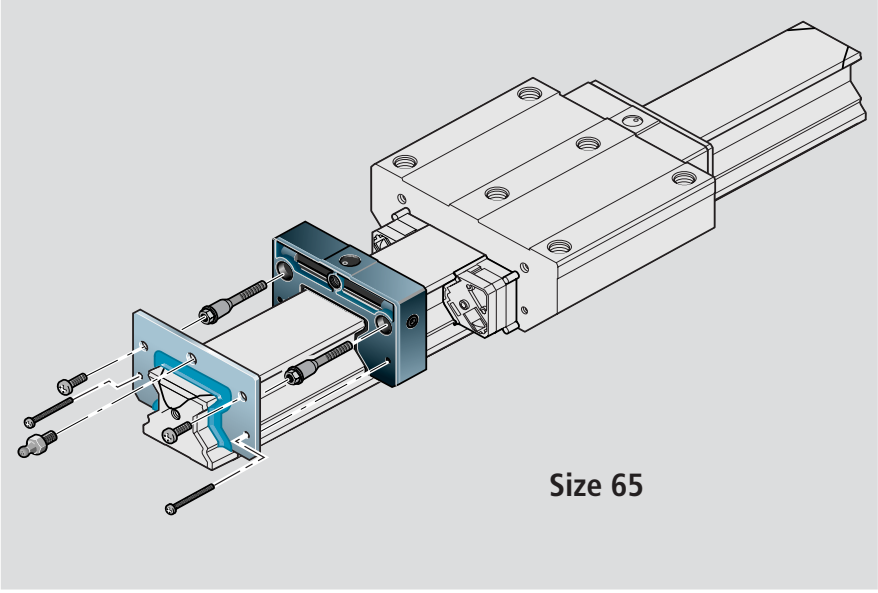
Set of end caps with end seals

for replacement as part of system servicing

Size	Part numbers Set
25	1810-290-10
35	1810-390-10
45	1810-490-10
55	1810-590-10
65	1810-690-10

Mounting instructions:

Comes complete with mounting screws. Dispose of the old screws.

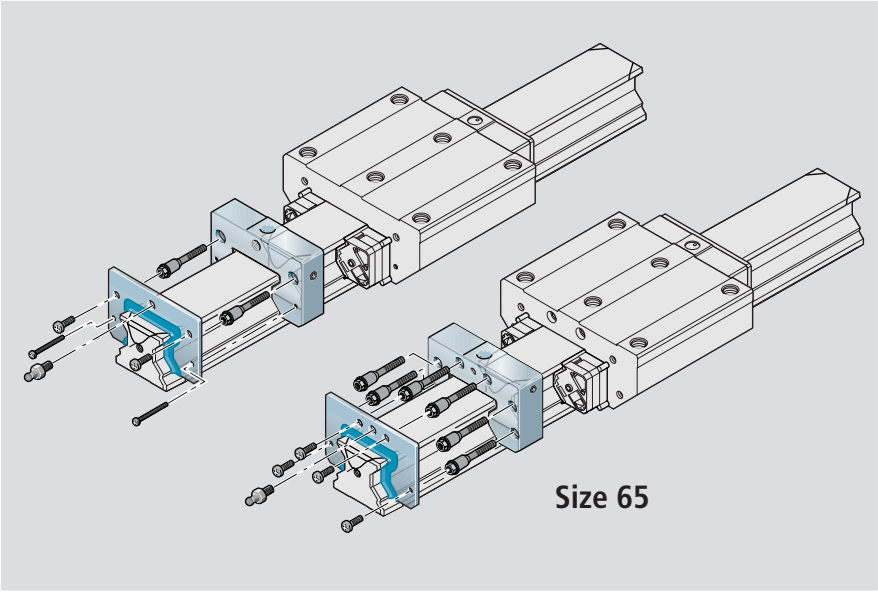


Set of aluminum end caps with end seals

Size	Part numbers Set
35	1810-390-60
45	1810-490-60
55	1810-590-60
65	1810-690-60
55/85	1810-592-60
65/100	1810-692-60
125	1810-391-60

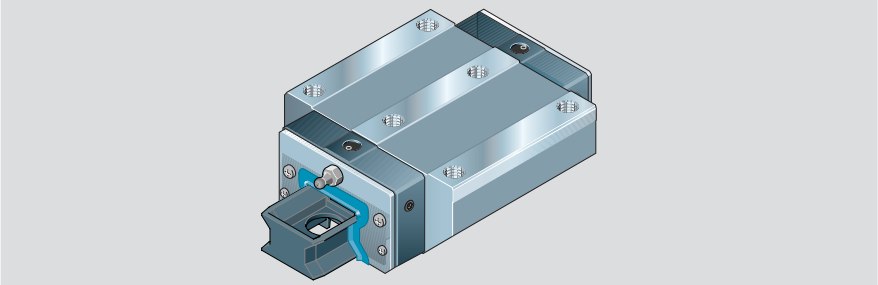
Mounting instructions:

Comes complete with mounting screws. Dispose of the old screws.



