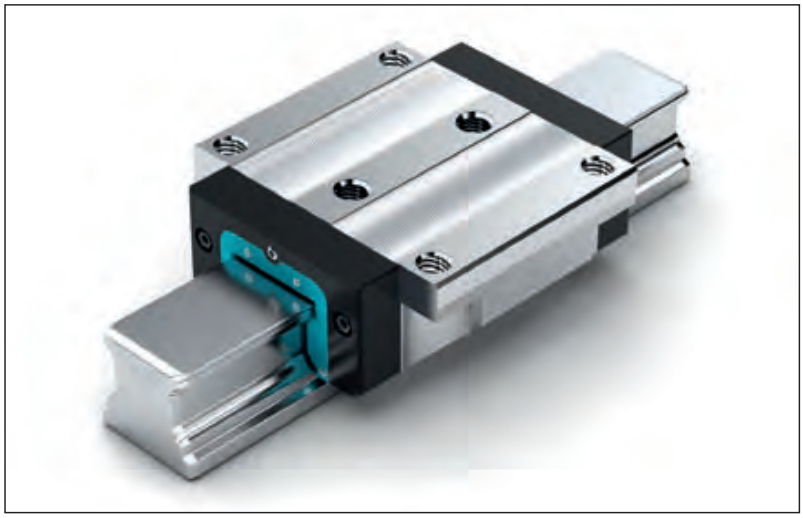
Heavy Duty Ball Runner Blocks made of steel

FNS – Flanged, normal, standard height

R1651 … 1.



Dynamic characteristics
Travel speed: $v_{max} = 3$ m/s
Acceleration: $a_{max} = 250$ m/s^2
(If $F_{comb} > 2.8 \cdot F_{pr}$: $a_{max} = 50$ m/s^2)

Note on lubrication
– Not pre-lubricated

Further Heavy Duty Runner Blocks FNS
– Corrosion-resistant Ball Runner Blocks
Resist CR ☞ 108

Note
Can be used on all Ball Guide Rails SNS.

Options and part numbers

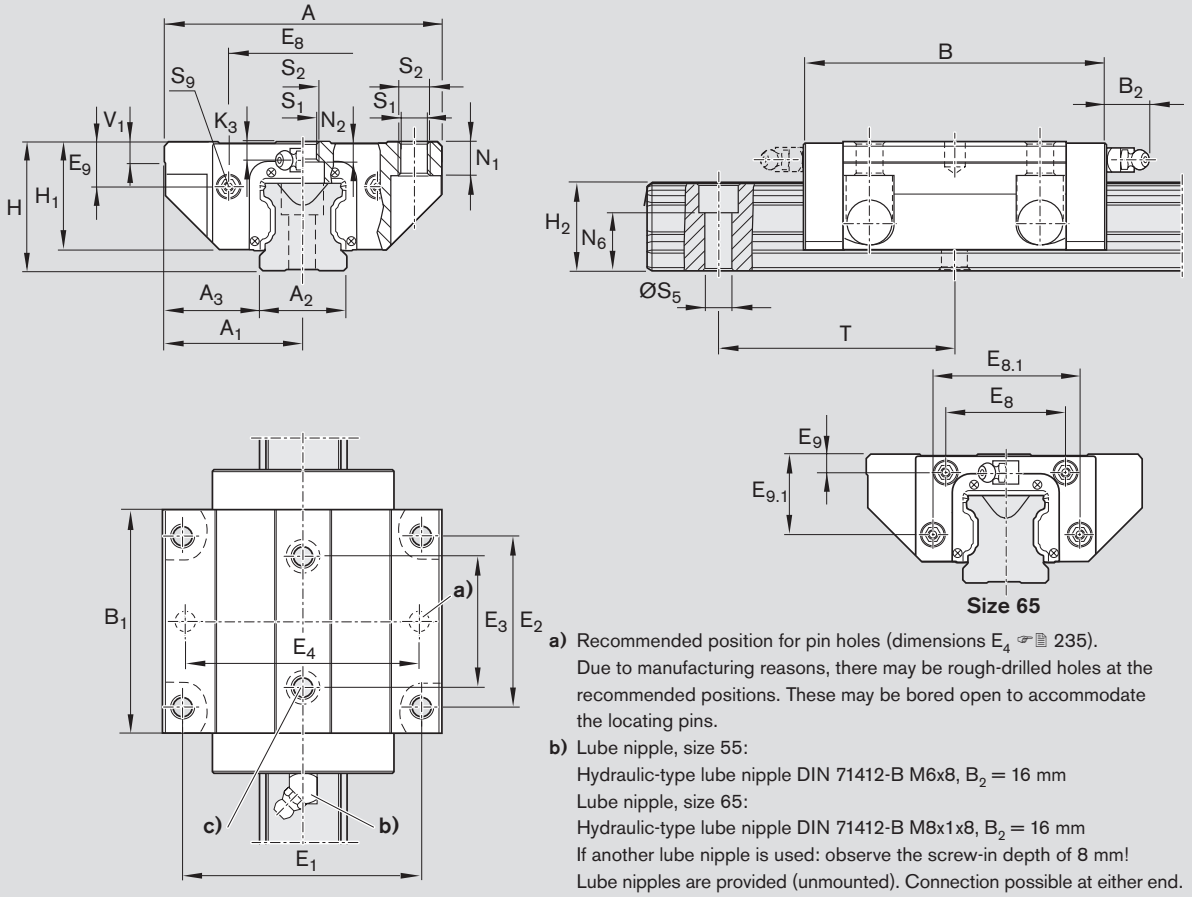
Size	Ball runner block with size	Preload class				Accuracy class					Seal for ball runner block without ball chain
		C0	C1	C2	C3	N	H	P	SP	UP	SS
55	R1651 5	9				4	3	–	–	–	10
			1			4	3	2	1	9	10
				2		–	3	2	1	9	10
					3	–	–	2	1	9	10
65	R1651 6	9				4	3	–	–	–	10
			1			4	3	2	1	9	10
				2		–	3	2	1	9	10
					3	–	–	2	1	9	10
e.g.	R1651 5		1				3				10

