

Linear guides & carriages.



Size range
15–45 mm

Bearing type
Ball carriage

Delivery
1–3 days

rtk

Nordic values.
Global value.

Right quality. Right price.

RTK are linear guides and ball carriages built for everyday automation – dependable, reliable motion on hardened and ground ball raceways. Supplied in accuracy class H with preload C0–C3.

Ordering-key.

How to read an RTK-number

Example: **LGB25WSC1H-RTK**

LGB	25	WS	C1	H	RTK
Product family	Size	Carriage type	Preload	Accuracy	Brand
Ball carriage B = ball	15 · 20 · 25 30 · 35 · 45	Profile + length SS, SL, WS, WL See page 5.	C1	Class H	RTK

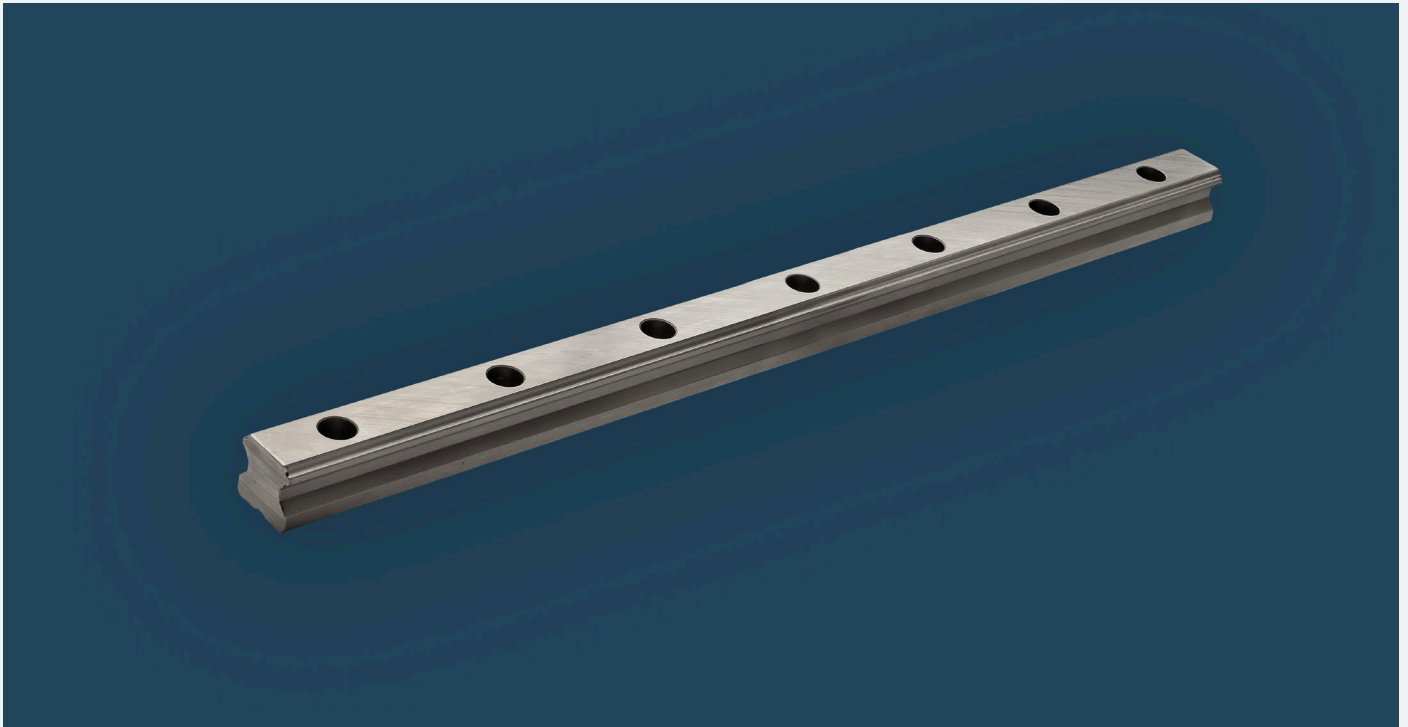
Above fields in are your choices; the rest are fixed for the whole RTK series. C1 is the standard preload. LGB = linear guide with ball cage – the carriage runs on balls, not rollers.

Preload classes.

