

Standard Runner Blocks, Steel version

Product Description

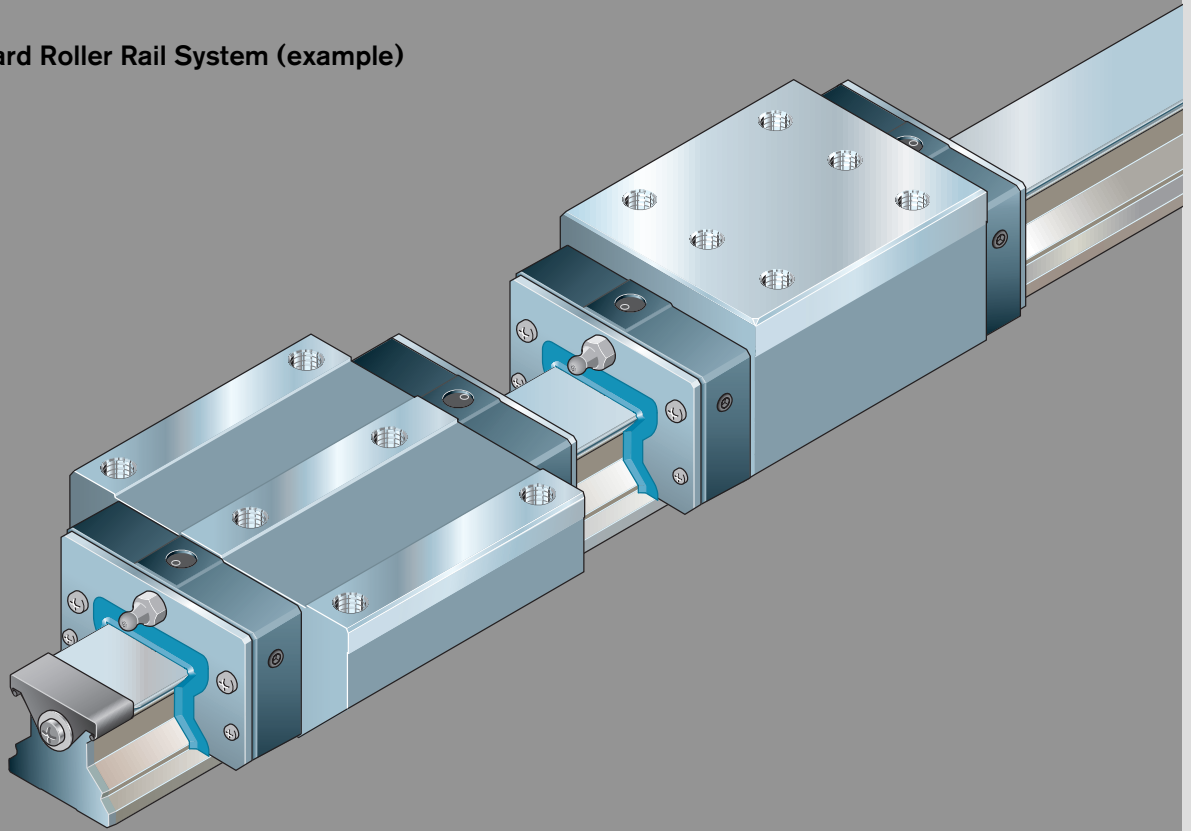
Outstanding features

- Standard runner blocks are suitable for all typical applications.
- Runner blocks can also be supplied for special conditions of installation and use and for special working environments.
- High torque capacity
- Same high load capacities in all four major planes of load application
- Highest rigidity in all load directions when additional mounting screws are used in two holes provided at the center of the runner block.
- Unrestricted interchangeability
- Unlimited combinability: any guide rail version can be paired with any runner block version.
- Accessories can be simply attached to the ends of the runner block.
- Mounting of attachments to runner block from above or below

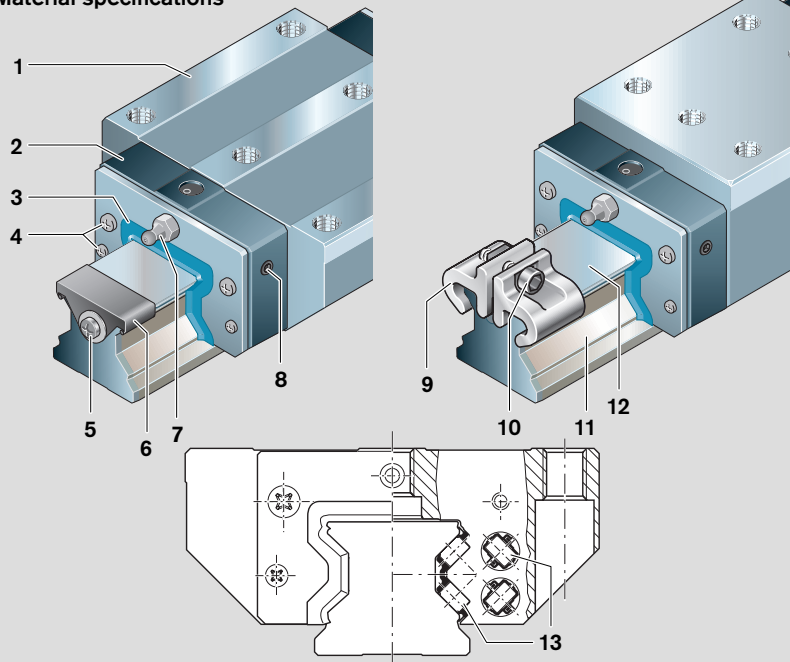
Further highlights

- Lube ports on all sides for maximum ease of maintenance
- Novel lube duct design minimizes lubricant consumption.
- Runner blocks made from antifriction bearing steel, with hardened and ground raceways
- Smooth running thanks to optimized roller recirculation and guidance
- Optimized entry-section geometry and high number of rollers per track minimizes variation in elastic deflection.
- The runner block simply slides off its arbor and onto the rail.
- End seals integrated as standard for better sealing of all running tracks and to protect plastic parts

Standard Roller Rail System (example)



Material specifications



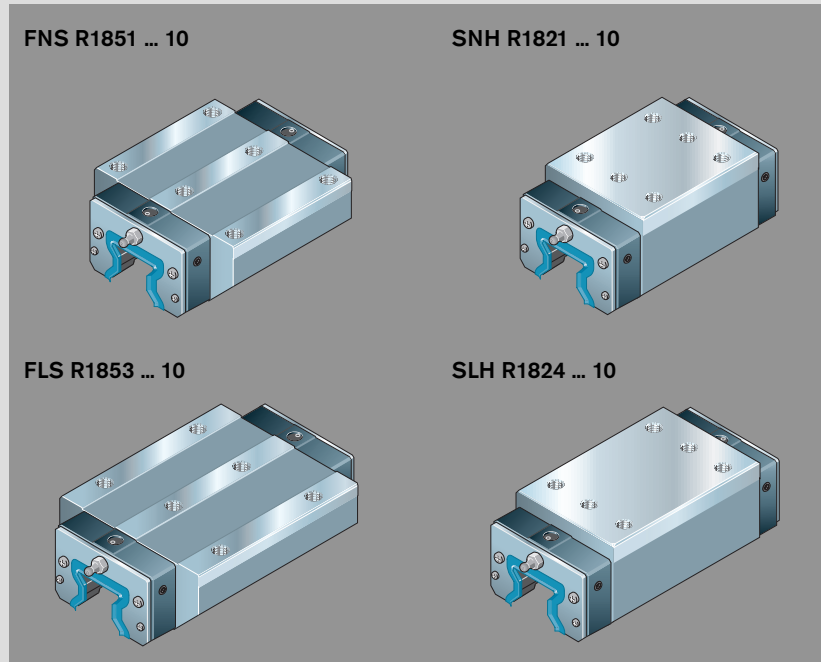
- 1 Runner block body: antifriction bearing steel
- 2 End cap: plastic (alternative: aluminum)
- 3 End seal: 1.4301 (corrosion-resistant spring steel to EN 10088) with polymer seal
- 4 Mounting screws: stainless steel A2
- 5 Screw: stainless steel A2
Washer: galvanized steel
- 6 Protective cap: plastic
- 7 Lube nipple: galvanized carbon steel
- 8 Screw plug: carbon steel (side lube hole)
- 9 Strip clamp: anodized aluminum
- 10 Clamping screw/nut: 1.4301
- 11 Guide rail: heat-treatable steel
- 12 Cover strip: 1.4301
- 13 Rollers: antifriction bearing steel

Standard Runner Blocks, Steel version

Product Description

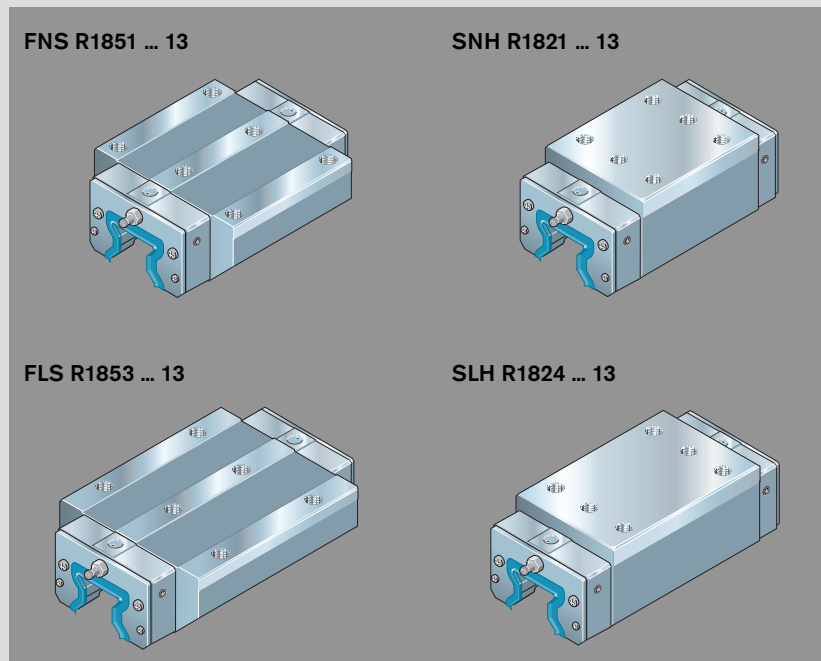
Runner blocks

Standard runner blocks are suitable for almost all applications.



Runner blocks with aluminum end caps

Special feature:
These runner blocks are recommended for especially demanding conditions of use.



Runner block short names

FNS = Flanged, normal, standard height
 FLS = Flanged, long, standard height
 SNH = Slimline, normal, high
 SLH = Slimline, long, high

Options

Corrosion-resistant runner blocks,
 Resist CR, matte silver hard chrome
 plated, see section on "Standard
 Runner Blocks, Resist CR".

Runner Blocks for oil and grease lubrication from above

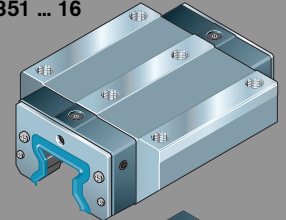
Special feature:

Runner blocks R18.. ... 16 have been prepared for oil and grease lubrication from above. In the high runner blocks S.H, the vertical clearance between the end caps and an attachment mounting surface with integrated lube adapters has been designed for ease of maintenance.

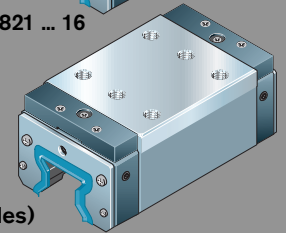
How to recognize them:

The top lube holes at both ends have already been opened, but they are closed with screws for shipment (O-rings for sealing the lube fittings are provided with the runner blocks).

FNS R1851 ... 16



SNH R1821 ... 16



(Examples)

Runner blocks (exclusively) for central oil lubrication via dosing

Special feature:

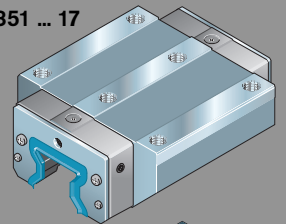
Runner blocks R18.. ... 17 have smaller lube ducts. They need only small quantities of lube oil even when wall-mounted and are therefore suitable for all mounting orientations.

How to recognize them:

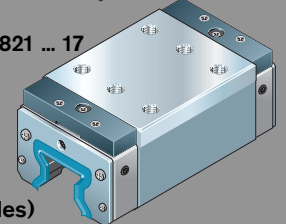
The end caps are gray. In the high runner blocks S.H, the vertical clearance between the end caps and an attachment mounting surface with integrated lube adapters has been designed for ease of maintenance.

The top lube holes at both ends have already been opened, but they are closed with screws for shipment (O-rings for sealing the lube fittings are provided with the runner blocks).

FNS R1851 ... 17



SNH R1821 ... 17



(Examples)

Runner blocks for wall mounting

Special feature:

Runner blocks R18.. ... 18 are especially suitable for wall mounting. For lubrication, both lube holes on the end face must be used – to ensure proper lubrication of the upper and lower raceways.

For short-stroke applications, lubricant must be applied to all (four) lube holes.

How to recognize them:

The runner blocks have two lube holes at each end face for oil lubrication.

Runner blocks size 65 (only)

Special feature:

The runner block FLS R1859 620 31 for wall mounting is available in size 65 (only) with accuracy class SP and preload class C3 (13% C).

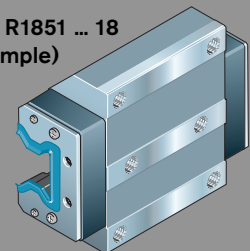
Lube fittings must be attached at both ends faces (a) or at both ends of the attachment mounting surface (b) – to ensure proper lubrication of the upper and lower raceways.
The side holes (c) cannot be used!

The dimensions, load capacities, rigidity and moment loads correspond to those of standard runner block FLS R1853 631 10.

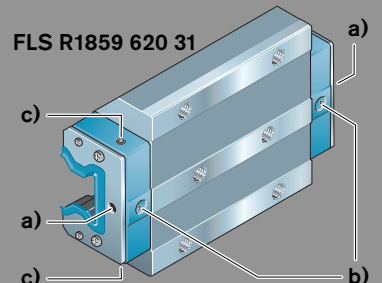
How to recognize them:

The end caps are blue.