Ordering example
Options:
– Ball Runner Block FNS
– Size 55
– Preload class C1
– Accuracy class H
– With standard seal, without ball chain
Part number: R1651 513 10

Preload classes
C0 = without preload
C1 = preload 2% C
C2 = preload 8% C
C3 = preload 13% C

Seals
SS = standard seal

Ball Runner Blocks FNS



Size 65

a) Recommended position for pin holes (dimensions E_4 ☞ 235). Due to manufacturing reasons, there may be rough-drilled holes at the recommended positions. These may be bored open to accommodate the locating pins.

b) Lube nipple, size 55:
Hydraulic-type lube nipple DIN 71412-B M6x8, B_2 = 16 mm
Lube nipple, size 65:
Hydraulic-type lube nipple DIN 71412-B M8x1x8, B_2 = 16 mm
If another lube nipple is used: observe the screw-in depth of 8 mm!
Lube nipples are provided (unmounted). Connection possible at either end.

c) For manufacturing reasons, there may be plugs at these positions. These must be removed before mounting.

Size	Dimensions (mm)																
	A	A_1	A_2	A_3	B	B_1	E_1	E_2	E_3	E_8	$E_{8.1}$	E_9	$E_{9.1}$	H	H_1	H_2 [1]	H_2 [2]
55	140	70	53	43.5	159	115.5	116	95	70	80	–	22.3	–	70	57	48.15	47.85
65	170	85	63	53.5	188	139.6	142	110	82	76	100	11.0	53.5	90	76	60.15	59.85

Size	Dimensions (mm)										Weight (kg)	Load capacities [3] (N)		Load moments [3] (Nm)			
	K_3	N_1	N_2	$N_6^{\pm 0.5}$	S_1	S_2	S_5	S_9	T	V_1		C	C_0	M_t	M_{t0}	M_L	M_{L0}
55	9	18	13.5	29.0	12.4	M14	16	M5x8	120	12	5.20	98 200	121 400	3 100	3 860	1 540	1 905
65	16	23	14.0	38.5	14.6	M16	18	M4x7	150	15	10.25	123 000	192 700	4 850	7 610	2 430	3 815

1) Dimension H_2 with cover strip
2) Dimension H_2 without cover strip
3) Load capacities and moments for Ball Runner Block **without** ball chain.
Determination of the dynamic load capacities and moments is based on a travel life of 100,000 m per ISO 14728-1. Often only 50,000 m are actually stipulated. For comparison: Multiply values **C**, $\mathbf{M}_t$ and $\mathbf{M}_L$ from the table by 1.26.

Heavy Duty Ball Runner Blocks made of steel

FLS – Flanged, long, standard height

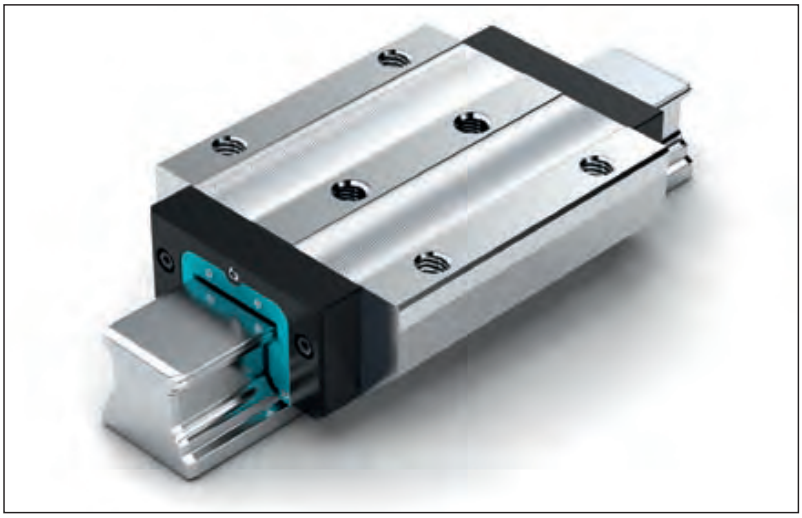
R1653 … 1.

Dynamic characteristics
Travel speed: $v_{max} = 3$ m/s
Acceleration: $a_{max} = 250$ m/s²
(If $F_{comb} > 2.8 \cdot F_{pr}$: $a_{max} = 50$ m/s²)

Note on lubrication
– Not pre-lubricated

Further Heavy Duty Runner Blocks FLS
– Corrosion-resistant Ball Runner Blocks
Resist CR ☞ 108

Note
Can be used on all Ball Guide Rails SNS.