C0	C1	C2	C3	H
Zero clearance	Light	Medium	High	High accuracy
Play-free travel without preload, minimal friction. Pick & place, light axes.	Standard choice. A balance between friction and stiffness. In stock.	Steadier travel and higher stiffness for heavier loads.	Maximum stiffness for applications with high loads.	All RTK carriages are supplied in class H – high accuracy for everyday automation, with small dimensional deviations and smooth, straight travel. In stock.

The profile rail.

A single hardened and ground profile rail carries all four carriage series. Held in stock and delivered within 1–3 working days
– cut to exact length on request. Standard length 4 m.



Part no.	Size	W × H (mm)	Ød1 × Ød2 × h1 (mm)	P (mm)	E (mm)	Weight (kg/m)	Acc.
LGB15R-RTK	15	15 × 15	7,5 × 4,5 × 5,3	60	20	1,45	H
LGB20R-RTK	20	20 × 17,5	9,5 × 6 × 8,5	60	20	2,21	H
LGB25R-RTK	25	23 × 22	11 × 7 × 9	60	20	3,21	H
LGB30R-RTK	30	28 × 26	14 × 9 × 12	80	20	4,47	H
LGB35R-RTK	35	34 × 29	14 × 9 × 12	80	20	6,3	H
LGB45R-RTK	45	45 × 38	20 × 14 × 17	105	22,5	10,41	H

W = rail width, H = rail height, Ød1/Ød2 = mounting hole with counterbore, P = hole pitch, E = edge distance .
Profile rail in accuracy class H. Standard length 4 m – cut to exact length on request.

Four carriages. One easy choice.

All four carriage types share the same rail profile in sizes 15–45 mm and the same quality level.

You choose in two steps: form – slim for compact installation, or flanged for a wider mounting face and higher moment stiffness – and length – standard or long for higher load capacity. Choose by load, stroke and available space.

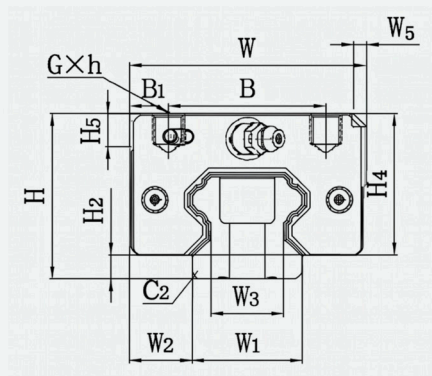


Slim carriage.

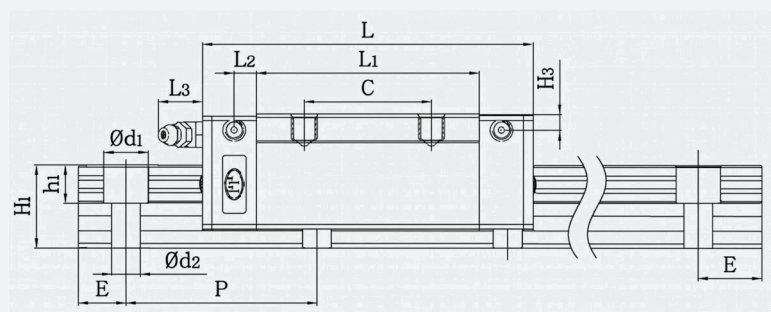
RTK Slim carriage
Size 15–45
Class H
RTK-SS / RTK-SL



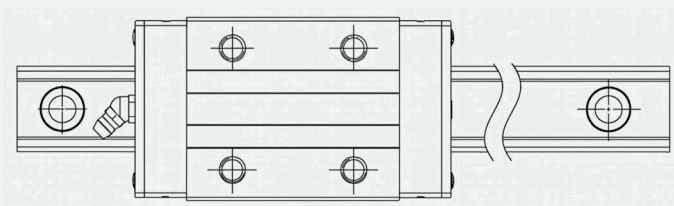
Linear guide Slim carriage Dimension reference



Cross-section



Longitudinal section



Top view



Moment directions

Dimension letters per drawing.

Slim carriage

All dimensions for sizes 15–45. Standard (SS) and long (SL) share every dimension except C, L and L1 (shown in bold). Load ratings and rail mounting on the following page.