FNS R1851 ... 18
(Example)



FLS R1859 620 31



Standard Runner Blocks, Steel version

Rigidity

Rigidity of the roller rail system at preload C2

Standard runner block FNS R1851

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

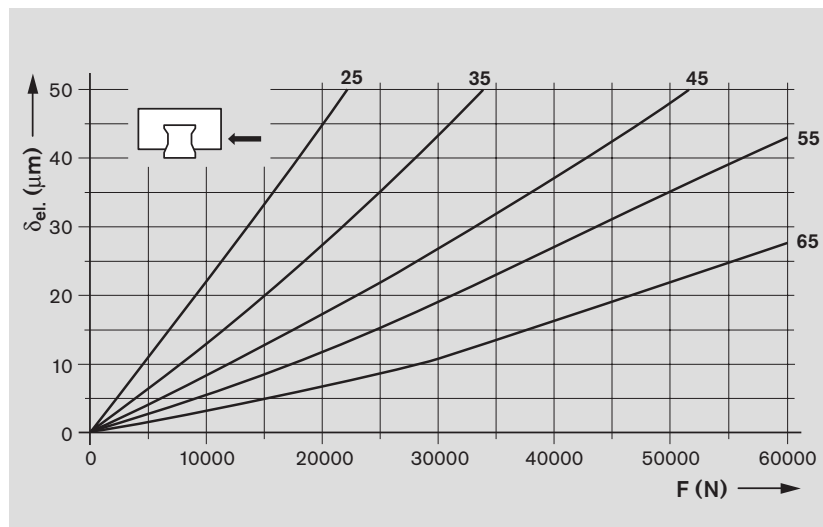
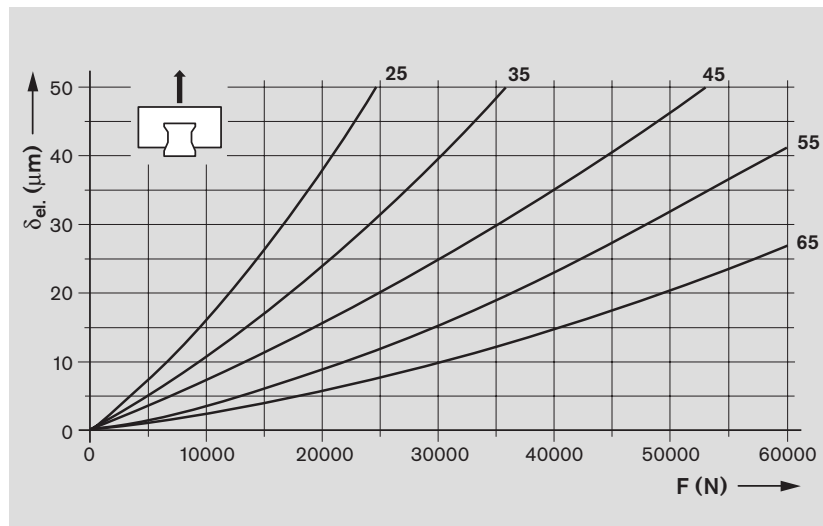
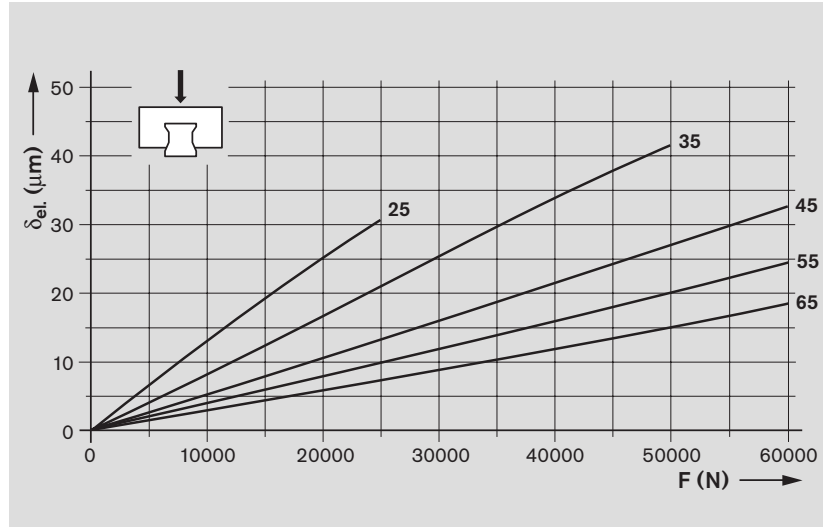
2. Lift-off load

3. Side load

Preload class

Key to graph

$\delta_{el.}$ = elastic deflection (μm)
 F = load (N)



Rigidity of the roller rail system at preload C3

Standard runner block FNS R1851

Sizes 25 to 65

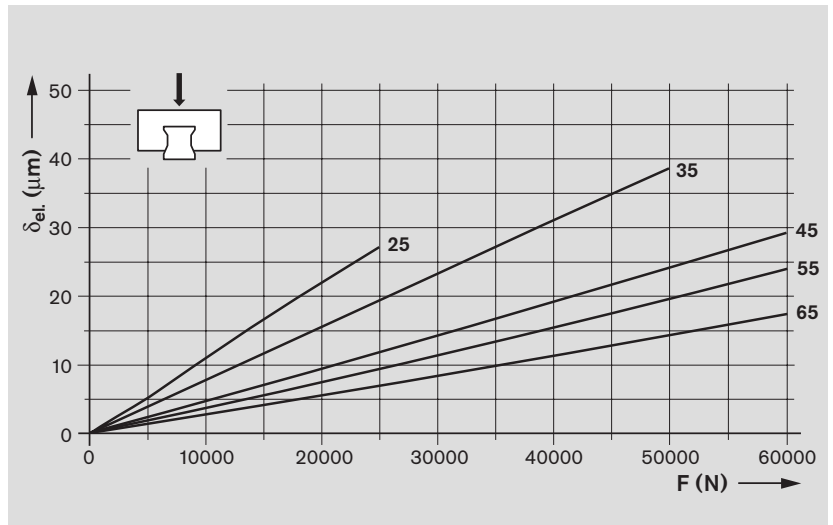
————— measured values

Runner block mounted using

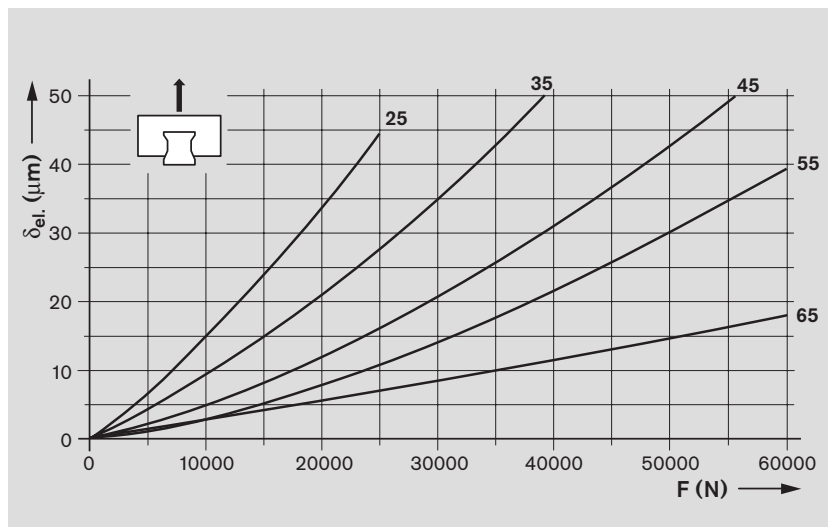
6 screws:

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

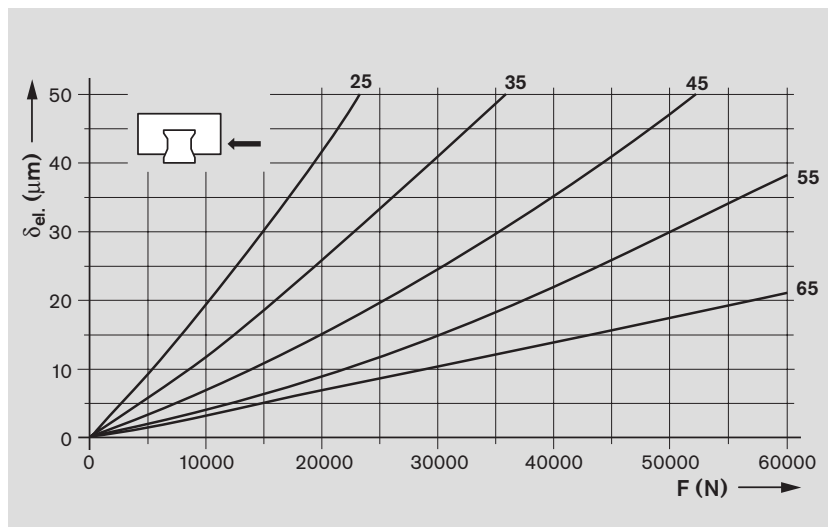
1. Down load



2. Lift-off load



3. Side load



Preload class
C3 = preload 13% C

Key to graph

$\delta_{el.}$ = elastic deflection (μm)
F = load (N)

Standard Runner Blocks, Steel version

Rigidity

Rigidity of the roller rail system at preload C2

Standard runner block FLS R1853

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

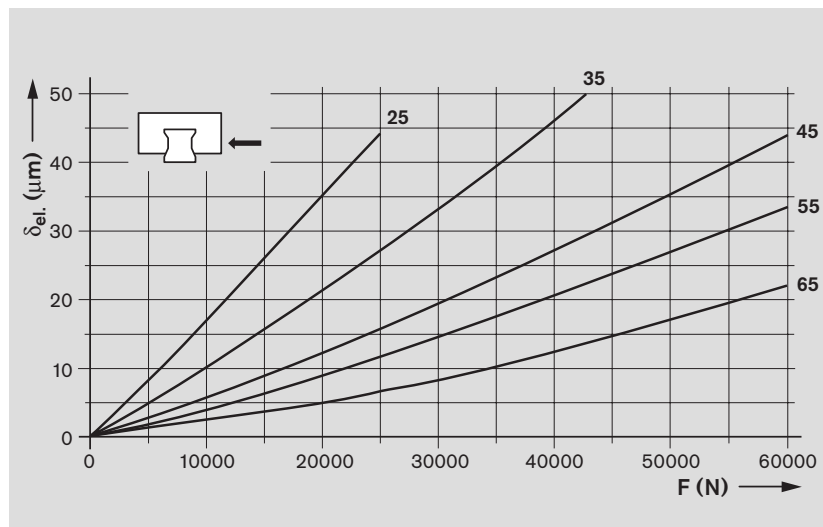
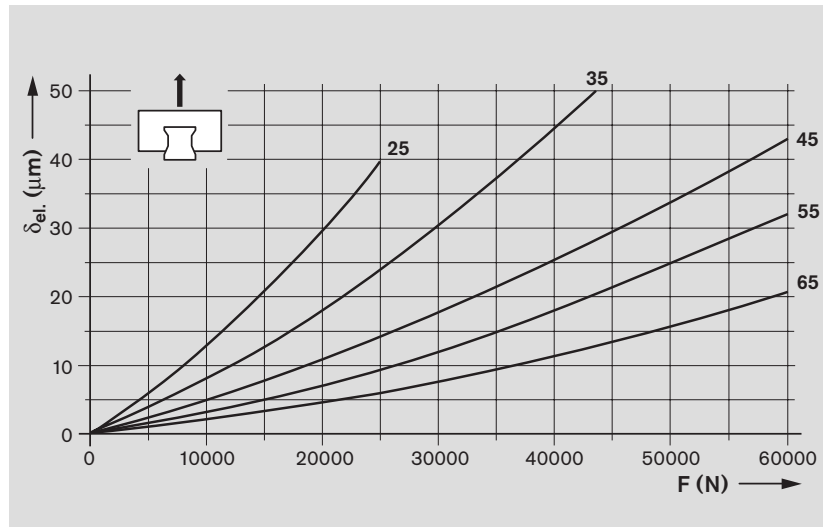
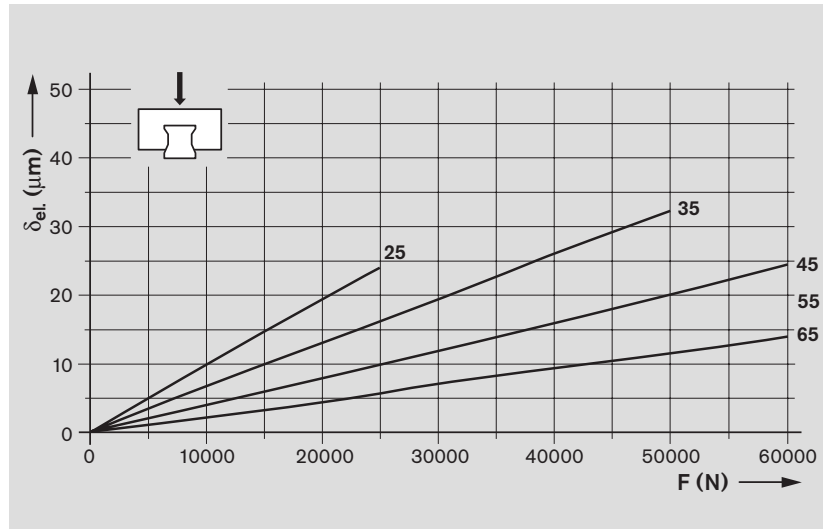
2. Lift-off load

3. Side load

Preload class

Key to graph

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 F = load (N)



Rigidity of the roller rail system at preload C3

Standard runner block FLS R1853

Sizes 25 to 65

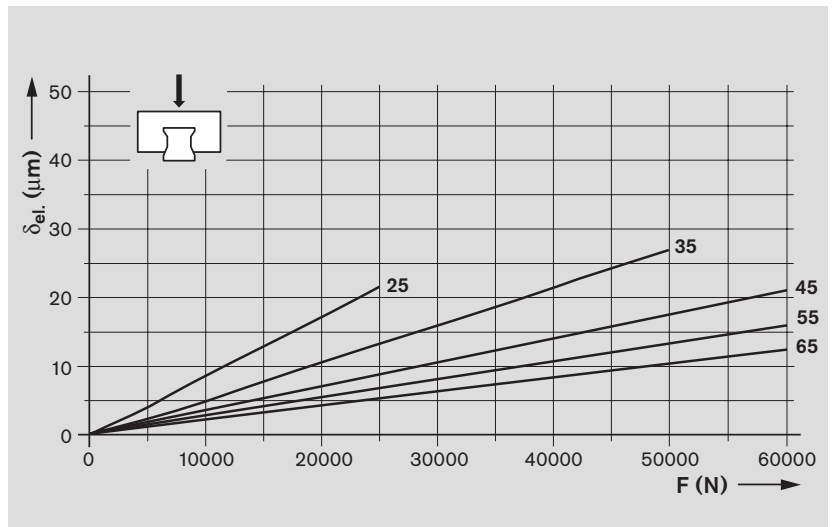
————— measured values

Runner block mounted using

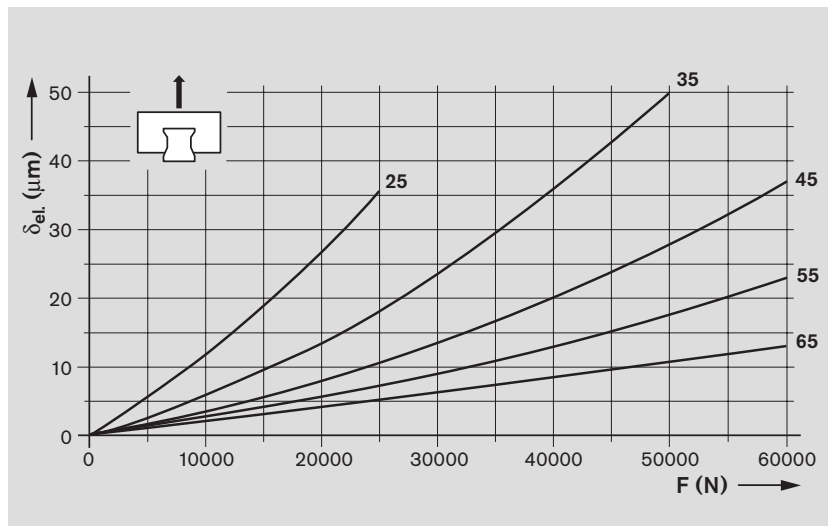
6 screws:

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

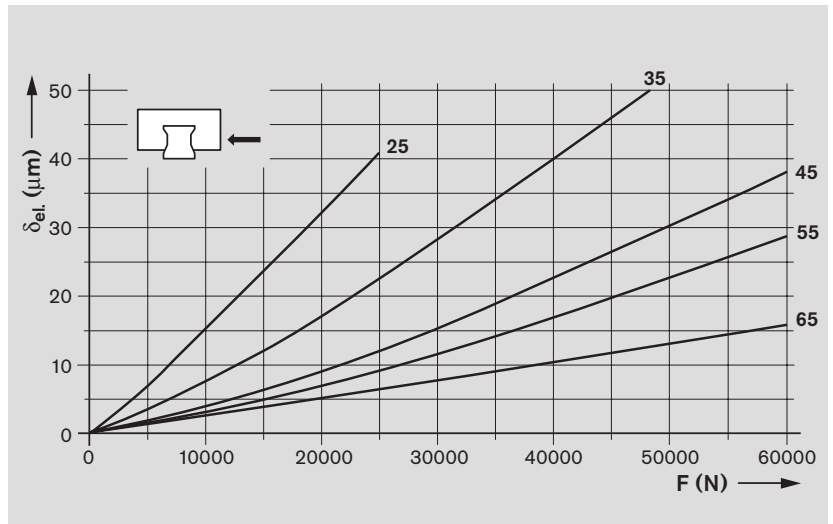
1. Down load



2. Lift-off load



3. Side load



Preload class
C3 = preload 13% C

Key to graph

$\delta_{el.}$ = elastic deflection (μm)
F = load (N)

Standard Runner Blocks, Steel version

Rigidity

Rigidity of the roller rail system at preload C2

Standard runner block SNH R1821

Sizes 25 to 55

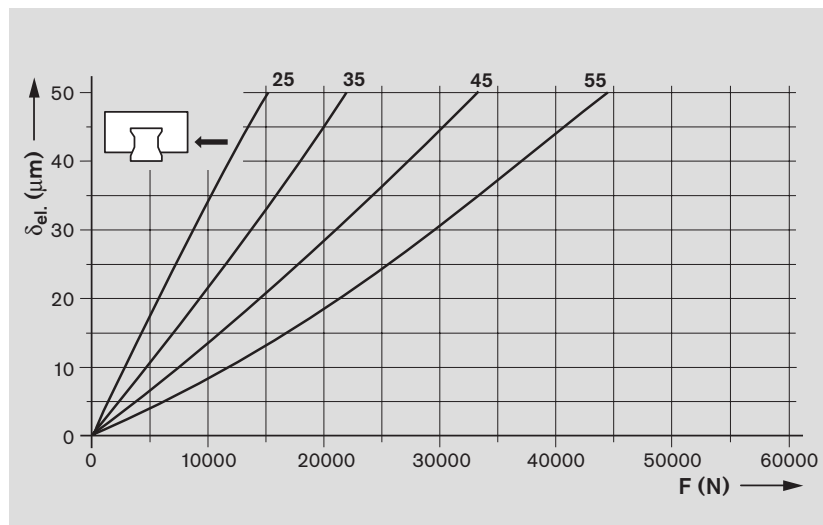
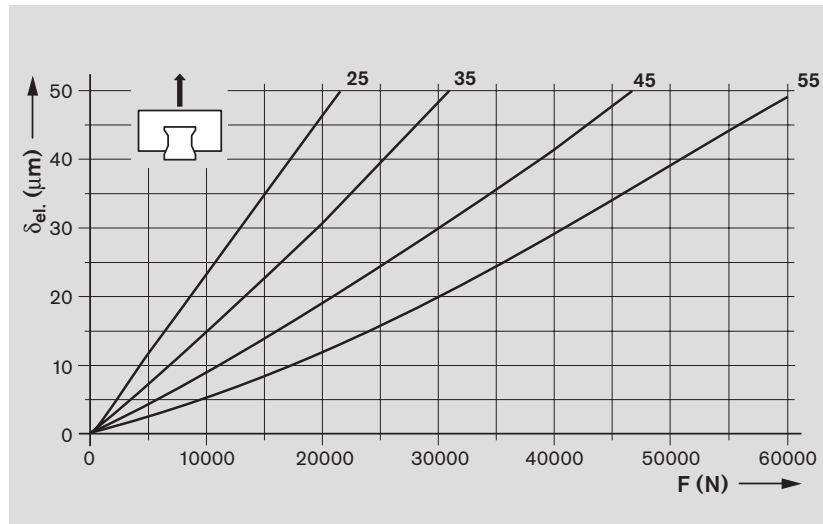
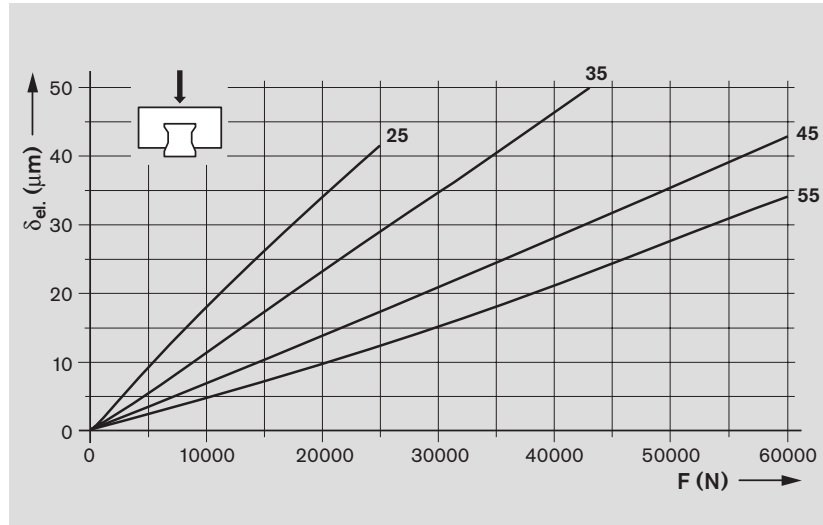
————— measured values

Runner block mounted using 6 screws of strength class 12.9

1. Down load

2. Lift-off load

3. Side load



Preload class
C2 = preload 8% C

Key to graph
δ_{el.} = elastic deflection (μm)
F = load (N)

Rigidity of the roller rail system at preload C3

Standard runner block SNH R1821

Sizes 25 to 55

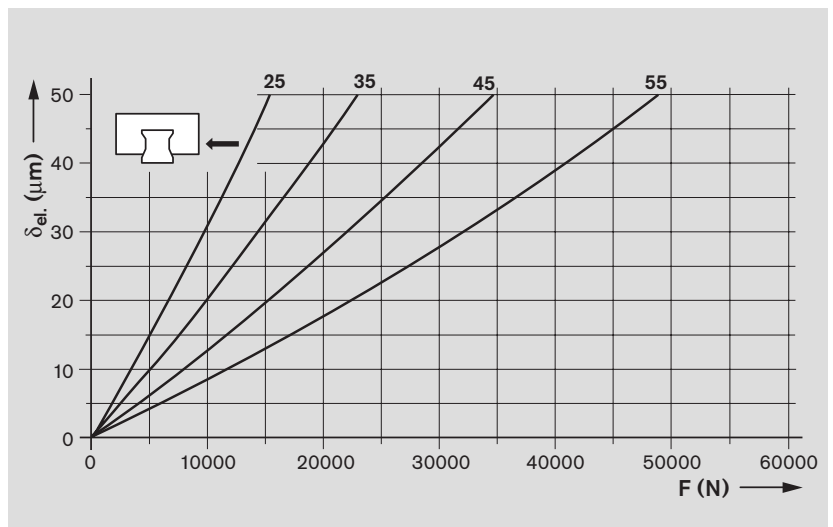
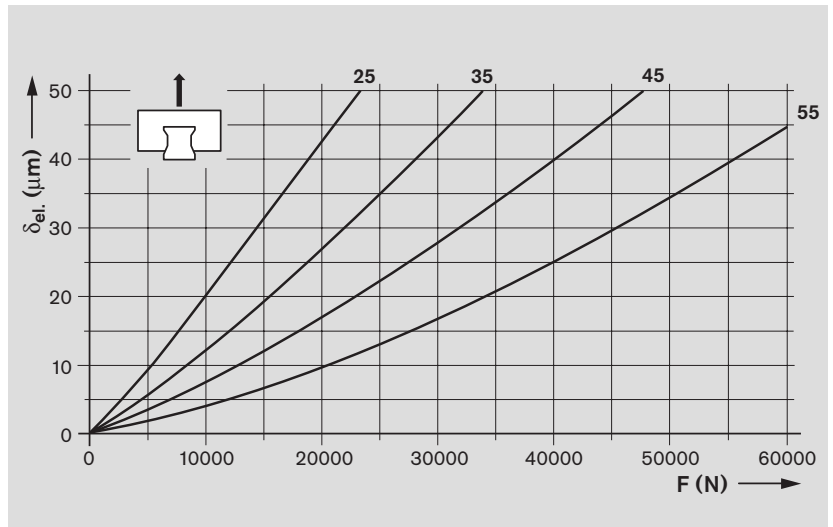
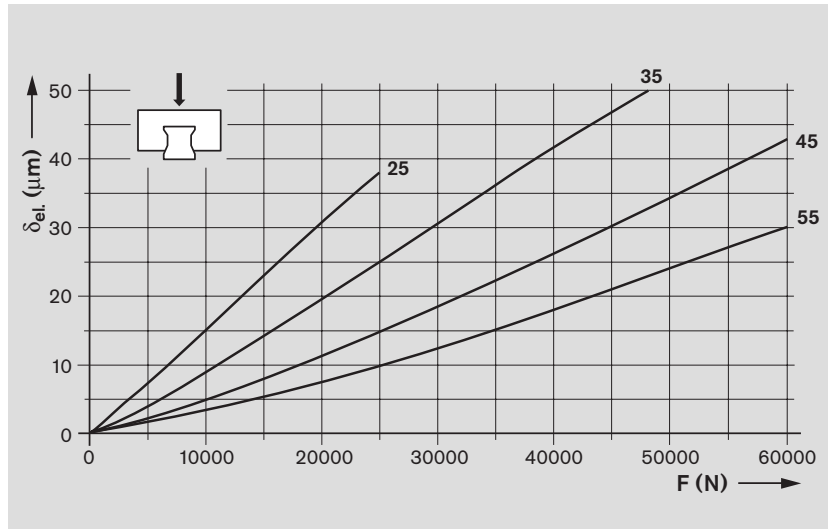
————— measured values

Runner block mounted using 6 screws of strength class 12.9

1. Down load

2. Lift-off load

3. Side load



Preload class

C3 = preload 13% C

Key to graph

δ_{el.} = elastic deflection (μm)
 F = load (N)

Standard Runner Blocks, Steel version

Rigidity

Rigidity of the roller rail system at preload C2

Standard runner blocks
 SLH R1824 (sizes 25 to 55) and
 SLS R1824 (size 65)

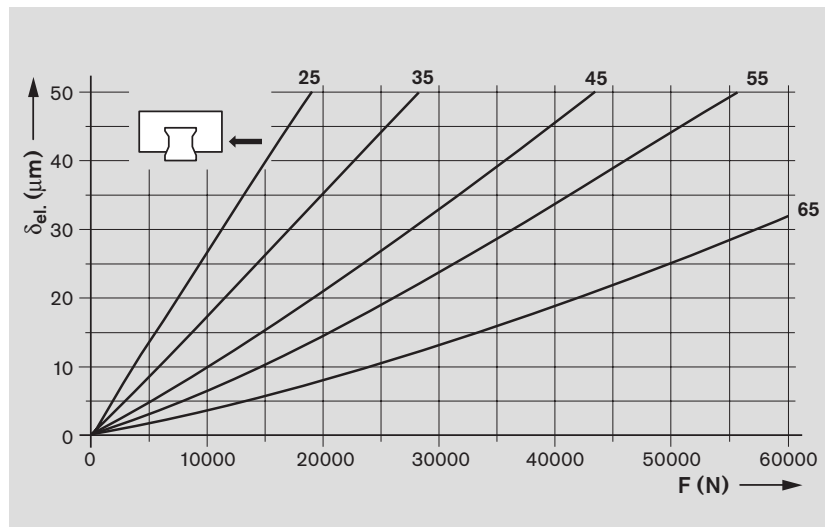
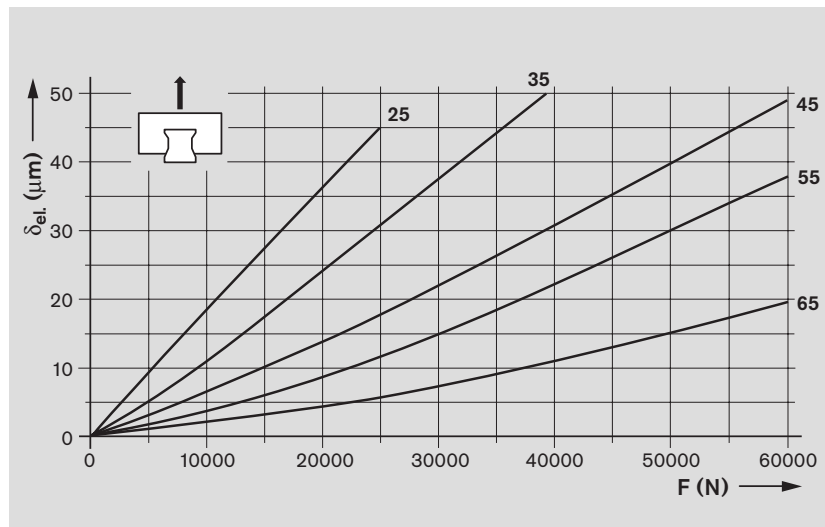
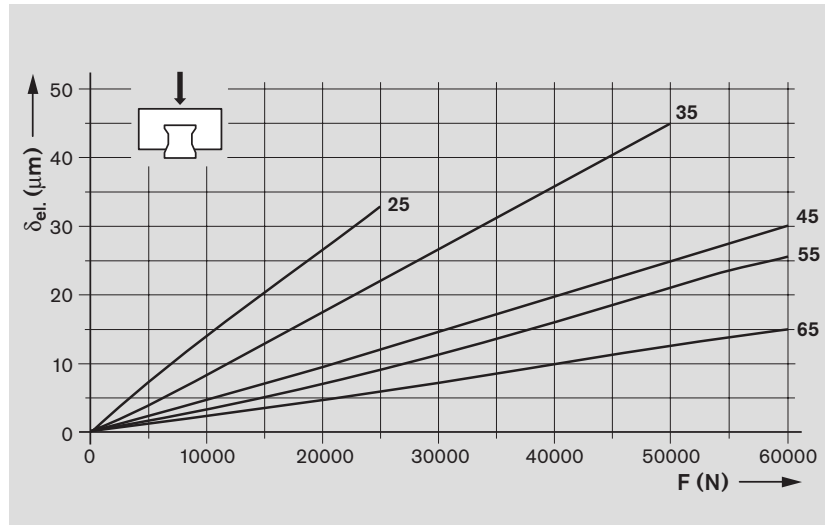
Sizes 25 to 65
 _____ measured values