Options and part numbers

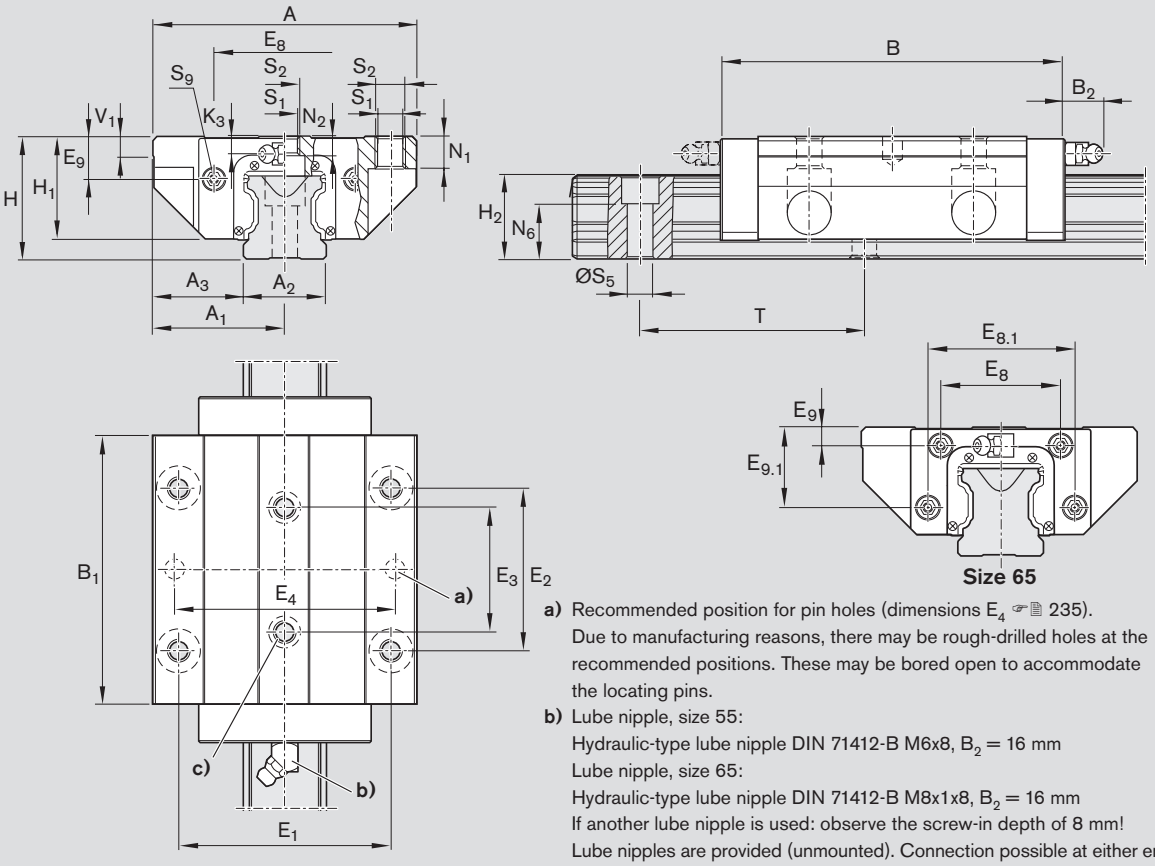
Size	Ball runner block with size	Preload class				Accuracy class					Seal for ball runner block without ball chain
		C0	C1	C2	C3	N	H	P	SP	UP	SS
55	R1653 5	9				4	3	–	–	–	10
			1			4	3	2	1	9	10
				2		–	3	2	1	9	10
					3	–	–	2	1	9	10
65	R1653 6	9				4	3	–	–	–	10
			1			4	3	2	1	9	10
				2		–	3	2	1	9	10
					3	–	–	2	1	9	10
e.g.	R1653 5		1				3				10

Ordering example
Options:
– Ball Runner Block FLS
– Size 55
– Preload class C1
– Accuracy class H
– With standard seal, without ball chain
Part number: R1653 513 10

Preload classes
C0 = without preload
C1 = preload 2% C
C2 = preload 8% C
C3 = preload 13% C

Seals
SS = standard seal

Ball Runner Blocks FLS



Size 65

a) Recommended position for pin holes (dimensions E_4 ☞ 235). Due to manufacturing reasons, there may be rough-drilled holes at the recommended positions. These may be bored open to accommodate the locating pins.

b) Lube nipple, size 55:
Hydraulic-type lube nipple DIN 71412-B M6x8, B_2 = 16 mm
Lube nipple, size 65:
Hydraulic-type lube nipple DIN 71412-B M8x1x8, B_2 = 16 mm
If another lube nipple is used: observe the screw-in depth of 8 mm!
Lube nipples are provided (unmounted). Connection possible at either end.

c) For manufacturing reasons, there may be plugs at these positions. These must be removed before mounting.

Size	Dimensions (mm)																
	A	A_1	A_2	A_3	B	B_1	E_1	E_2	E_3	E_8	$E_{8.1}$	E_9	$E_{9.1}$	H	H_1	H_2 [1]	H_2 [2]
55	140	70	53	43.5	200	155.5	116	95	70	80	–	22.3	–	70	57	48.15	47.85
65	170	85	63	53.5	243	194.6	142	110	82	76	100	11.0	53.5	90	76	60.15	59.85

Size	Dimensions (mm)										Weight (kg)	Load capacities [3] (N)		Load moments [3] (Nm)			
	K_3	N_1	N_2	$N_6^{\pm 0.5}$	S_1	S_2	S_5	S_9	T	V_1		C	C_0	M_t	M_{t0}	M_L	M_{L0}
55	9	18	13.5	29.0	12.4	M14	16	M5x8	120	12	7.50	124 200	170 000	3 950	5 400	2 630	3 600
65	16	23	14.0	38.5	14.6	M16	18	M4x7	150	15	14.15	163 000	289 000	6 440	11 420	4 620	8 190

1) Dimension H_2 with cover strip
2) Dimension H_2 without cover strip
3) Load capacities and moments for Ball Runner Block **without** ball chain.
Determination of the dynamic load capacities and moments is based on a travel life of 100,000 m per ISO 14728-1. Often only 50,000 m are actually stipulated. For comparison: Multiply values **C**, $\mathbf{M}_t$ and $\mathbf{M}_L$ from the table by 1.26.