Transport and mounting arbor for runner blocks

– Material: plastic



Size	Transport and mounting arbor	
	standard length	long
25	1851-200-91	1853-200-91
35	1851-300-91	1853-300-91
45	1851-400-91	1853-400-91
55	1851-500-91	1853-500-91
65	1851-600-81	1853-600-91
55/85	–	1871-500-81
65/100	–	1871-600-81
125	1861-300-81	1863-300-81

Rexroth Roller Rail Systems
Lubrication

Lubrication

We have compiled a Lubrication Guide which provides basic know-how and criteria for the selection of lubricants.

Rexroth Roller Rail Systems are delivered filled with an anti-corrosion agent. Either oil or grease can be used as a lubricant.

Before start-up, make sure the system has sufficient initial lubrication.

Dry axes and axes with minimal use of coolants

Grease lubricants

Lubrication using a grease gun or a dispensing system:

We recommend using a grease type to DIN 51 825 classified as follows:

– KP 2 K (grease of NLGI class 2 to DIN 51 818),
– KP 1 K or KP 0 K with lubricating properties matching the application (base oil, thickening agent, etc.)

For high loads > 0.2 x C_{dyn}, we recommend a high quality grease lubricant (with synthetic base oil).

Lubrication via metering valves in a central lubrication system:

We recommend using liquid grease to DIN 51 825:

– Preferred type: KP 0 K (low-viscosity grease, consistency class NLGI 0 to DIN 51 818) with lubricating properties matching the application (base oil, thickening agent, etc.)
– KP 00 K or GP 00 K

Observe the instructions of grease and lubrication system manufacturers!

⚠ Do not use greases containing solid lubricant particles (e.g. graphite or MoS_2)!

Short stroke

Stroke < 2 runner block lengths:

- Provide 2 lube ports per runner block and lubricate these!

Stroke < 0.5 runner block length:

- Provide 2 lube ports per runner block and lubricate these!
- Move the runner block over twice its length per lubricating cycle. If this is not possible, consult Rexroth.

Lubricant quantities as per table 1 (in-service lubrication).
Apply the specified lubricant quantity per lube port.

Initial lubrication of runner blocks

Initial lubrication requires a total of three times the partial quantity given in table 1:

1. Carefully press the grease gun to apply the first partial quantity of lubricant as per table 1 to the runner block.
2. Slide runner block back and forth over at least three times the block length for three full cycles. For size 125, slide runner block back and forth for three full cycles of at least 300 mm.
3. Repeat steps 1. and 2. twice more.
4. Check whether a film of lubricant is visible on the guide rail.

In-service lubrication of runner blocks

- Once the in-service lubrication interval as given in table 2 is reached, apply the lubricant quantity as stated in table 1.

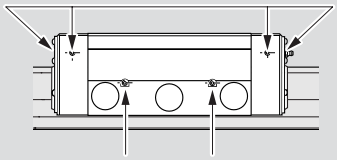
If the equipment is to operate in an environment subject to dirt or vibration and shock loads, etc., we recommend shortening the in-service lubrication interval.

The smaller the load, the longer the intervals between in-service lubrication will be.

Size	Grease lubrication	
	Initial lubrication Partial qty (cm^3)	In-service lubrication (cm^3)
25	0.8 (x 3)	0.8
35	0.9 (x 3)	0.9
45	1.0 (x 3)	1.0
55	1.4 (x 3)	1.4
65	2.7 (x 3)	2.7
55/85	1.8 (x 3)	1.8
65/100	3.2 (x 3)	3.2
125	See fig. at right	Please consult us

Table 1

Initial lubrication, size 125
At one end-face lube port:
25 cm^3 (3x)



And at all four lateral lube ports:
7.5 cm^3 each (3x)

Size	Lubricating with grease NLGI ≥ 1 In-service lubrication intervals under normal operating conditions and loads ≤ 0.15 C_{dyn}*	Lubricating with grease NLGI ≤ 0 In-service lubrication intervals under normal operating conditions and loads ≤ 0.15 C_{dyn}*
	Travel (km)	Travel (km)
25	800	600
35	500	375
45	250	190
55	150	115
65	100	75
55/85	150	115
65/100	100	75
125	30	20

Table 2

* For loads up to 0.3 x C_{dyn} the in-service lubrication interval reduces to a quarter of the specified travel.