Designation		Height					Width							Length / holes					
RTK part no.	Type	H	H2	H3	H4	H5	W	W1	W2	W3	W5	B	B1	C	C2	L	L1	L3	G
LGB15SSC1H-RTK	Std	24	4,3	3,7	3,95	6	34	15	9,5	9,55	0,8	26	4	26	0,7	62	39,4	5,3	M4 x 4
LGB25SSC1H-RTK	Std	36	5,5	9	6	8	48	23	12,5	15,8	1,1	35	6,5	35	1,5	82,4	58	12	M6 x 6
LGB25SLC1H-RTK	Long	36	5,5	9	6	8	48	23	12,5	15,8	1,1	35	6,5	50	1,5	103	78,6	12	M6 x 6
LGB30SSC1H-RTK	Std	42	6	10,8	6,5	8,5	60	28	16	18,6	1,1	40	10	40	1,5	98	70	12	M8 x 10
LGB30SLC1H-RTK	Long	42	6	10,8	6,5	8,5	60	28	16	18,6	1,1	60	10	60	1,5	121	93	12	M8 x 10
LGB35SSC1H-RTK	Std	48	7,5	12,6	9	10,2	70	34	18	23,8	1,1	50	10	50	1,5	111,5	80	12	M8 x 12
LGB35SLC1H-RTK	Long	48	7,5	12,6	9	10,2	70	34	18	23,8	1,1	50	10	72	1,5	137,3	105,8	12	M8 x 12
LGB45SSC1H-RTK	Std	60	9,5	20,5	8,5	16	86	45	20,5	29	1,5	60	13	60	2	140	97	12,9	M10 x 17
LGB45SLC1H-RTK	Long	60	9,5	20,5	8,5	16	86	45	20,5	29	1,5	60	13	80	2	172	128,8	12,9	M10 x 17

Dimensions in mm unless otherwise stated: C = hole pitch c/c lengthwise (differs standard/long), G = mounting thread x depth (G x h), accuracy class H, preload C1.

Load ratings and mounting dimensions.

Dynamic and static load capacity per carriage plus the rail's mounting dimensions. Rail and load ratings are common to slim standard and long in the same size.

Designation		Rail					Load (kN)	
RTK part no.	Type	H 1	Ød1 × d2 × h1	P	E	Rail bolt	C dyn	C0
LGB15SSC1H-RTK	Std	15	7,5 × 4,5 × 5,3	60	20	M4 x 16	11,4	25,3
LGB25SSC1H-RTK	Std	22	11 × 7 × 9	60	20	M6 x 20	26,5	59,2
LGB25SLC1H-RTK	Long	22	11 × 7 × 9	60	20	M6 x 20	32,75	76
LGB30SSC1H-RTK	Std	26	14 × 9 × 12	80	20	M8 x 25	38,7	83
LGB25SLC1H-RTK	Long	26	14 × 9 × 12	80	20	M8 x 25	47,3	110
LGB35SSC1H-RTK	Std	29	14 × 9 × 12	80	20	M8 x 25	49,52	103
LGB35SLC1H-RTK	Long	29	14 × 9 × 12	80	20	M8 x 25	60,21	136
LGB45SSC1H-RTK	Std	38	20 × 14 × 17	105	22,5	M12 x 35	77,57	156
LGB45SLC1H-RTK	Long	38	20 × 14 × 17	105	22,5	M12 x 35	94,54	207

C dyn

Dynamic load capacity (kN). The load giving a 60 km nominal life (L_{10}). Used in the sizing formula on page 11.

C0

Static load capacity (kN). The maximum load the carriage withstands at standstill without permanent deformation.

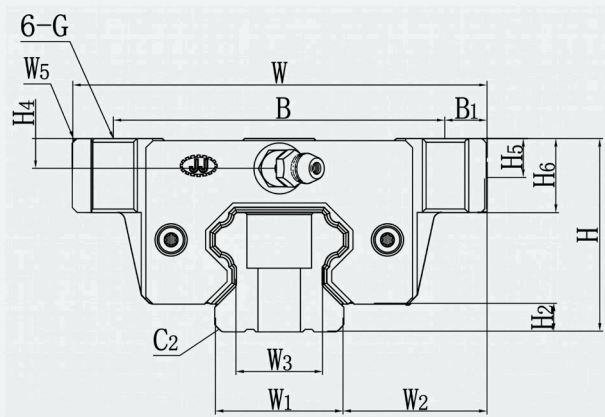
Note the difference from the dimension letter C on the previous page: that is a geometric dimension (hole pitch lengthwise), whereas C dyn and C₀ above are load ratings in kN.

Flanged Carriage.