Heavy Duty Ball Runner Blocks made of steel

SNS – Slimline, normal, standard height

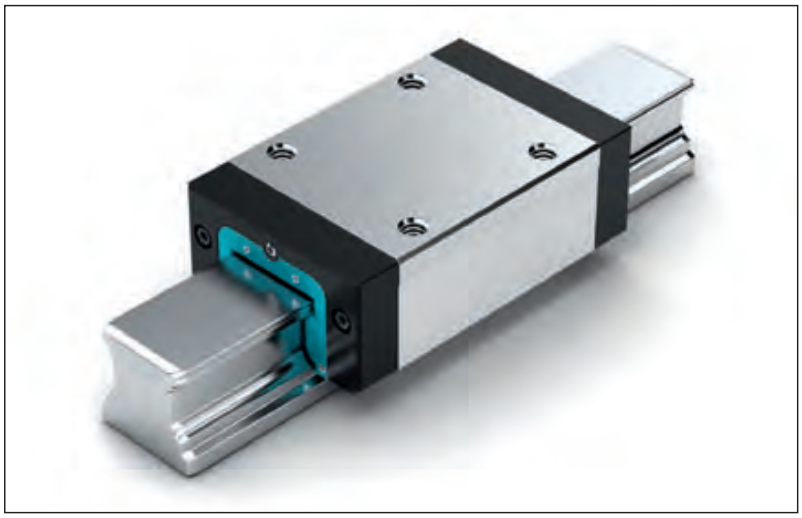
R1622 ...1.

Dynamic characteristics
Travel speed: $v_{max} = 3$ m/s
Acceleration: $a_{max} = 250$ m/s^2
(If $F_{comb} > 2.8 \cdot F_{pr}$: $a_{max} = 50$ m/s^2)

Note on lubrication
– Not pre-lubricated

Further Heavy Duty Runner Blocks SNS
– Corrosion-resistant Ball Runner Blocks
Resist CR ☞ 108

Note
Can be used on all Ball Guide Rails SNS.



Options and part numbers

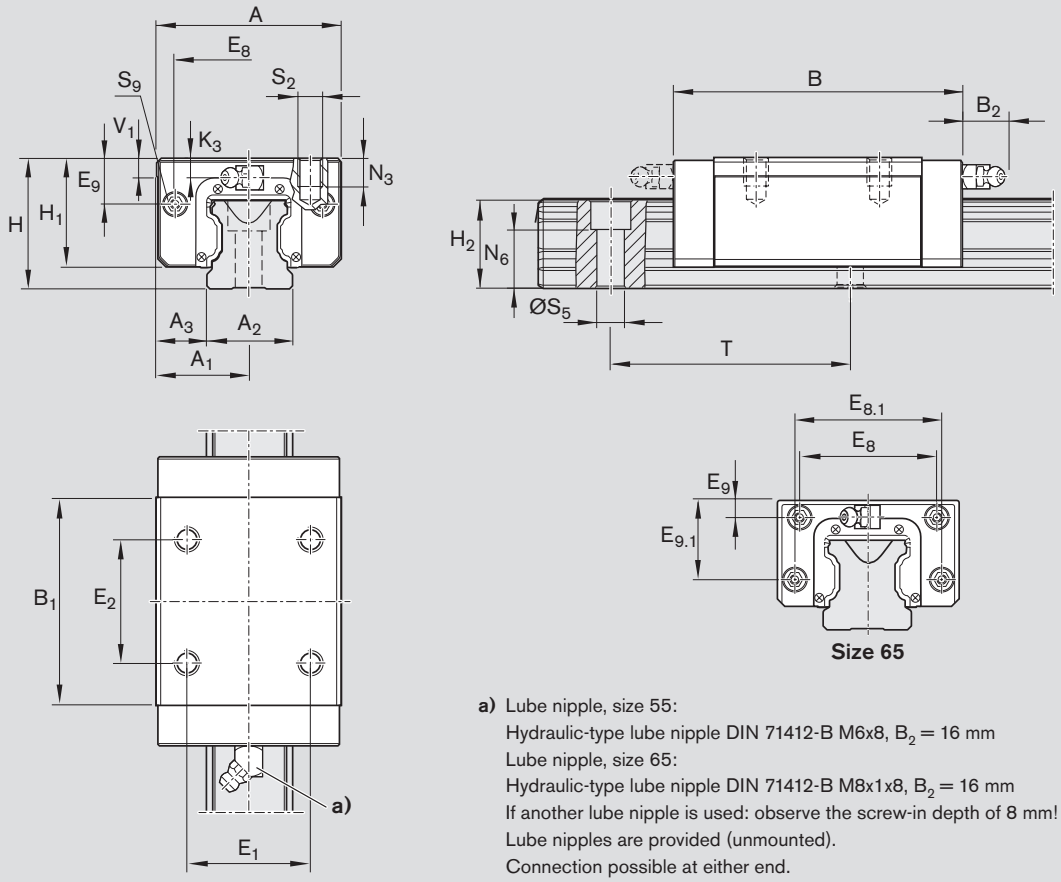
Size	Ball runner block with size	Preload class				Accuracy class			Seal for ball runner block without ball chain
		C0	C1	C2	C3	N	H	P	SS
55	R1622 5	9				4	3	–	10
			1			4	3	2	10
				2		–	3	2	10
					3	–	–	2	10
65	R1622 6	9				4	3	–	10
			1			4	3	2	10
				2		–	3	2	10
					3	–	–	2	10
e.g.	R1622 5		1				3		10

Ordering example
Options:
– Ball Runner Block SNS
– Size 55
– Preload class C1
– Accuracy class H
– With standard seal, without ball chain
Part number: R1622 513 10

Preload classes
C0 = without preload
C1 = preload 2% C
C2 = preload 8% C
C3 = preload 13% C

Seals
SS = standard seal

Ball Runner Blocks SNS



a) Lube nipple, size 55:
Hydraulic-type lube nipple DIN 71412-B M6x8, $B_2 = 16$ mm
Lube nipple, size 65:
Hydraulic-type lube nipple DIN 71412-B M8x1x8, $B_2 = 16$ mm
If another lube nipple is used: observe the screw-in depth of 8 mm!
Lube nipples are provided (unmounted).
Connection possible at either end.