Rexroth Roller Rail Systems
Lubrication

Oil lubricants

Notes

For normal operating conditions we recommend using a CLP oil to ISO VG 220 for both manual and central lubrication.

If the application involves low operating speeds or high loads (> 0.2 x C_{dyn}), we recommend using a synthetic oil lubricant with a viscosity of 220 to 460 mm^2/s.

Observe the instructions of the oil and lubrication system manufacturers!

Initial lubrication of runner blocks

Initial lubrication requires a total of twice the partial quantity given in table 3:

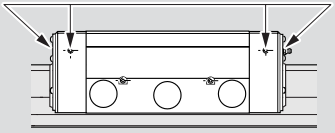
1. Apply the first partial quantity of lubricant as per table 3 to the runner block.
2. Slide runner block back and forth over at least twice the block length for three full cycles.
3. Repeat steps 1. and 2.
4. Check whether a film of lubricant is visible on the guide rail.

Size	Oil lubrication	
	Initial lubrication Partial qty (cm^3)	In-service lubrication (cm^3)
25	1.2 (2x)	1.2
35	1.3 (2x)	1.3
45	1.5 (2x)	1.5
55	2.0 (2x)	2.0
65	4.0 (2x)	4.0
55/85	2.7 (2x)	2.7
65/100	4.8 (2x)	4.8
125	38.0 (2x)	38.0

Table 3

Initial lubrication, size 125

At one end-face lube port:
38 cm^3 (2x)



In-service lubrication of runner blocks

- Once the in-service lubrication interval as given in table 4 is reached, apply the lubricant quantity as stated in table 3 in a single pulse.

The lubricant quantities for central oil lubrication via metering valves are given in tables 5, 6 and 7.

If the equipment is to operate in an environment subject to dirt, vibration, shock loads, etc., or where coolants are used, we recommend shortening the in-service lubrication interval.

The smaller the load, the longer the intervals between in-service lubrication will be.

Monitor the lubrication state during the initial cycles and adjust the in-service lubrication interval as required.

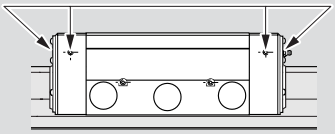
Size	In-service lubrication intervals under normal operating conditions and loads ≤ 0.15 C_{dyn}*
	Travel (km)
25	400
35	250
45	125
55	75
65	50
55/85	75
65/100	50
125	10

Table 4

* For loads up to 0.3 x C_{dyn} the in-service lubrication interval reduces to a quarter of the specified travel.

In-service lubrication, size 125

At one end-face lube port:
38 cm^3 (1x)



Stroke < 2 runner block lengths:
Observe instructions for short stroke.

Rexroth Roller Rail Systems
Lubrication

Normal stroke and short stroke

Normal stroke:
Stroke > 2 runner block lengths

- Provide 1 lube port per runner block.
- Orientations I, II and III: Apply oil quantity as per table 3 (in-service lubrication) in a **single** pulse.

If this is impossible for orientation III, please consult Rexroth.

Short stroke:
Stroke < 2 runner block lengths

- Provide 2 lube ports per runner block and lubricate both of these.
- Orientations III, IV and V: Apply oil quantity as per table 3 (in-service lubrication) in a **single** pulse.

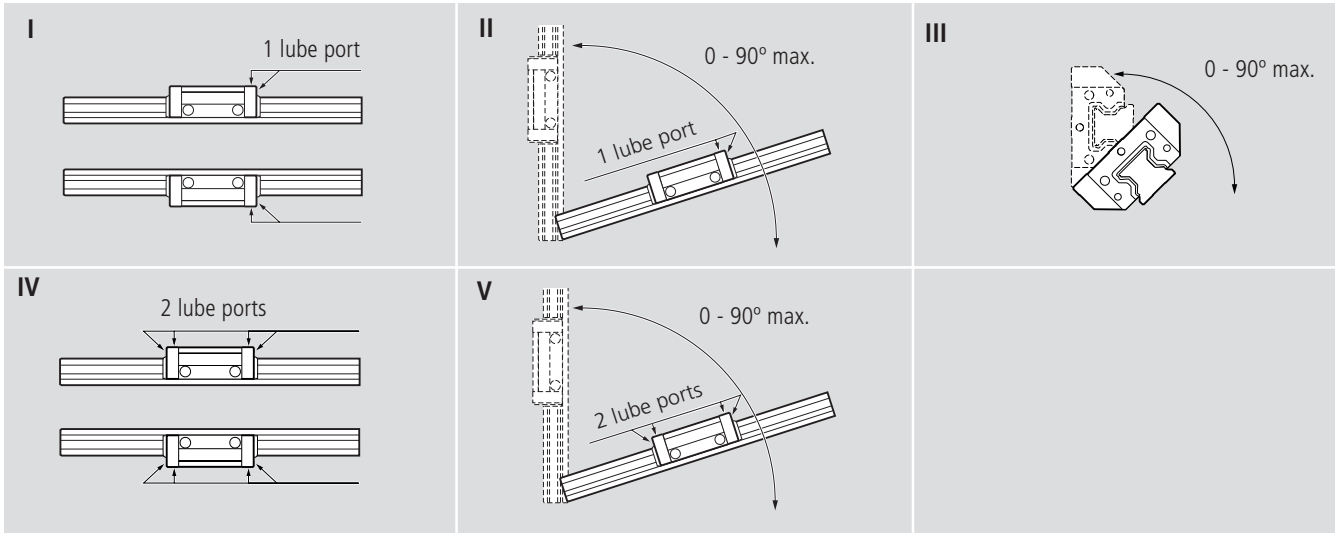
If this is impossible for orientation III, please consult Rexroth.