Runner block mounted using
 6 screws of strength class 12.9

1. Down load

2. Lift-off load

3. Side load



Preload class
 C2 = preload 8% C

Key to graph
 δ_{el.} = elastic deflection (μm)
 F = load (N)

Rigidity of the roller rail system at preload C3

Standard runner blocks
 SLH R1824 (sizes 25 to 55) and
 SLS R1824 (size 65)

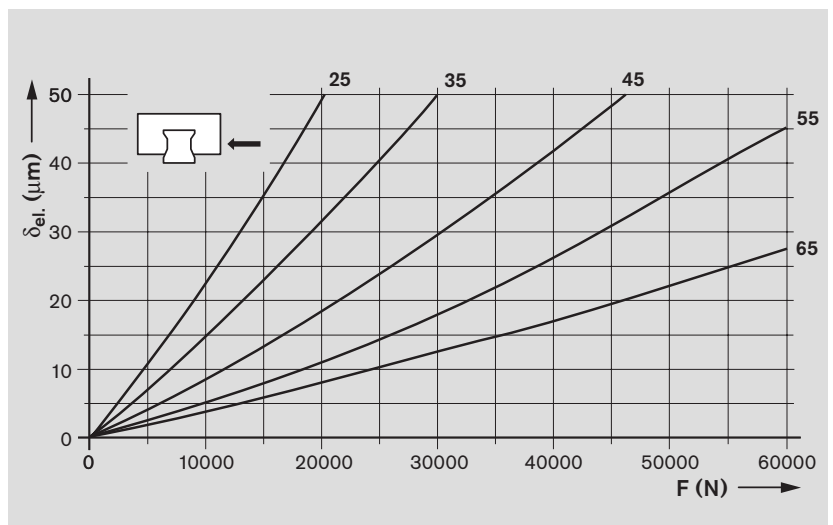
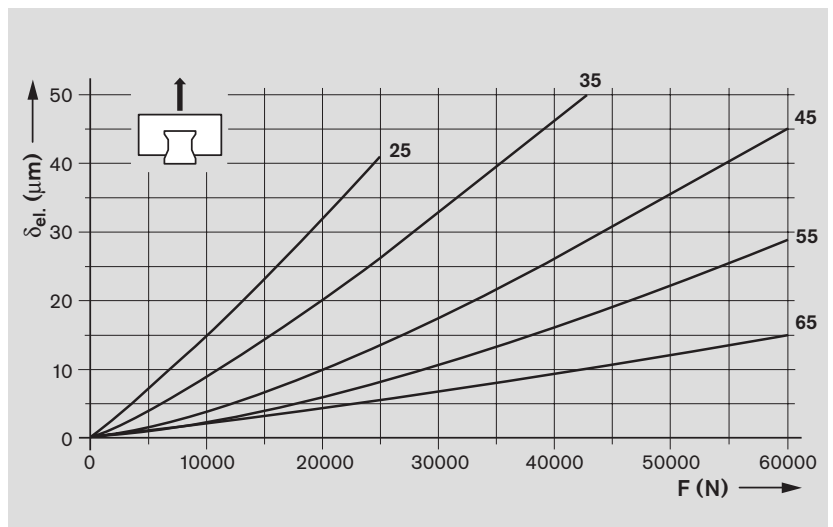
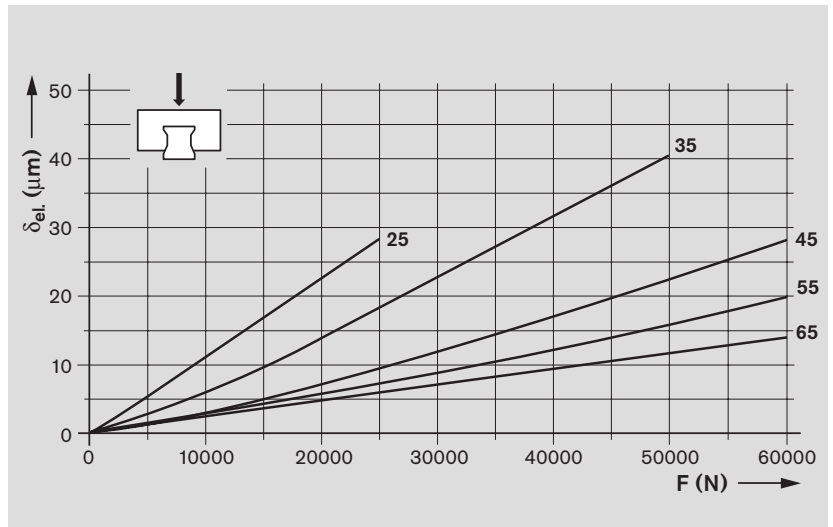
Sizes 25 to 65
 ————— measured values

Runner block mounted using
 6 screws of strength class 12.9

1. Down load

2. Lift-off load

3. Side load



Preload class
 C3 = preload 13% C

Key to graph

δ_{el.} = elastic deflection (μm)
 F = load (N)

Standard Runner Blocks, Steel version

Runner Block FNS

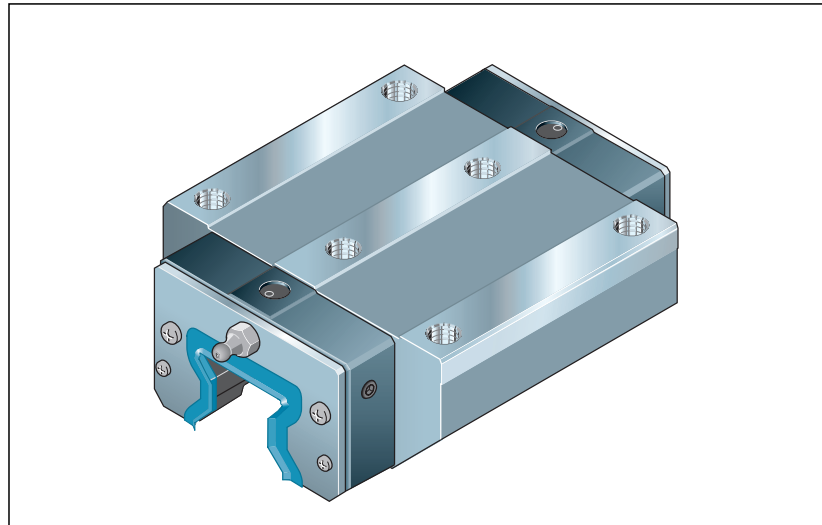
Runner block FNS
R1851 ... 10
Flanged, normal, standard height

Further runner block versions

- with aluminum end caps
- for oil and grease lubrication from above
- for central oil lubrication systems
- for wall mounting

See the relevant sections for part numbers.

For corrosion-resistant runner blocks, Resist CR, matte silver hard chrome plated, see section on "Standard Runner Blocks, Resist CR".



Recommended preload and accuracy class combinations

- For preload class C2: H and P
 - For preload class C3: P and SP
- Preference should be given to runner blocks with preload C2.
 Runner blocks with preload C1 are available on request. Part number: R1851 .1. 10

Preload classes

- C1 = preload 3% C (on request)
- C2 = preload 8% C
- C3 = preload 13% C

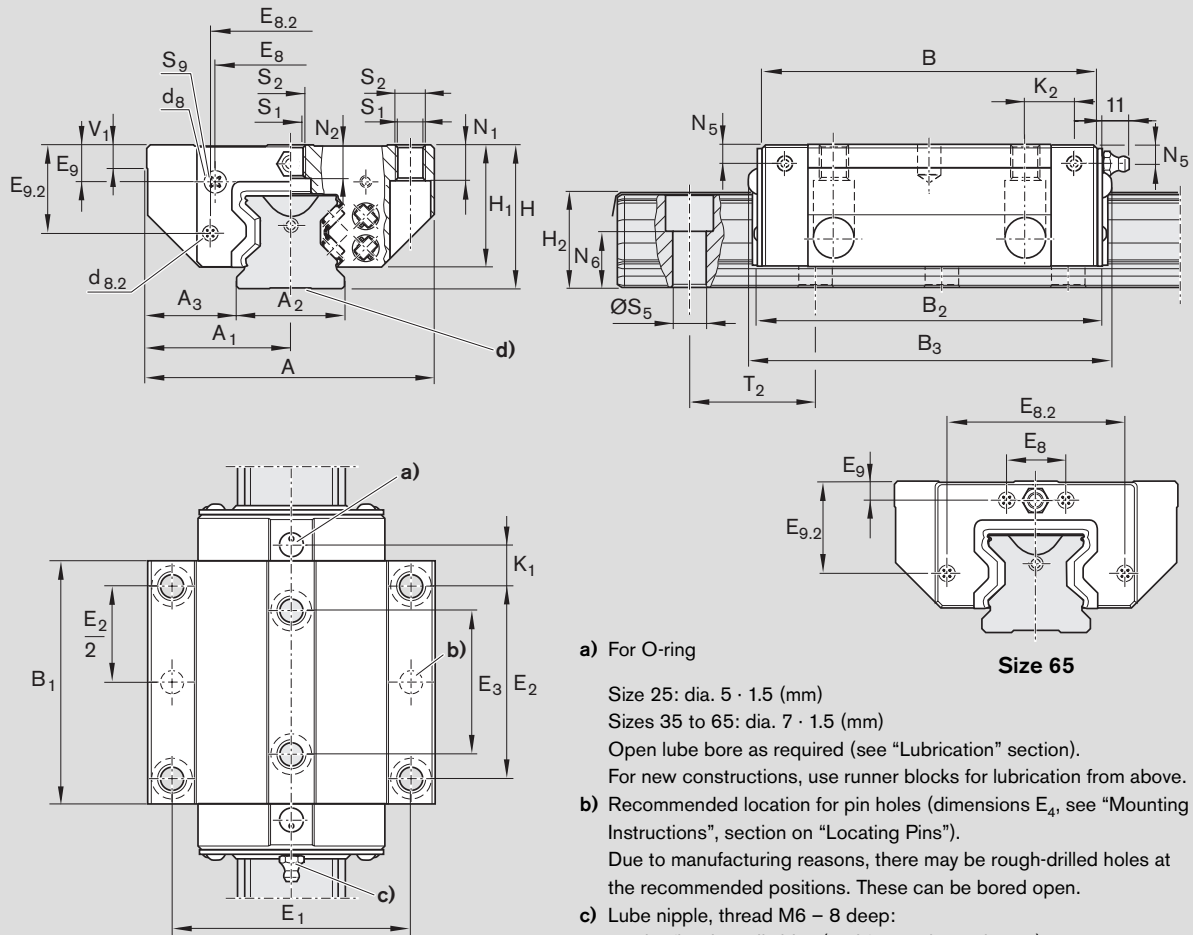
Note on dynamic load capacities and moments (see table)

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**, **M_t** and **M_L** from the table by 1.23.

Size	Accuracy class	Part numbers for preload class	
		C2	C3
25	H	R1851 223 10	-
	P	R1851 222 10	R1851 232 10
	SP	R1851 221 10	R1851 231 10
	UP	R1851 229 10	R1851 239 10
35	H	R1851 323 10	-
	P	R1851 322 10	R1851 332 10
	SP	R1851 321 10	R1851 331 10
	UP	R1851 329 10	R1851 339 10
45	H	R1851 423 10	-
	P	R1851 422 10	R1851 432 10
	SP	R1851 421 10	R1851 431 10
	UP	R1851 429 10	R1851 439 10
55	H	R1851 523 10	-
	P	R1851 522 10	R1851 532 10
	SP	R1851 521 10	R1851 531 10
	UP	R1851 529 10	R1851 539 10
65	H	R1851 623 10	-
	P	R1851 622 10	R1851 632 10
	SP	R1851 621 10	R1851 631 10
	UP	R1851 629 10	R1851 639 10

Size	Load capacities (N)		Moment loads (Nm)			
	C	C ₀	M _t	M _{to}	M _L	M _{L0}
25	26 900	53 200	348	690	260	520
35	56 300	113 500	1 114	2 245	700	1 400
45	92 300	184 800	2 277	4 559	1 430	2 860
55	128 900	248 600	3 779	7 288	2 400	4 620
65	207 000	382 000	7 300	13 500	4 590	8 470

Standard runner block FNS R1851 ... 10



a) For O-ring

Size 65

Size 25: dia. 5 · 1.5 (mm)

Sizes 35 to 65: dia. 7 · 1.5 (mm)

Open lube bore as required (see "Lubrication" section).

For new constructions, use runner blocks for lubrication from above.

b) Recommended location for pin holes (dimensions E₄, 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 – 8 deep:

can be fitted on all sides (end face only on size 25).

Other lube fittings will have different dimensions.

For more details on lube fittings, see the "Accessories" section.

d) Due to manufacturing reasons, guide rails in accuracy class H may not have a slot on the base.