Size	Dimensions (mm)															
	A	A_1	A_2	A_3	B	B_1	E_1	E_2	E_8	$E_{8.1}$	E_9	$E_{9.1}$	H	H_1	H_2 [1]	H_2 [2]
55	100	50	53	23.5	159	115.5	75	75	80	–	22.3	–	70	57	48.15	47.85
65	126	63	63	31.5	188	139.6	76	70	76	100	11.0	53.5	90	76	60.15	59.85

Size	Dimensions (mm)								Weight (kg)	Load capacities [3] (N)		Load moments [3] (Nm)			
	K_3	N_3	$N_6^{\pm 0.5}$	S_2	S_5	S_9	T	V_1		C	C_0	M_t	M_{t0}	M_L	M_{L0}
55	9	19	29.0	M12	16	M5x8	120	12	3.80	98 200	121 400	3 100	3 860	1 540	1 905
65	16	21	38.5	M16	18	M4x7	150	15	6.90	123 000	192 700	4 850	7 610	2 430	3 815

1) Dimension H_2 with cover strip
2) Dimension H_2 without cover strip
3) Load capacities and moments for Ball Runner Block **without** ball chain.
Determination of the dynamic load capacities and moments is based on a travel life of 100,000 m per ISO 14728-1. Often only 50,000 m are actually stipulated. For comparison: Multiply values **C**, $\mathbf{M}_t$ and $\mathbf{M}_L$ from the table by 1.26.

Heavy Duty Ball Runner Blocks made of steel

SLS – Slimline, long, standard height

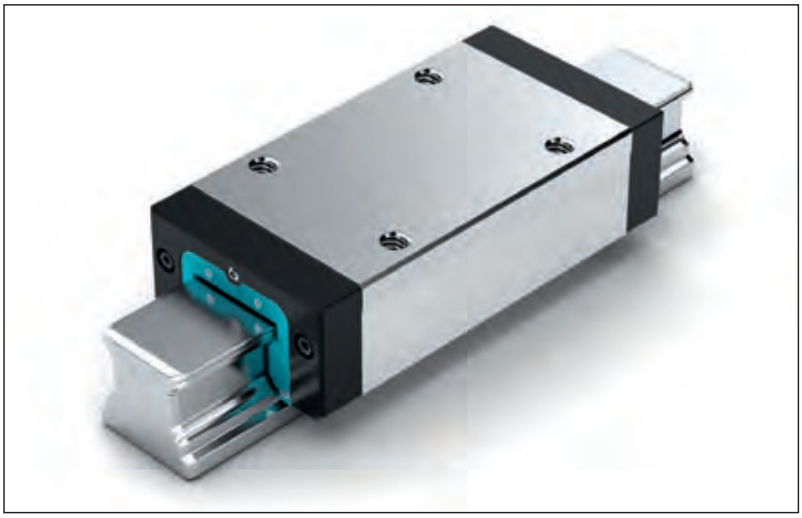
R1623 ...1.

Dynamic characteristics
Travel speed: $v_{max} = 3$ m/s
Acceleration: $a_{max} = 250$ m/s^2
(If $F_{comb} > 2.8 \cdot F_{pr}$: $a_{max} = 50$ m/s^2)

Note on lubrication
– Not pre-lubricated

Further Heavy Duty Runner Blocks SLS
– Corrosion-resistant Ball Runner Blocks
Resist CR ☞ 108

Note
Can be used on all Ball Guide Rails SNS.



Options and part numbers

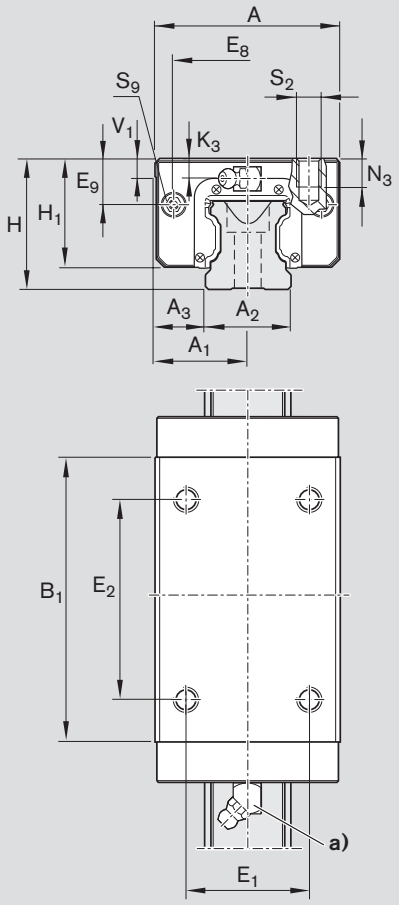
Size	Ball runner block with size	Preload class				Accuracy class			Seal for ball runner block without ball chain
		C0	C1	C2	C3	N	H	P	SS
55	R1623 5	9				4	3	–	10
			1			4	3	2	10
				2		–	3	2	10
					3	–	–	2	10
65	R1623 6	9				4	3	–	10
			1			4	3	2	10
				2		–	3	2	10
					3	–	–	2	10
e.g.	R1623 5		1				3		10