Stroke < 0.5 runner block length:

– See "Stroke < 2 runner block lengths" plus the following:
- Move the runner block over at least twice its length per lubricating cycle. If this is not possible, provide for lubrication of the guide rail.

– Grease lubrication is preferred for this application case.

Orientations



Central oil lubrication

Orientations I, II, IV, V

Notes

Lubrication mode 1 as per table 5:
in-service lubrication interval as per table 4

Lubrication mode 2 as per table 5:
- For initial lubrication or lubrication after a prolonged standstill, apply oil in 2 to 5 consecutive pulses.
- Wherever possible, lubricate with the runner block in motion.
- Carry out cleaning cycles. See "Maintenance" section.

Size	Lubrication mode	Oil quantity per pulse (cm³)	Pulses per lubrication cycle	Pulses per hour
25	1	0.6	2[1)]	–
	2	0.06	1	3 - 4[2)]
35	1	0.6	2[1)]	–
	2	0.1	1	3 - 4[2)]
45	1	0.6	3[1)]	–
	2	0.1	1	3 - 4[2)]
55	1	0.6	4[1)]	–
	2	0.16	1	3 - 4[2)]
65	1	0.6	7[1)]	–
	2	0.2	1	3 - 4[2)]

Table 5

[1)] Interval between pulses: 20 secs max.

[2)] Irrespective of travel

Special recommendation for runner blocks installed at an angle about the centerline, orientation III

Part numbers	Lubrication mode	Oil quantity per pulse and port (cm³)	Pulses per lubrication cycle	Pulses per hour
18..-3..-18	2	0.06	1	3 - 4[2)]
18..-4..-18	2	0.06	1	3 - 4[2)]
18..-5..-18	2	0.10	1	3 - 4[2)]

Table 6

Rexroth Roller Rail Systems
Lubrication

Wet axes with liberal use of coolants

Oil lubricants

Orientations I, II, IV, V

Notes

Lubrication mode 2 as per table 7:

- For initial lubrication or lubrication after a prolonged standstill, apply oil in 2 to 5 consecutive pulses.
- Wherever possible, lubricate with the runner block in motion.
- Carry out cleaning and lubrication cycles. See "Maintenance" section.

Size	Lubrication mode	Oil quantity per pulse (cm^3)	Pulses per lubrication cycle	Pulses per hour
25	2	0.06	1	4[1)]
35	2	0.10	1	4[1)]
45	2	0.16	1	4[1)]
55	2	0.20	1	4[1)]
65	2	0.20	1	4[1)]

Table 7

[1)] Irrespective of travel

Rexroth Roller Rail Systems
Maintenance

Cleaning cycle

Dirt can settle and encrust on guide rails, especially when these are not enclosed.

To ensure that seals and cover strips retain their functionality, this dirt must be removed at regular intervals.

It is advisable to run the machine through at least one full cleaning cycle over the entire installed rail length every 8 hours.

Depending on the amount of spoiling and on the coolant used, more frequent cleaning may be required.

Before shutting down the machine, always run two cleaning cycles over the entire installed rail length, followed by at least two lubrication cycles over the entire installed rail length.

Checking accessories

All accessories used for scraping or wiping the guide rails must be checked at regular intervals.

In environments with heavy soiling, it is advisable to replace all the parts in the soiled area.

We recommend checking the accessories at least once a year.

Rexroth Roller Rail Systems
Notes

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