Size	Dimensions (mm)																
	A	A ₁	A ₂	A ₃	B	B ₁	B ₂	B ₃	d ₈	d _{8.2}	E ₁	E ₂	E ₃	E ₈	E _{8.2}	E ₉	E _{9.2}
25	70	35	23	23.5	91.0	63.5	93.0	97	6	5	57	45	40	33.4	40.22	8.40	21.40
35	100	50	34	33.0	114.0	79.6	116.0	121	6	5	82	62	52	50.3	56.60	13.10	29.10
45	120	60	45	37.5	140.0	101.5	144.0	150	8	6	100	80	60	62.9	69.55	16.70	36.50
55	140	70	53	43.5	166.5	123.1	170.5	177	10	6	116	95	70	74.2	81.60	18.85	40.75
65	170	85	63	53.5	206.0	146.0	216.5	218	8	8	142	110	82	35.0	106.00	9.30	55.00

Size	Dimensions (mm)																	Weight kg
	H	H ₁	H ₂ ¹⁾	H ₂ ²⁾	K ₁	K ₂	N ₁	N ₂	N ₅	N ₆ ^{±0.5}	S ₁	S ₂	S ₅	S ₉ ³⁾	T ₂ ⁴⁾	V ₁		
25	36	30	23.60	23.40	14.10	-	9	7.3	5.5	14.3	6.8	M8	7	M3-5deep	30.0	7.5	0.8	
35	48	41	31.10	30.80	15.55	17.40	12	11.0	7.0	19.4	8.6	M10	9	M3-5deep	40.0	8.0	1.7	
45	60	51	39.10	38.80	17.45	20.35	15	13.5	8.0	22.4	10.5	M12	14	M4-7deep	52.5	10.0	3.3	
55	70	58	47.85	47.55	21.75	24.90	18	13.7	9.0	28.7	12.5	M14	16	M5-8deep	60.0	12.0	5.5	
65	90	76	58.15	57.85	29.80	33.00	23	21.5	9.3	36.5	14.5	M16	18	M4-7deep	75.0	15.0	12.0	

1) Dimension H₂ with cover strip

2) Dimension H₂ without cover strip

3) Thread for attachments

4) Dimension T₂ = hole spacing in the guide rail

Standard Runner Blocks, Steel version

Runner Block FLS

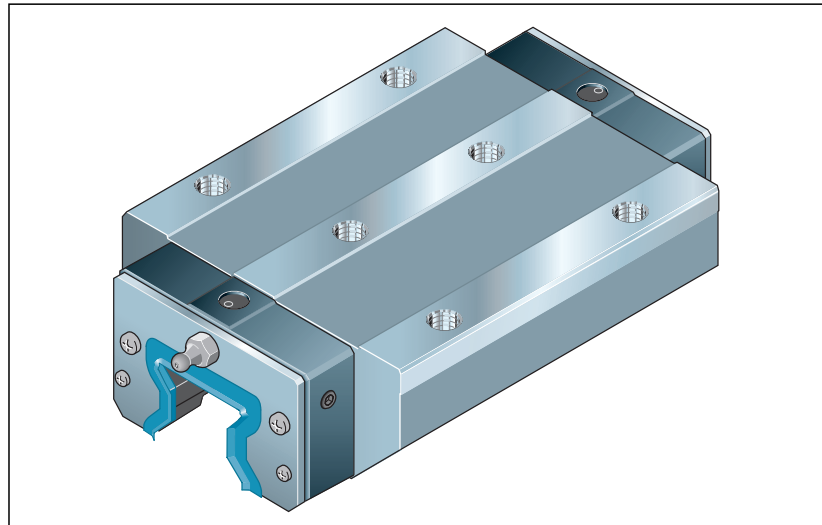
Runner block FLS
R1853 ... 10
Flanged, long, standard height

Further runner block versions

- with aluminum end caps
- for oil and grease lubrication from above
- for central oil lubrication systems
- for wall mounting

See the relevant sections for part numbers.

For corrosion-resistant runner blocks, Resist CR, matte silver hard chrome plated, see section on "Standard Runner Blocks, Resist CR".



Recommended preload and accuracy class combinations

- For preload class C2: H and P
 - For preload class C3: P and SP
- Preference should be given to runner blocks with preload C2.
 Runner blocks with preload C1 are available on request. Part number: R1853 .1. 10

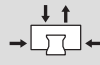





Preload classes

- C1 = preload 3% C
(on request)
- C2 = preload 8% C
- C3 = preload 13% C

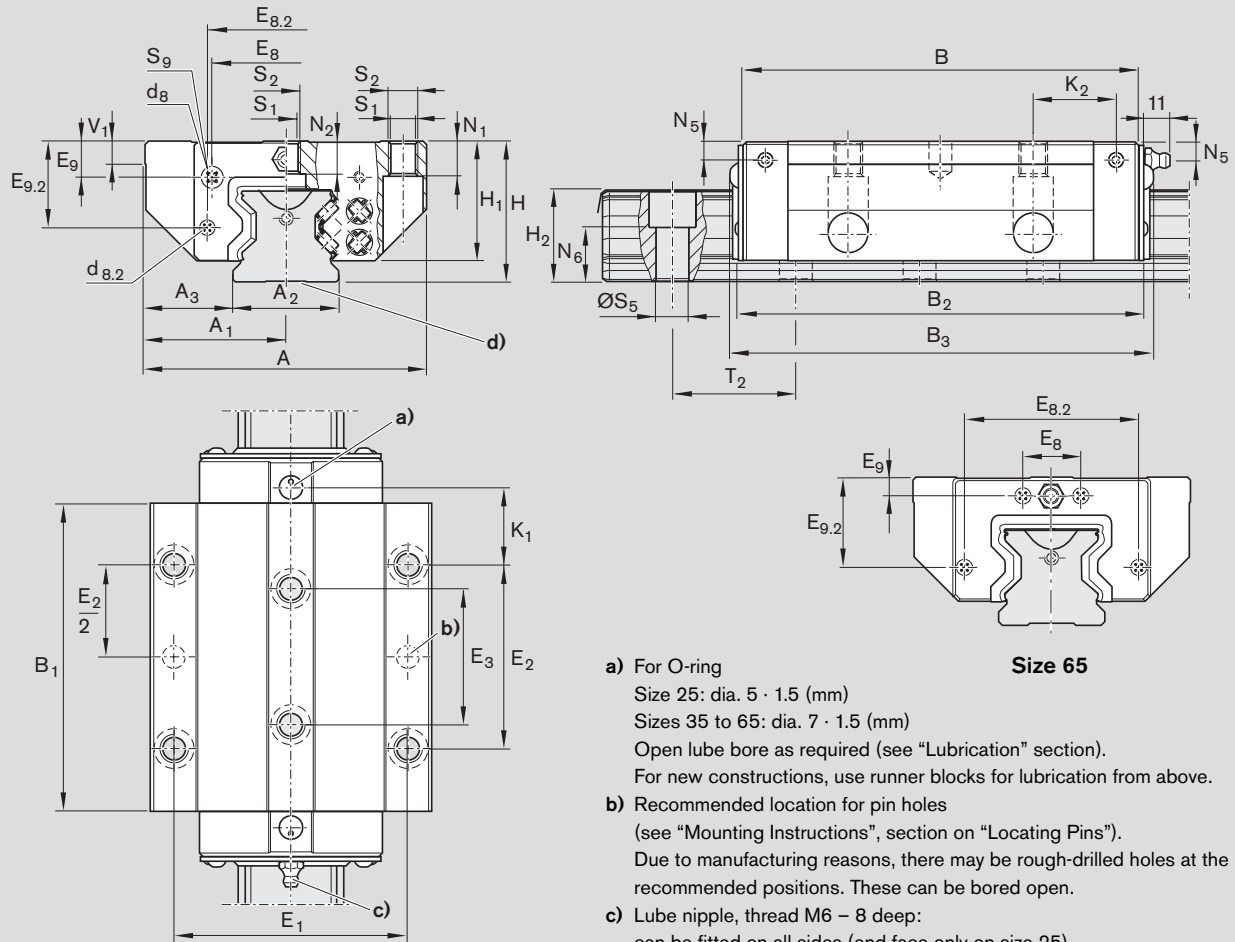
Note on dynamic load capacities and moments (see table)

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		C2	C3
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	P	R1853 222 10	R1853 232 10
	SP	R1853 221 10	R1853 231 10
	UP	R1853 229 10	R1853 239 10
35	H	R1853 323 10	-
	P	R1853 322 10	R1853 332 10
	SP	R1853 321 10	R1853 331 10
	UP	R1853 329 10	R1853 339 10
45	H	R1853 423 10	-
	P	R1853 422 10	R1853 432 10
	SP	R1853 421 10	R1853 431 10
	UP	R1853 429 10	R1853 439 10
55	H	R1853 523 10	-
	P	R1853 522 10	R1853 532 10
	SP	R1853 521 10	R1853 531 10
	UP	R1853 529 10	R1853 539 10
65	H	R1853 623 10	-
	P	R1853 622 10	R1853 632 10
	SP	R1853 621 10	R1853 631 10
	UP	R1853 629 10	R1853 639 10

Size	Load capacities (N)		Moment loads (Nm)			
						
	C	C ₀	M _t	M _{l0}	M _L	M _{L0}
25	33 300	70 000	432	908	420	900
35	69 700	149 300	1 375	2 953	1 135	2 430
45	119 200	256 600	2 941	6 331	2 520	5 430
55	165 000	345 300	4 837	10 122	4 030	8 440
65	265 500	525 600	9 410	18 630	7 960	15 760

Standard runner block FLS R1853 ... 10



- a) For O-ring
 Size 25: dia. 5 · 1.5 (mm)
 Sizes 35 to 65: dia. 7 · 1.5 (mm)
 Open lube bore as required (see "Lubrication" section).
 For new constructions, use runner blocks for lubrication from above.
- b) Recommended location for pin holes
 (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 – 8 deep:
 can be fitted on all sides (end face only on size 25).
 Other lube fittings will have different dimensions.
 For more details on lube fittings, see the "Accessories" section.
- d) Due to manufacturing reasons, guide rails in accuracy class H may not have a slot on the base.

Size	Dimensions (mm)																
	A	A ₁	A ₂	A ₃	B	B ₁	B ₂	B ₃	d ₈	d _{8.2}	E ₁	E ₂	E ₃	E ₈	E _{8.2}	E ₉	E _{9.2}
25	70	35	23	23.5	109.0	81.5	111.0	115	6	5	57	45	40	33.4	40.22	8.40	21.40
35	100	50	34	33.0	138.0	103.6	140.0	145	6	5	82	62	52	50.3	56.60	13.10	29.10
45	120	60	45	37.5	172.5	134.0	176.5	183	8	6	100	80	60	62.9	69.55	16.70	36.50
55	140	70	53	43.5	205.5	162.1	209.5	216	10	6	116	95	70	74.2	81.60	18.85	40.75
65	170	85	63	53.5	254.0	194.0	258.5	264	8	8	142	110	82	35.0	106.00	9.30	55.00

Size	Dimensions (mm)																	Weight kg
	H	H ₁	H ₂ ¹⁾	H ₂ ²⁾	K ₁	K ₂	N ₁	N ₂	N ₅	N ₆ ^{±0.5}	S ₁	S ₂	S ₅	S ₉ ³⁾	T ₂ ⁴⁾	V ₁		
25	36	30	23.60	23.40	23.10	-	9	7.3	5.5	14.3	6.8	M8	7	M3-5deep	30.0	7.5	1.1	
35	48	41	31.10	30.80	27.55	29.4	12	11.0	7.0	19.4	8.6	M10	9	M3-5deep	40.0	8.0	2.5	
45	60	51	39.10	38.80	33.70	36.6	15	13.5	8.0	22.4	10.5	M12	14	M4-7deep	52.5	10.0	4.7	
55	70	58	47.85	47.55	41.25	44.4	18	13.7	9.0	28.7	12.5	M14	16	M5-8deep	60.0	12.0	7.7	
65	90	76	58.15	57.85	53.80	57.0	23	21.5	9.3	36.5	14.5	M16	18	M4-7deep	75.0	15.0	14.5	

1) Dimension H₂ with cover strip
 2) Dimension H₂ without cover strip
 3) Thread for attachments
 4) Dimension T₂ = hole spacing in the guide rail

Standard Runner Blocks, Steel version

Runner Block SNH

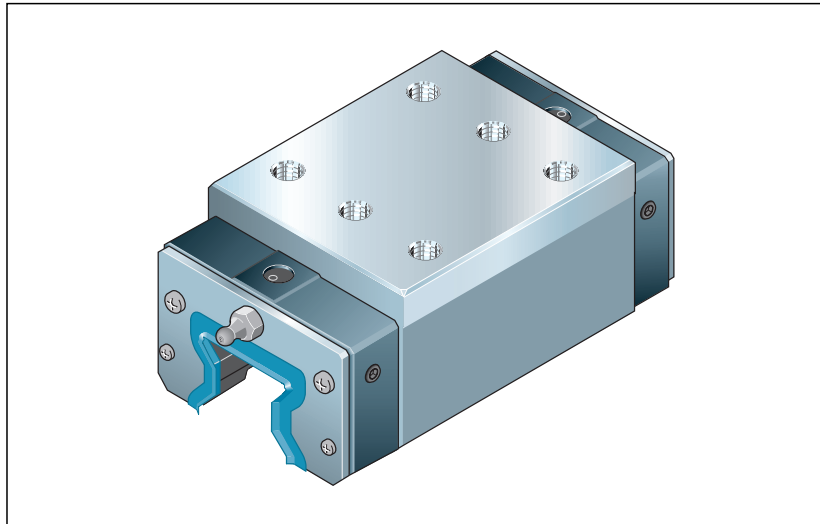
Runner block SNH R1821 ... 10 Slimline, normal, high

Further runner block versions

- with aluminum end caps
- for oil and grease lubrication from above
- for central oil lubrication systems
- for wall mounting

See the relevant sections for part numbers.

For corrosion-resistant runner blocks, Resist CR, matte silver hard chrome plated, see section on "Standard Runner Blocks, Resist CR."



Recommended preload and accuracy class combinations

- For preload class C2: H and P
 - For preload class C3: P and SP
- Preference should be given to runner blocks with preload C2.
Runner blocks with preload C1 are available on request. Part number: R1821 .1. 10

Preload classes

- C1 = preload 3% C (on request)
- C2 = preload 8% C

Size	Accuracy class	Part numbers for preload class	
		C2	C3
25	H	R1821 223 10	-
	P	R1821 222 10	R1821 232 10
	SP	R1821 221 10	R1821 231 10
	UP	R1821 229 10	R1821 239 10
35	H	R1821 323 10	-
	P	R1821 322 10	R1821 332 10
	SP	R1821 321 10	R1821 331 10
	UP	R1821 329 10	R1821 339 10
45	H	R1821 423 10	-
	P	R1821 422 10	R1821 432 10
	SP	R1821 421 10	R1821 431 10
	UP	R1821 429 10	R1821 439 10
55	H	R1821 523 10	-
	P	R1821 522 10	R1821 532 10
	SP	R1821 521 10	R1821 531 10
	UP	R1821 529 10	R1821 539 10

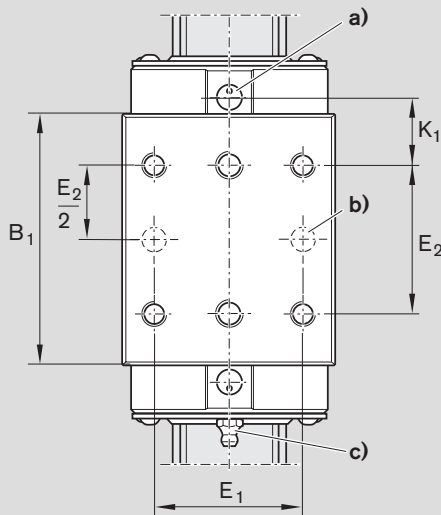
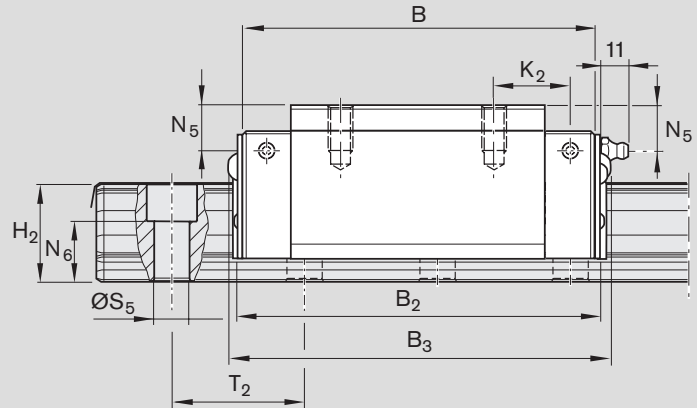
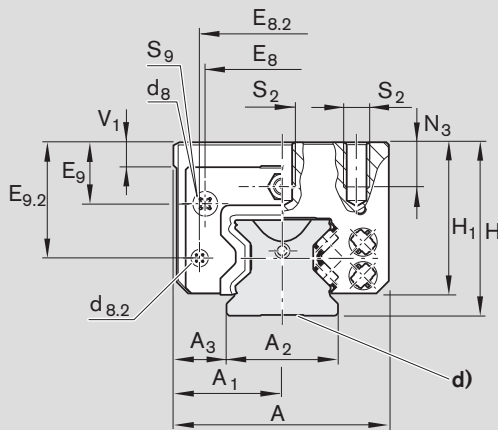
Note on dynamic load capacities and moments (see table)

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**, **M_t** and **M_L** from the table by 1.23.