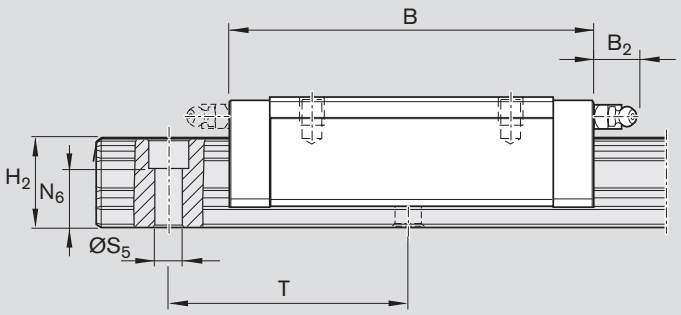
Ordering example
Options:
– Ball Runner Block SLS
– Size 55
– Preload class C1
– Accuracy class H
– With standard seal, without ball chain
Part number: R1623 513 10

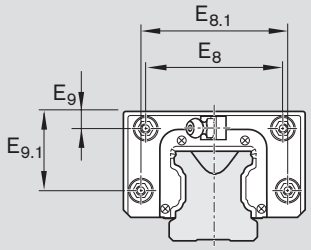
Preload classes
C0 = without preload
C1 = preload 2% C
C2 = preload 8% C
C3 = preload 13% C

Seals
SS = standard seal

Ball Runner Blocks SLS







Size 65

a) Lube nipple, size 55:
Hydraulic-type lube nipple DIN 71412-B M6x8, $B_2 = 16$ mm
Lube nipple, size 65:
Hydraulic-type lube nipple DIN 71412-B M8x1x8, $B_2 = 16$ mm
If another lube nipple is used: observe the screw-in depth of 8 mm!
Lube nipples are provided (unmounted).
Connection possible at either end.

Size	Dimensions (mm)															
	A	A_1	A_2	A_3	B	B_1	E_1	E_2	E_8	$E_{8.1}$	E_9	$E_{9.1}$	H	H_1	H_2 1)	H_2 2)
55	100	50	53	23.5	200	155.5	75	95	80	–	22.3	–	70	57	48.15	47.85
65	126	63	63	31.5	243	194.6	76	120	76	100	11.0	53.5	90	76	60.15	59.85

Size	Dimensions (mm)								Weight (kg)	Load capacities 3) (N)		Load moments 3) (Nm)			
	K_3	N_3	$N_6^{\pm 0.5}$	S_2	S_5	S_9	T	V_1		C	C_0	M_t	M_{t0}	M_L	M_{L0}
55	9	19	29.0	M12	16	M5x8	120	12	4.8	124 200	170 000	3 950	5 400	2 630	3 600
65	16	21	38.5	M16	18	M4x7	150	15	9.8	163 000	289 000	6 440	11 420	4 620	8 190

1) Dimension H_2 with cover strip
2) Dimension H_2 without cover strip
3) Load capacities and moments for Ball Runner Block **without** ball chain.
Determination of the dynamic load capacities and moments is based on a travel life of 100,000 m per ISO 14728-1. Often only 50,000 m are actually stipulated. For comparison: Multiply values **C**, $\mathbf{M}_t$ and $\mathbf{M}_L$ from the table by 1.26.

Heavy Duty Ball Runner Blocks made of steel

SNH – Slimline, normal, high

R1621 ... 1.

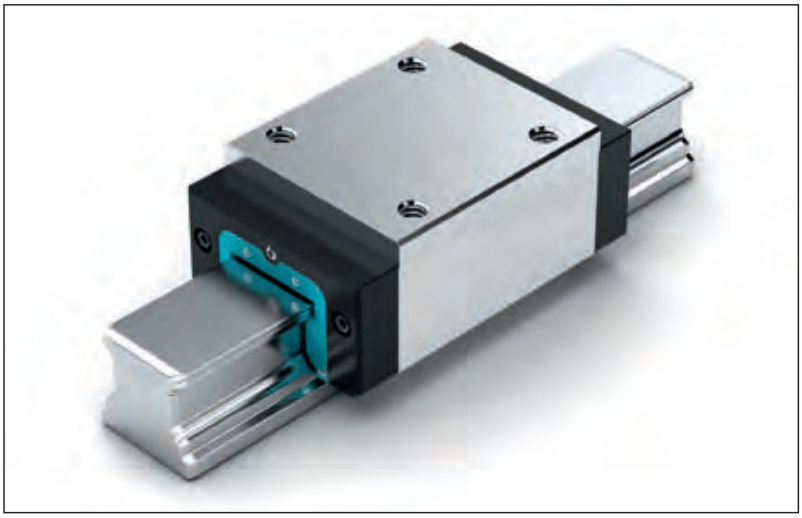
Dynamic characteristics
Travel speed: $v_{max} = 3$ m/s
Acceleration: $a_{max} = 250$ m/s^2
(If $F_{comb} > 2.8 \cdot F_{pr}$: $a_{max} = 50$ m/s^2)

Note on lubrication
– Not pre-lubricated

Further Heavy Duty Runner Blocks SNH
– Corrosion-resistant Ball Runner Blocks
Resist CR ☞ 108

Note
Can be used on all Ball Guide Rails SNS.