Size	Load capacities (N)		Moment loads (Nm)			
	C	C ₀	M _t	M _{t0}	M _L	M _{L0}
25	26 900	53 200	348	690	260	520
35	56 300	113 500	1 114	2 245	700	1 400
45	92 300	184 800	2 277	4 559	1 430	2 860
55	128 900	248 600	3 779	7 288	2 400	4 620

Standard runner block SNH R1821 ... 10



- a) For O-ring
 Size 25: dia. 5 · 1.5 (mm)
 Sizes 35 to 55: dia. 7 · 1.5 (mm)
 Open lube bore as required. Send for instructions.
 For new constructions, use runner blocks for lubrication from above.
- b) Recommended location for pin holes
 (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 – 8 deep:
 can be fitted on all sides (end face only on size 25).
 Other lube fittings will have different dimensions.
 For more details on lube fittings, see the "Accessories" section.
- d) Due to manufacturing reasons, guide rails in accuracy class H may not have a slot on the base.

Size	Dimensions (mm)															
	A	A ₁	A ₂	A ₃	B	B ₁	B ₂	B ₃	d ₈	d _{8.2}	E ₁	E ₂	E ₈	E _{8.2}	E ₉	E _{9.2}
25	48	24	23	12.5	91.0	63.5	93.0	97	6	5	35	35	33.4	40.22	12.40	25.40
35	70	35	34	18.0	114.0	79.6	116.0	121	6	5	50	50	50.3	56.60	20.10	36.10
45	86	43	45	20.5	140.0	101.5	144.0	150	8	6	60	60	62.9	69.55	26.75	46.50
55	100	50	53	23.5	166.5	123.1	170.5	177	10	6	75	75	74.2	81.60	28.95	50.75

Size	Dimensions (mm)															Weight kg
	H	H ₁	H ₂ ¹⁾	H ₂ ²⁾	K ₁	K ₂	N ₃	N ₅	N ₆ ^{±0.5}	S ₂	S ₅	S ₉ ³⁾	T ₂ ⁴⁾	V ₁		
25	40	34	23.60	23.40	19.10	–	9	9.5	14.3	M6	7	M3-5deep	30.0	7.5	0.6	
35	55	48	31.10	30.80	21.55	23.40	13	14.0	19.4	M8	9	M3-5deep	40.0	8.0	1.5	
45	70	61	39.10	38.80	27.45	30.35	18	18.0	22.4	M10	14	M4-7deep	52.5	10.0	3.1	
55	80	68	47.85	47.55	31.75	34.95	19	19.0	28.7	M12	16	M5-8deep	60.0	12.0	4.6	

- 1) Dimension H₂ with cover strip
- 2) Dimension H₂ without cover strip
- 3) Thread for attachments
- 4) Dimension T₂ = hole spacing in the guide rail

Standard Runner Blocks, Steel version

Runner Block SLH

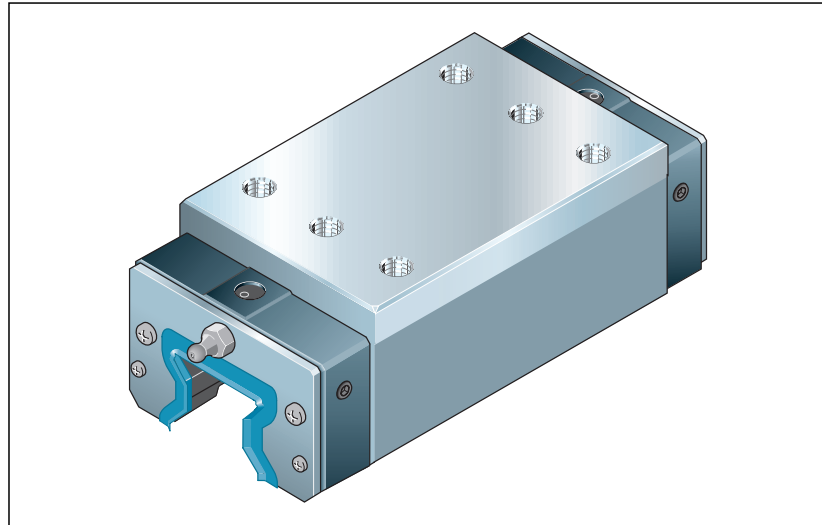
Runner block SLH
R1824 ... 10
Slimline, long, high
(Sizes 25 to 55)

Size 65:
Runner block SLS
1824 ... 10
Slimline, long, standard height

Further runner block versions

- with aluminum end caps
- for oil and grease lubrication from above
- for central oil lubrication systems
- for wall mounting

See the relevant sections for part numbers.



For corrosion-resistant runner blocks, Resist CR, matte silver hard chrome plated, see section on "Standard Runner Blocks, Resist CR".

Recommended preload and accuracy class combinations

- For preload class C2: H and P
 - For preload class C3: P and SP
- Preference should be given to runner blocks with preload C2.

Runner blocks with preload C1 are available on request. Part number: R1824 .1. 10

Preload classes

C1 = preload 3% C
 (on request)

C2 = preload 8% C

C3 = preload 13% C

Note on dynamic load capacities and moments (see table)

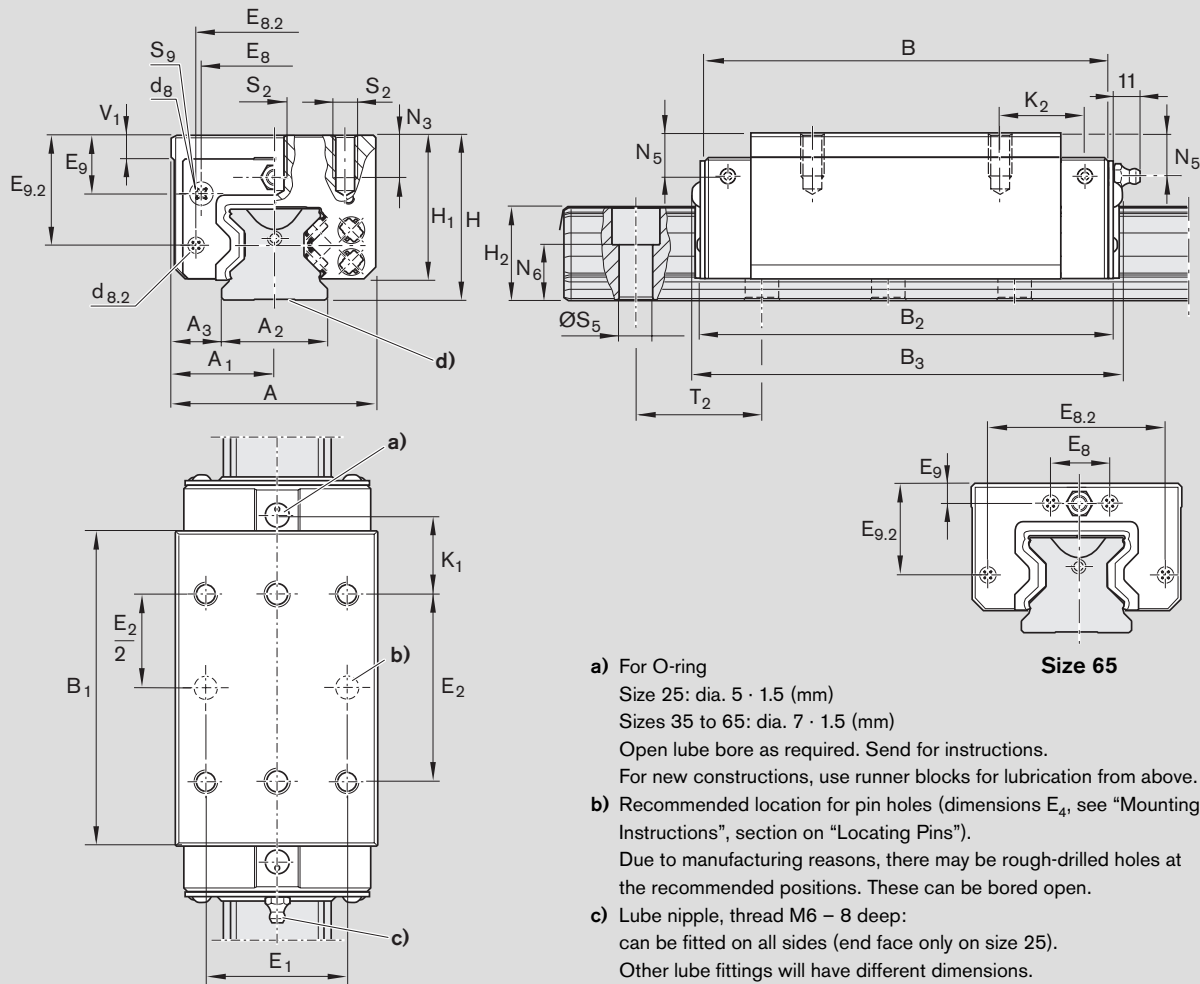
The dynamic load capacities and moments are based on 100,000 m travel. However, a travel of just 50,000 m is often taken as a basis.

If this is the case, for comparison purposes: Multiply values **C**, **M_t** and **M_L** from the table by 1.23.

Size	Accuracy class	Part numbers for preload class	
		C2	C3
25	H	R1824 223 10	-
	P	R1824 222 10	R1824 232 10
	SP	R1824 221 10	R1824 231 10
	UP	R1824 229 10	R1824 239 10
35	H	R1824 323 10	-
	P	R1824 322 10	R1824 332 10
	SP	R1824 321 10	R1824 331 10
	UP	R1824 329 10	R1824 339 10
45	H	R1824 423 10	-
	P	R1824 422 10	R1824 432 10
	SP	R1824 421 10	R1824 431 10
	UP	R1824 429 10	R1824 439 10
55	H	R1824 523 10	-
	P	R1824 522 10	R1824 532 10
	SP	R1824 521 10	R1824 531 10
	UP	R1824 529 10	R1824 539 10
65	H	R1824 623 10	-
	P	R1824 622 10	R1824 632 10
	SP	R1824 621 10	R1824 631 10
	UP	R1824 629 10	R1824 639 10

Size	Load capacities (N)		Moment loads (Nm)			
	C	C ₀	M _t	M _{l0}	M _L	M _{L0}
25	33 300	70 000	432	908	420	900
35	69 700	149 300	1 375	2 953	1 135	2 430
45	119 200	256 600	2 941	6 331	2 520	5 430
55	165 000	345 300	4 837	10 122	4 030	8 440
65	265 500	525 600	9 410	18 630	7 960	15 760

Standard runner block SLH R1824 ... 10



- a)** For O-ring
 Size 25: dia. 5 · 1.5 (mm)
 Sizes 35 to 65: dia. 7 · 1.5 (mm)
 Open lube bore as required. Send for instructions.
 For new constructions, use runner blocks for lubrication from above.
- 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 – 8 deep:
 can be fitted on all sides (end face only on size 25).
 Other lube fittings will have different dimensions.
 For more details on lube fittings, see the "Accessories" section.
- d)** Due to manufacturing reasons, guide rails in accuracy class H may not have a slot on the base.

Size	Dimensions (mm)															
	A	A ₁	A ₂	A ₃	B	B ₁	B ₂	B ₃	d ₈	d _{8.2}	E ₁	E ₂	E ₈	E _{8.2}	E ₉	E _{9.2}
25	48	24	23	12.5	109.0	81.5	111.0	115	6	5	35	50	33.4	40.22	12.40	25.40
35	70	35	34	18.0	138.0	103.6	140.0	145	6	5	50	72	50.3	56.60	20.10	36.10
45	86	43	45	20.5	172.5	134.0	176.5	183	8	6	60	80	62.9	69.55	26.75	46.50
55	100	50	53	23.5	205.5	162.1	209.5	216	10	6	75	95	74.2	81.60	28.95	50.75
65	126	63	63	31.5	254.0	194.0	258.5	264	8	8	76	120	35.0	106.00	9.30	55.00

Size	Dimensions (mm)															Weight kg
	H	H ₁	H ₂ ¹⁾	H ₂ ²⁾	K ₁	K ₂	N ₃	N ₅	N ₆ ^{±0.5}	S ₂	S ₅	S ₉ ³⁾	T ₂ ⁴⁾	V ₁		
25	40	34	23.60	23.40	20.60	-	9	9.5	14.3	M6	7	M3-5deep	30.0	7.5	0.9	
35	55	48	31.10	30.80	22.55	24.4	13	14.0	19.4	M8	9	M3-5deep	40.0	8.0	2.0	
45	70	61	39.10	38.80	33.70	36.6	18	18.0	22.4	M10	14	M4-7deep	52.5	10.0	4.2	
55	80	68	47.85	47.55	41.25	44.4	19	19.0	28.7	M12	16	M5-8deep	60.0	12.0	6.2	
65	90	76	58.15	57.85	48.80	52.0	21	9.3	36.5	M16	18	M4-7deep	75.0	15.0	12.0	

1) Dimension H₂ with cover strip
 2) Dimension H₂ without cover strip
 3) Thread for attachments
 4) Dimension T₂ = hole spacing in the guide rail

Standard Runner Blocks, Steel version

Runner Blocks with Aluminum End Caps

General notes on runner blocks R18.. ... 13

For part numbers, see the following page.
For dimensions, load capacities, rigidity and moment loads, please refer to the corresponding runner blocks R18.. ... 10.

Special feature:
Runner blocks R18.. ... 13 with aluminum end caps are recommended for applications with especially demanding condi-

Runner block short names

FNS = Flanged, normal, standard height
FLS = Flanged, long, standard height
SNH = Slimline, normal, high
SLH = Slimline, long, high
SLS = Slimline, long, standard height

Preload classes

C2 = preload 8% C

Aluminum end cap

Aluminum end caps with integrated seal and end seal can also be ordered separately (see "Spare Parts").

Lube fitting at the side

For lube fittings at the side, the maximum depth for size 45 is 6 mm. When using the standard lube nipple, a 2 mm washer is required.

Lube fitting at the top

For lubrication from above, remove screw plug and insert an O-ring seal:

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

For the high runner blocks S.H R182.. ... 13 and lubrication from above, use lube adapter (not included in supply scope; please consult us).

High runner blocks S.H R182.. ... 13 for lubrication from above with integrated (plastic) lube adapter are available on request.

Runner Blocks, Resist CR (optional)

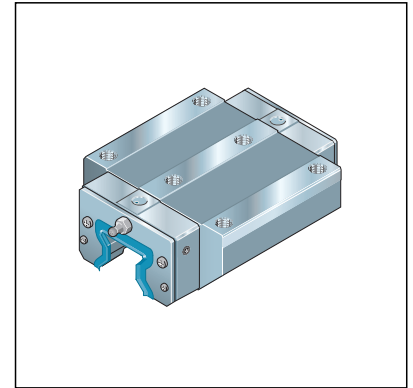
For corrosion-resistant runner blocks, Resist CR, matte silver hard chrome plated, see section on "Standard Runner Blocks, Resist CR".

Standard Runner Blocks, Steel version

Runner Blocks with Aluminum End Caps

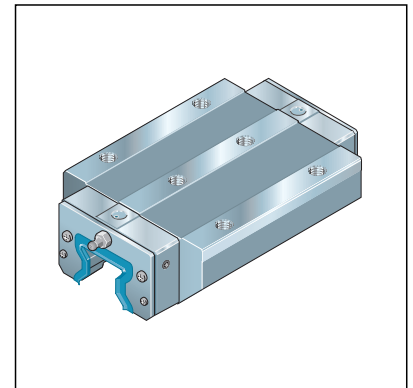
Runner block FNS R1851 ... 13

Size	Accuracy class	Part numbers for preload class	
		C2	C3
25 ¹⁾	P	–	–
	SP	–	–
35	P	R1851 322 13	R1851 332 13
	SP	–	R1851 331 13
45	P	R1851 422 13	R1851 432 13
	SP	–	R1851 431 13
55	P	R1851 522 13	R1851 532 13
	SP	–	R1851 531 13
65	P	R1851 622 13	R1851 632 13
	SP	–	R1851 631 13



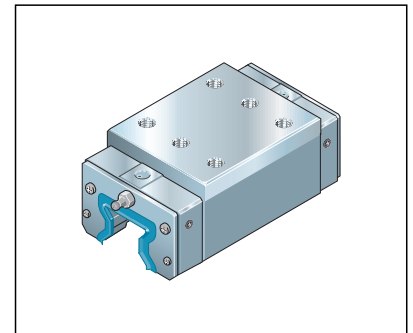
Runner block FLS R1853 ... 13

Size	Accuracy class	Part numbers for preload class	
		C2	C3
25 ¹⁾	P	–	–
	SP	–	–
35	P	R1853 322 13	R1853 332 13
	SP	–	R1853 331 13
45	P	R1853 422 13	R1853 432 13
	SP	–	R1853 431 13
55	P	R1853 522 13	R1853 532 13
	SP	–	R1853 531 13
65	P	R1853 622 13	R1853 632 13
	SP	–	R1853 631 13



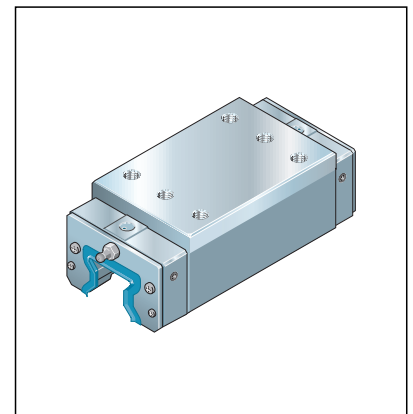
Runner block SNH R1821 ... 13

Size	Accuracy class	Part numbers for preload class	
		C2	C3
25 ¹⁾	P	–	–
	SP	–	–
35	P	R1821 322 13	R1821 332 13
	SP	–	R1821 331 13
45	P	R1821 422 13	R1821 432 13
	SP	–	R1821 431 13
55	P	R1821 522 13	R1821 532 13
	SP	–	R1821 531 13



Runner block SLH R1824 ... 13 Size 65: SLS R1824 ... 13

Size	Accuracy class	Part numbers for preload class	
		C2	C3
25 ¹⁾	P	–	–
	SP	–	–
35	P	R1824 322 13	R1824 332 13
	SP	–	R1824 331 13
45	P	R1824 422 13	R1824 432 13
	SP	–	R1824 431 13
55	P	R1824 522 13	R1824 532 13
	SP	–	R1824 531 13
65	P	R1824 622 13	R1824 632 13
	SP	–	R1824 631 13



1) Size 25 in preparation

Standard Runner Blocks, Steel version

Runner Blocks for Oil and Grease Lubrication From Above

General notes on runner blocks R18.. ... 16

With open lube ports or integrated lube adapters for oil and grease lubrication from above

For part numbers, see the following page.
 For dimensions, load capacities, rigidity and moment loads, please refer to the corresponding runner blocks R18.. ... 10.

Special feature:
 Runner blocks R18.. ... 16 have been prepared for oil and grease lubrication from above. In the high runner blocks S.H, the vertical clearance between the end caps and an attachment mounting surface with integrated lube adapters has been designed for ease of maintenance.

How to recognize them:
 The top lube holes at both ends have already been opened, but they are closed with screws for shipment (O-rings for sealing the lube fittings are provided with the runner blocks).

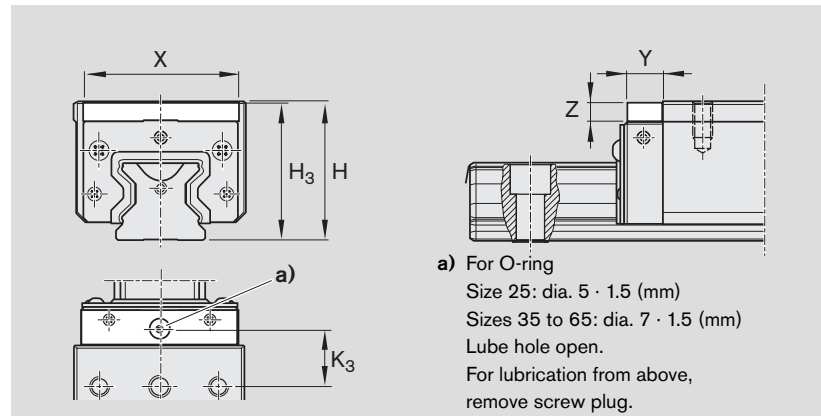
Runner block short names
 FNS = Flanged, normal, standard height
 FLS = Flanged, long, standard height
 SNH = Slimline, normal, high
 SLH = Slimline, long, high
 SLS = Slimline, long, standard height

Preload classes
 C2 = preload 8% C
 C3 = preload 13% C

Lube fitting at the top

For lubrication from above, remove screw plug and insert an O-ring seal:
 - Sizes 35 and 55: dia. 7 · 1.5 (mm)
 - Sizes 45 and 65: dia. 10 · 1.5 (mm)

Integrated lube adapter for high runner blocks



Size	Dimensions for integrated lube adapter (mm)						
	H	H ₃	K ₃ ¹⁾	K ₃ ²⁾	X	Y	Z
25	40	39.6	19.1	20.6	41.7	12.5	4.3
35	55	54.6	21.55	22.55	61.7	16.1	7.4
45	70	69.6	27.65	33.9	75.8	18.2	10.4
55	80	79.6	31.75	41.25	89.3	20.3	10.2

1) Dimension K₃ for runner block SNH (slimline, normal, high)
 2) Dimension K₃ for runner block SLH (slimline, long, high)

Runner Blocks, Resist CR (optional)

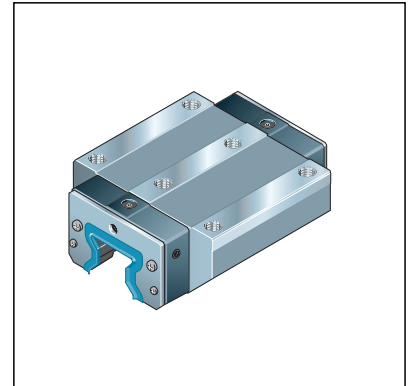
For corrosion-resistant runner blocks, Resist CR, matte silver hard chrome plated, see section on "Standard Runner Blocks, Resist CR".

Standard Runner Blocks, Steel version

Runner Blocks for Oil and Grease Lubrication From Above

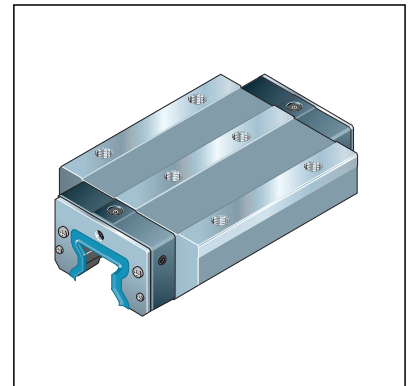
Runner block FNS R1851 ... 16

Size	Accuracy class	Part numbers for preload class	
		C2	C3
25	P	R1851 222 16	R1851 232 16
	SP	R1851 221 16	R1851 231 16
35	P	R1851 322 16	R1851 332 16
	SP	R1851 321 16	R1851 331 16
45	P	R1851 422 16	R1851 432 16
	SP	R1851 421 16	R1851 431 16
55	P	R1851 522 16	R1851 532 16
	SP	R1851 521 16	R1851 531 16
65	P	R1851 622 16	R1851 632 16
	SP	R1851 621 16	R1851 631 16



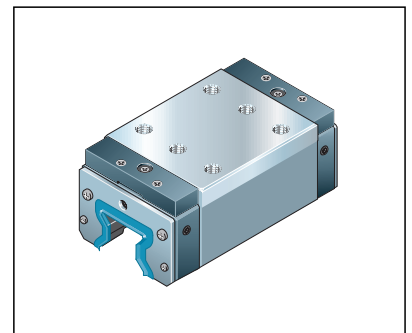
Runner block FLS R1853 ... 16

Size	Accuracy class	Part numbers for preload class	
		C2	C3
25	P	R1853 222 16	R1853 232 16
	SP	R1853 221 16	R1853 231 16
35	P	R1853 322 16	R1853 332 16
	SP	R1853 321 16	R1853 331 16
45	P	R1853 422 16	R1853 432 16
	SP	R1853 421 16	R1853 431 16
55	P	R1853 522 16	R1853 532 16
	SP	R1853 521 16	R1853 531 16
65	P	R1853 622 16	R1853 632 16
	SP	R1853 621 16	R1853 631 16



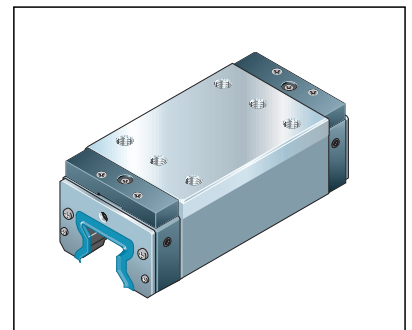
Runner block SNH R1821 ... 16

Size	Accuracy class	Part numbers for preload class	
		C2	C3
25	P	R1821 222 16	R1821 232 16
	SP	R1821 221 16	R1821 231 16
35	P	R1821 322 16	R1821 332 16
	SP	R1821 321 16	R1821 331 16
45	P	R1821 422 16	R1821 432 16
	SP	R1821 421 16	R1821 431 16
55	P	R1821 522 16	R1821 532 16
	SP	R1821 521 16	R1821 531 16



Runner block SLH R1824 ... 16

Size ¹⁾	Accuracy class	Part numbers for preload class	
		C2	C3
25	P	R1824 222 16	R1824 232 16
	SP	R1824 221 16	R1824 231 16
35	P	R1824 322 16	R1824 332 16
	SP	R1824 321 16	R1824 331 16
45	P	R1824 422 16	R1824 432 16
	SP	R1824 421 16	R1824 431 16
55	P	R1824 522 16	R1824 532 16
	SP	R1824 521 16	R1824 531 16



1) Size 65: SLS R1824 ... 16 (standard height, i.e. without lube adapter) on request

Standard Runner Blocks, Steel version

Runner Blocks for Central Oil Lubrication Systems

General notes on runner blocks R18.. ... 17

With smaller lube ducts (exclusively) for central oil lubrication via dosing valves

For part numbers, see the following page.

For dimensions, load capacities, rigidity and moment loads, please refer to the corresponding runner blocks R18.. ... 10.

Special feature:

Runner blocks R18.. ... 17 have smaller lube ducts. They need only small quantities of lube oil even when wall-mounted and are therefore suitable for all mounting orientations.

How to recognize them:

The end caps are gray. In the high runner blocks S.H, the vertical clearance between the end caps and an attachment mounting surface with integrated lube adapters has been designed for ease of maintenance. The top lube holes have already been opened, but they are closed with screws for shipment (O-rings for sealing the lube fittings are provided with the runner blocks).

Runner block short names

FNS = Flanged, normal, standard height

FLS = Flanged, long, standard height

SNH = Slimline, normal, high

SLH = Slimline, long, high

Preload classes

C2 = preload 8% C

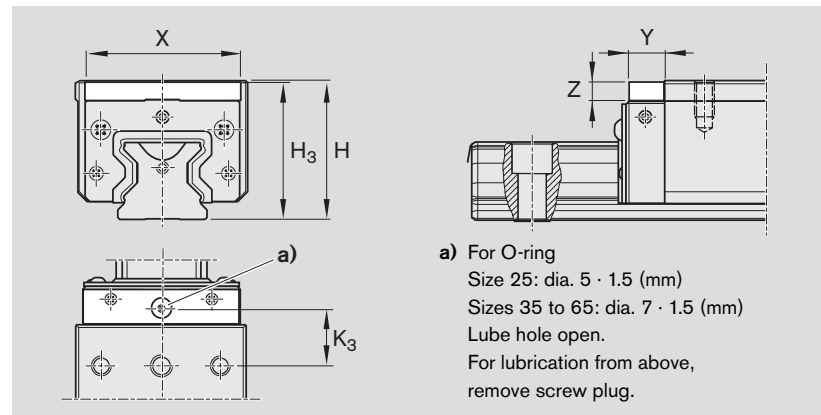
C3 = preload 13% C

Lube fitting at the top

For lubrication from above, remove screw plug and insert an O-ring seal:

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

Integrated lube adapter for high runner blocks



Size	Dimensions for integrated lube adapter (mm)						
	H	H ₃	K ₃ ¹⁾	K ₃ ²⁾	X	Y	Z
25	40	39.6	19.1	20.6	41.7	12.5	4.3
35	55	54.6	21.55	22.55	61.7	16.1	7.4
45	70	69.6	27.65	33.9	75.8	18.2	10.4
55	80	79.6	31.75	41.25	89.3	20.3	10.2

1) Dimension K₃ for runner block SNH (slimline, normal, high)

2) Dimension K₃ for runner block SLH (slimline, long, high)

Runner Blocks, Resist CR (optional)

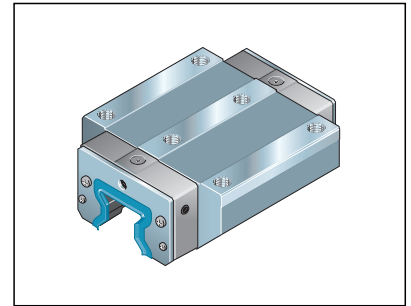
For corrosion-resistant runner blocks, Resist CR, matte silver hard chrome plated, see section on "Standard Runner Blocks, Resist CR".