Ordering example
Options:
– Ball Runner Block SNH
– Size 55
– Preload class C1
– Accuracy class H
– With standard seal, without ball chain
Part number: R1621 513 10



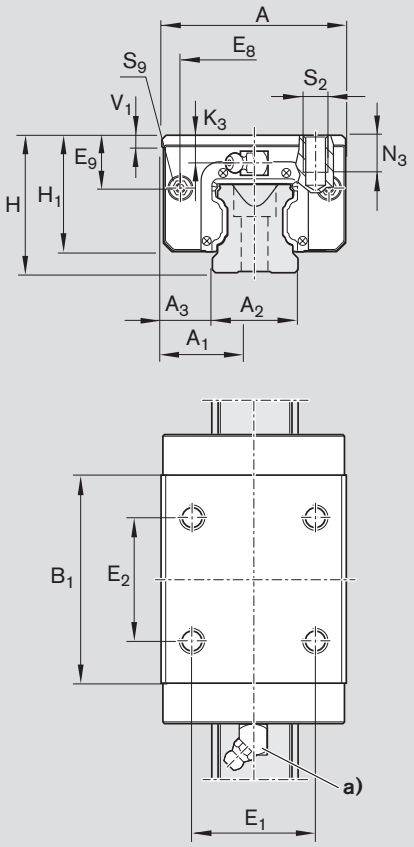
Options and part numbers

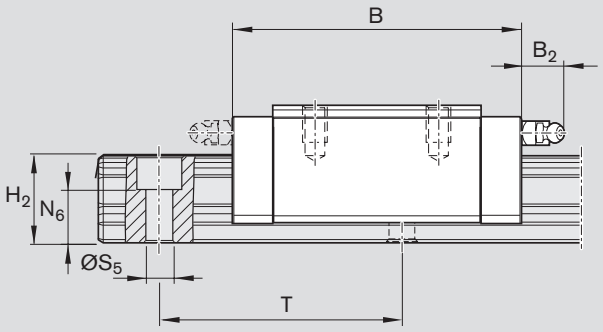
Size	Ball runner block with size	Preload class				Accuracy class			Seal for ball runner block without ball chain
		C0	C1	C2	C3	N	H	P	SS
55	R1621 5	9				4	3	–	10
			1			4	3	2	10
				2		–	3	2	10
					3	–	–	2	10
e.g.	R1621 5		1				3		10

Preload classes
C0 = without preload
C1 = preload 2% C
C2 = preload 8% C
C3 = preload 13% C

Seals
SS = standard seal

Ball Runner Blocks SNH





a) Lube nipple, size 55:
Hydraulic-type lube nipple DIN 71412-B M6x8, B_2 = 16 mm
If another lube nipple is used: observe the screw-in depth of 8 mm!
Lube nipples are provided (unmounted).
Connection possible at either end.

Size	Dimensions (mm)													
	A	A_1	A_2	A_3	B	B_1	E_1	E_2	E_8	E_9	H	H_1	H_2 [1]	H_2 [2]
55	100	50	53	23.5	159	115.5	75	75	80	32.3	80	67	48.15	47.85

Size	Dimensions (mm)								Weight (kg)	Load capacities [3] (N)		Load moments [3] (Nm)			
	K_3	N_3	$N_6^{\pm 0.5}$	S_2	S_5	S_9	T	V_1		C	C_0	M_t	M_{t0}	M_L	M_{L0}
55	19	19	29	M12	16	M5x8	120	12	4.70	98 200	121 400	3 100	3 860	1 540	1 905

1) Dimension H_2 with cover strip
2) Dimension H_2 without cover strip
3) Load capacities and moments for Ball Runner Block **without** ball chain.
Determination of the dynamic load capacities and moments is based on a travel life of 100,000 m per ISO 14728-1. Often only 50,000 m are actually stipulated. For comparison: Multiply values **C**, $\mathbf{M}_t$ and $\mathbf{M}_L$ from the table by 1.26.

Heavy Duty Ball Runner Blocks made of steel

SLH – Slimline, long, high

R1624 … 1.

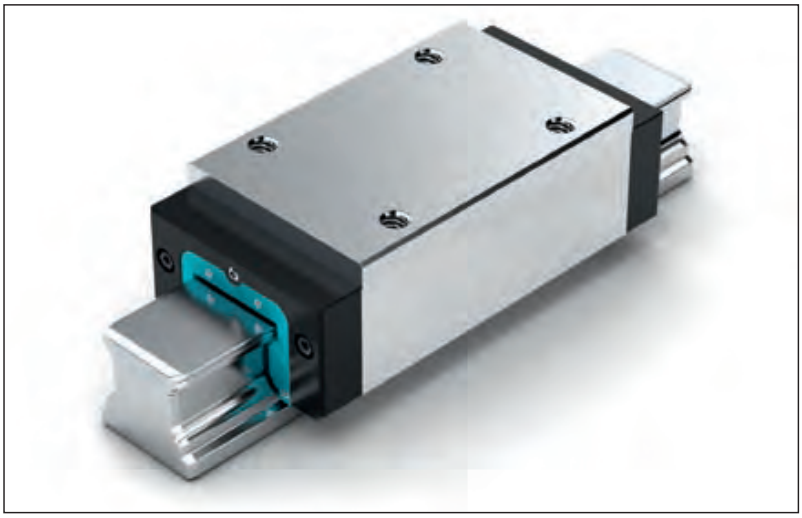
Dynamic characteristics
Travel speed: $v_{max} = 3$ m/s
Acceleration: $a_{max} = 250$ m/s^2
(If $F_{comb} > 2.8 \cdot F_{pr}$: $a_{max} = 50$ m/s^2)

Note on lubrication
– Not pre-lubricated

Further Heavy Duty Runner Blocks SLH
– Corrosion-resistant Ball Runner Blocks
Resist CR ☞ 108

Note
Can be used on all Ball Guide Rails SNS.

Ordering example
Options:
– Ball Runner Block SLH
– Size 55
– Preload class C1
– Accuracy class H
– With standard seal, without ball chain
Part number: R1624 513 10



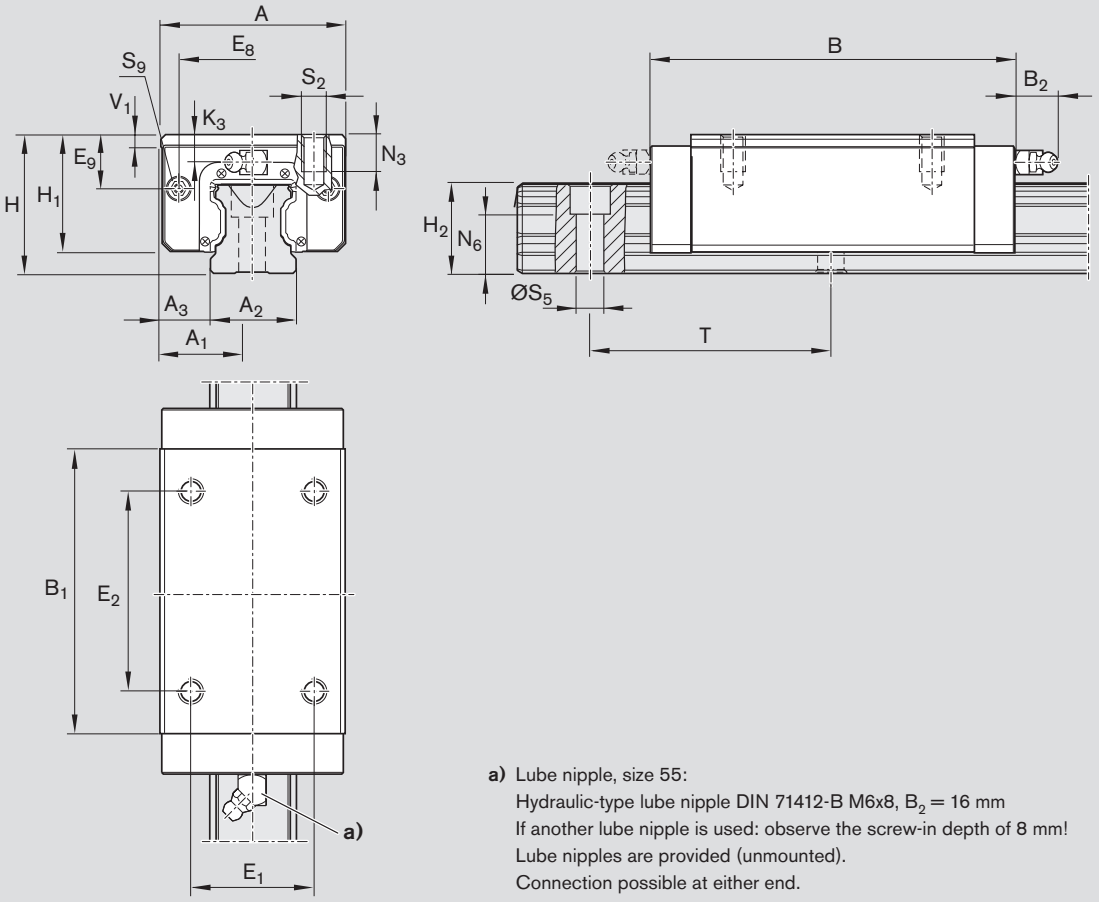
Options and part numbers

Size	Ball runner block with size	Preload class				Accuracy class			Seal for ball runner block without ball chain
		C0	C1	C2	C3	N	H	P	SS
55	R1624 5	9				4	3	–	10
			1			4	3	2	10
				2		–	3	2	10
					3	–	–	2	10
e.g.	R1624 5		1				3		10

Preload classes
C0 = without preload
C1 = preload 2% C
C2 = preload 8% C
C3 = preload 13% C

Seals
SS = standard seal

Ball Runner Blocks SLH



a) Lube nipple, size 55:
Hydraulic-type lube nipple DIN 71412-B M6x8, B_2 = 16 mm
If another lube nipple is used: observe the screw-in depth of 8 mm!
Lube nipples are provided (unmounted).
Connection possible at either end.

Size	Dimensions (mm)													
	A	A_1	A_2	A_3	B	B_1	E_1	E_2	E_8	E_9	H	H_1	H_2 1)	H_2 2)
55	100	50	53	23.5	200	155.5	75	95	80	32.3	80	67	48.15	47.85

Size	Dimensions (mm)								Weight (kg)	Load capacities 3) (N)		Load moments 3) (Nm)			
	K_3	N_3	$N_6^{\pm 0.5}$	S_2	S_5	S_9	T	V_1		C	C_0	M_t	M_{t0}	M_L	M_{L0}
55	19	19	29	M12	16	M5x8	120	12	6.00	124 200	170 000	3 950	5 400	2 630	3 600

1) Dimension H_2 with cover strip
2) Dimension H_2 without cover strip
3) Load capacities and moments for Ball Runner Block **without** ball chain.
Determination of the dynamic load capacities and moments is based on a travel life of 100,000 m per ISO 14728-1. Often only 50,000 m are actually stipulated. For comparison: Multiply values **C**, $\mathbf{M}_t$ and $\mathbf{M}_L$ from the table by 1.26.