Standard Runner Blocks, Steel version

Runner Blocks for Central Oil Lubrication Systems

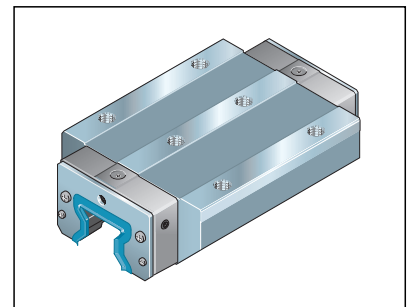
Runner block FNS R1851 ... 17

Size	Accuracy class	Part numbers for preload class	
		C2	C3
35	P	R1851 322 17	R1851 332 17
	SP	R1851 321 17	R1851 331 17
45	P	R1851 422 17	R1851 432 17
	SP	R1851 421 17	R1851 431 17
55	P	R1851 522 17	R1851 532 17
	SP	R1851 521 17	R1851 531 17



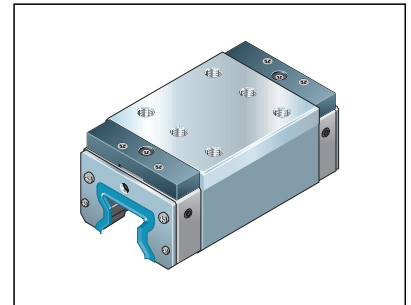
Runner block FLS R1853 ... 17

Size	Accuracy class	Part numbers for preload class	
		C2	C3
35	P	R1853 322 17	R1853 332 17
	SP	R1853 321 17	R1853 331 17
45	P	R1853 422 17	R1853 432 17
	SP	R1853 421 17	R1853 431 17
55	P	R1853 522 17	R1853 532 17
	SP	R1853 521 17	R1853 531 17



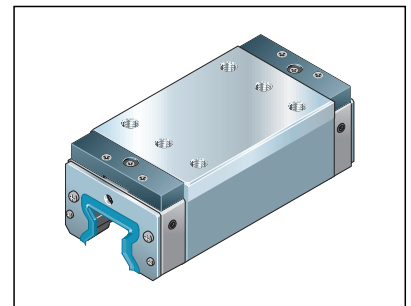
Runner block SNH R1821 ... 17

Size	Accuracy class	Part numbers for preload class	
		C2	C3
35	P	R1821 322 17	R1821 332 17
	SP	R1821 321 17	R1821 331 17
45	P	R1821 422 17	R1821 432 17
	SP	R1821 421 17	R1821 431 17
55	P	R1821 522 17	R1821 532 17
	SP	R1821 521 17	R1821 531 17



Runner block SLH R1824 ... 17

Size	Accuracy class	Part numbers for preload class	
		C2	C3
35	P	R1824 322 17	R1824 332 17
	SP	R1824 321 17	R1824 331 17
45	P	R1824 422 17	R1824 432 17
	SP	R1824 421 17	R1824 431 17
55	P	R1824 522 17	R1824 532 17
	SP	R1824 521 17	R1824 531 17



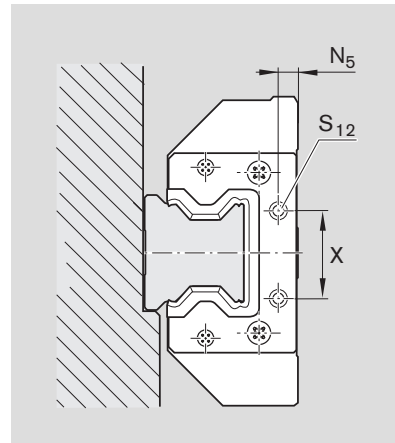
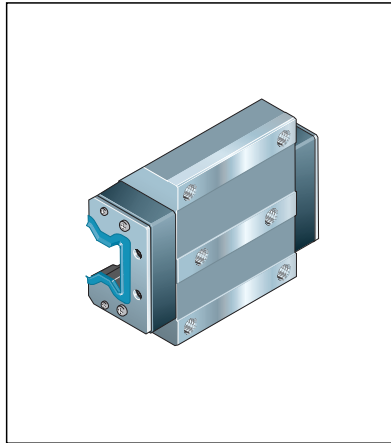
Standard Runner Blocks, Steel version

Runner Blocks for Wall Mounting

Runner Block FNS
R1851 ... 18
Flanged, normal, standard height
For wall mounting
Oil lubrication via end faces

Notes

For lubrication, both lube holes of an end face must be used – to ensure proper lubrication of the upper and lower raceways. For short-stroke applications, lubricant must be applied via both end faces (four lube holes). There are no lube holes on the attachment mounting surface or the sides of the runner block.



Size	Accuracy class ¹⁾	Part numbers for preload class		Dimensions of lube holes ²⁾ (mm)		
		C2	C3	N ₅	S ₁₂	X
35	P	R1851 322 18	R1851 332 18	7	M6	32
	SP	–	R1851 331 18			
45	P	R1851 422 18	R1851 432 18	8	M6	40
	SP	–	R1851 431 18			
55	P	R1851 522 18	R1851 532 18	9	M6	50
	SP	–	R1851 531 18			

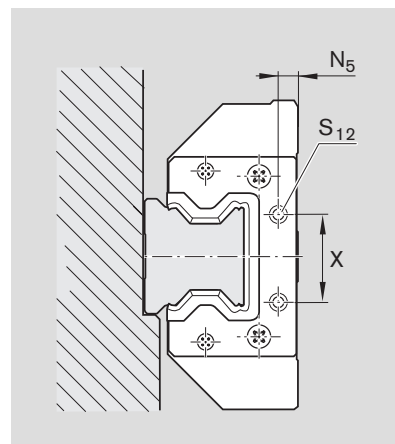
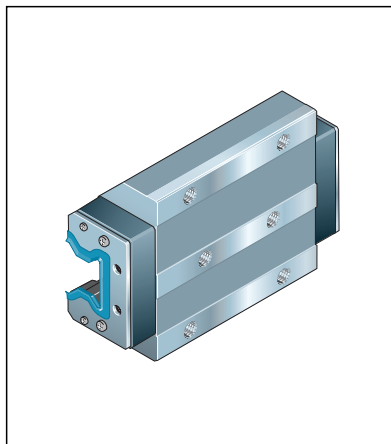
1) Accuracy class UP on request

Runner Block FLS
R1853 ... 18
Flanged, long, standard height

For wall mounting
Oil lubrication via end faces

Notes

For lubrication, both lube holes of an end face must be used – to ensure proper lubrication of the upper and lower raceways. For short-stroke applications, lubricant must be applied via both end faces (four lube holes). There are no lube holes on the attachment mounting surface or the sides of the runner block.



Size	Accuracy class ¹⁾	Part numbers for preload class		Dimensions of lube holes ²⁾ (mm)		
		C2	C3	N ₅	S ₁₂	X
35	P	R1853 322 18	R1853 332 18	7	M6	32
	SP	–	R1853 331 18			
45	P	R1853 422 18	R1853 432 18	8	M6	40
	SP	–	R1853 431 18			
55	P	R1853 522 18	R1853 532 18	9	M6	50
	SP	–	R1853 531 18			

1) Accuracy class UP on request

2) For other dimensions, load capacities, rigidity and moment loads, please refer to runner blocks FLS R1853 ... 10.

Preload classes

C2 = preload 8% C
 C3 = preload 13% C

Standard Runner Blocks, Steel version

Runner Blocks for Wall Mounting

Size 65:
Runner block FLS
R1859 620 31
Flanged, long, standard height

For wall mounting
 Liquid grease or oil lubrication either at both end faces or at both ends of the attachment mounting surface

Notes

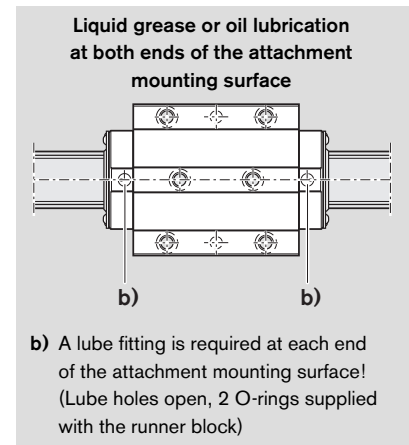
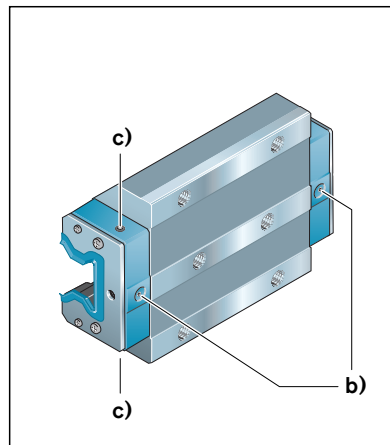
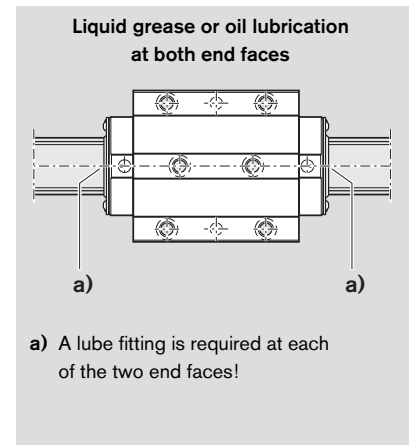
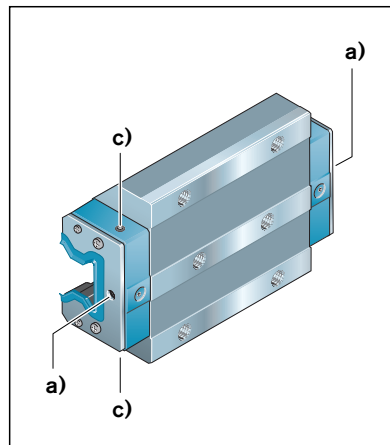
A lube fitting is required on each of the blue end caps (**either** on the end face **or** at the attachment mounting surface) for liquid grease or oil lubrication – to ensure proper lubrication of the upper and lower raceways.

The side holes (c) cannot be used!

The lube holes (b) on the attachment mounting surface have already been opened, but they are closed with screws for shipment (O-rings for sealing the lube fittings are provided with the runner blocks).

Please adhere to the required lubricant quantities per pulse (see "Lubrication" section).

For dimensions, load capacities, rigidity and moment loads, please refer to runner blocks FLS R1853 621 10.



Preload class
 C3 = preload 13% C

Size	Accuracy class	Part numbers for preload class
65	SP	C3 R1859 620 31

Standard Runner Blocks, Steel version

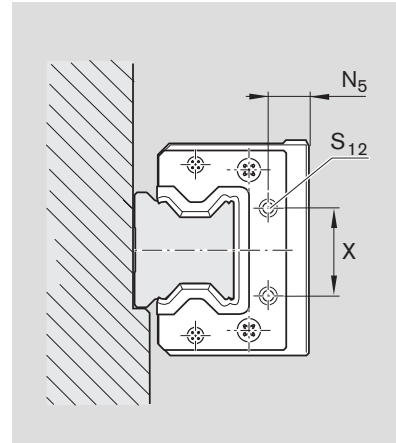
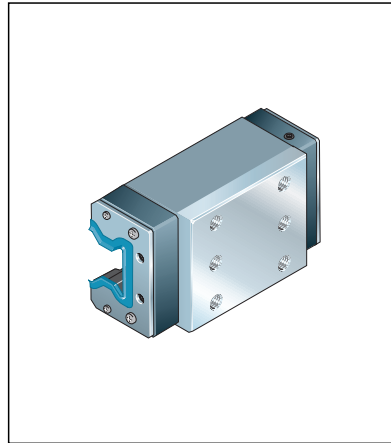
Runner Blocks for Wall Mounting

Runner block SNH R1821 ... 18 Slimline, normal, high

For wall mounting
Oil lubrication via end faces

Notes

For lubrication, both lube holes of an end face must be used – to ensure proper lubrication of the upper and lower raceways. For short-stroke applications, lubricant must be applied via both end faces (four lube holes). There are no lube holes on the attachment mounting surface or the sides of the runner block.



Size	Accuracy class ¹⁾	Part numbers for preload class		Dimensions of lube holes ²⁾ (mm)		
		C2	C3	N ₅	S ₁₂	X
35	P	R1821 322 18	R1821 332 18	14	M6	32
	SP	–	R1821 331 18			
45	P	R1821 422 18	R1821 432 18	18	M6	40
	SP	–	R1821 431 18			
55	P	R1821 522 18	R1821 532 18	19	M6	50
	SP	–	R1821 531 18			

1) Accuracy class UP on request

2) For other dimensions, load capacities, rigidity and moment loads, please refer to runner blocks SNH R1821 ... 10.

Preload classes

C2 = preload 8% C

C3 = preload 13% C

Standard Runner Blocks, Steel version

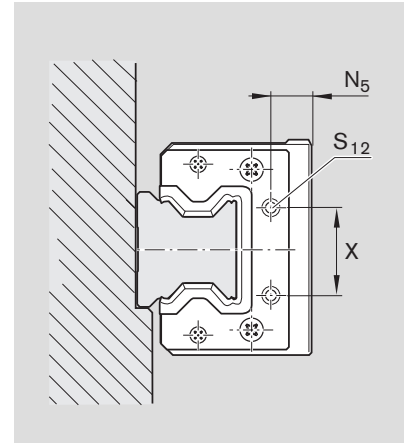
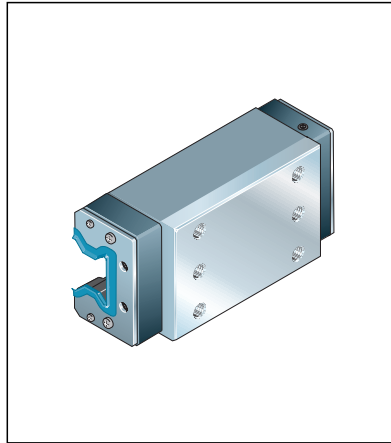
Runner Blocks for Wall Mounting

Runner block SLH R1824 ... 18 Slimline, long, high

For wall mounting
Oil lubrication via end faces

Notes

For lubrication, both lube holes of an end face must be used – to ensure proper lubrication of the upper and lower raceways. For short-stroke applications, lubricant must be applied via both end faces (four lube holes). There are no lube holes on the attachment mounting surface or the sides of the runner block.



Size	Accuracy class ¹⁾	Part numbers for preload class		Dimensions of lube holes ²⁾ (mm)		
		C2	C3	N ₅	S ₁₂	X
35	P	R1824 322 18	R1824 332 18	14	M6	32
	SP	–	R1824 331 18			
45	P	R1824 422 18	R1824 432 18	18	M6	40
	SP	–	R1824 431 18			
55	P	R1824 522 18	R1824 532 18	19	M6	50
	SP	–	R1824 531 18			

1) Accuracy class UP on request

2) For other dimensions, load capacities, rigidity and moment loads, please refer to runner blocks SLH R1824 ... 10.

Preload classes

C2 = preload 8% C

C3 = preload 13% C