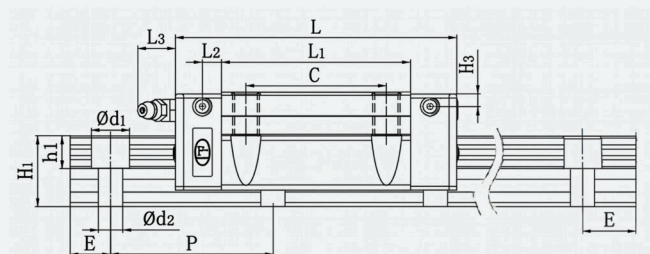
RTK Flanged carriage
Size 15–45
Class H
RTK-WS / RTK-WL



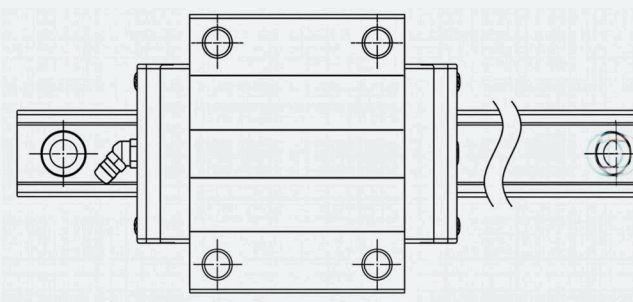
Linear guide Flanged carriage Dimension reference



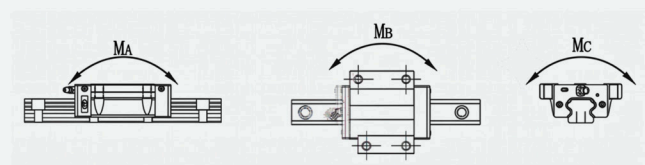
Cross-section



Longitudinal section



Top view



Moment directions

Dimension letters per drawing.

Flanged carriage

All dimensions for sizes 15–45. Standard (WS) and long (WL) share every dimension except C, L and L1 (shown in bold). Load ratings and rail mounting on the following page.

Designation		Height						Width						Length / holes						
RTK part no.	Type	H	H2	H3	H4	H5	H6	W	W1	W2	W3	W5	B	B1	C	C2	L	L1	L3	G
LGB15WSC1H-RTK	Std	24	4,3	3,7	3,95	6	8,9	47	15	16	9,55	0,8	38	4,5	30	0,7	62	39,4	5,3	M5
LGB20WSC1H-RTK	Std	30	4,6	7	6	8	10	63	20	21,5	13,2	0,8	53	5	40	1	78	50,5	12	M6
LGB20WLC1H-RTK	Long	30	4,6	7	6	8	10	63	20	21,5	13,2	0,8	53	5	40	1	93	65,2	12	M6
LGB25WSC1H-RTK	Std	36	5,5	9	6	8	14	70	23	23,5	15,8	1,1	57	6,5	45	1,5	82,4	58	12	M8
LGB25WLC1H-RTK	Long	36	5,5	9	6	8	14	70	23	23,5	15,8	1,1	57	6,5	45	1,5	103	78,6	12	M8
LGB30WSC1H-RTK	Std	42	6	10,8	6,5	8,5	16	90	28	31	18,6	1,1	72	9	52	1,5	98	70	12	M10
LGB30WLC1H-RTK	Long	42	6	10,8	6,5	8,5	16	90	28	31	18,6	1,1	72	9	52	1,5	121	93	12	M10
LGB35WSC1H-RTK	Std	48	7,5	12,6	9	10,1	18	100	34	33	23,8	1,1	82	9	62	1,5	111,5	80	12	M10
LGB35WLC1H-RTK	Long	48	7,5	12,6	9	10,1	18	100	34	33	23,8	1,1	82	9	62	1,5	137,3	105,8	12	M10
LGB45WSC1H-RTK	Std	60	9,5	20,5	8,5	15,1	22	120	45	37,5	29	1,5	100	10	80	2	140	97	12,9	M12
LGB45WLC1H-RTK	Long	60	9,5	20,5	8,5	15,1	22	120	45	37,5	29	1,5	100	10	80	2	172	128,8	12,9	M12

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Load ratings and mounting dimensions.

Dynamic and static load capacity per carriage plus the rail's mounting dimensions. Rail and load ratings are common to flanged standard and long in the same size.

Designation		Rail					Load (kN)	
RTK part no.	Type	H1	Ød1 × d2 × h1	P	E	Rail bolt	C dyn	C0
LGB15WSC1H-RTK	Std	15	7,5 x 4,5 x 5,3	60	20	M4 x 16	11,4	25,3
LGB20WSC1H-RTK	Std	17,5	9,5 x 6 x 8,5	60	20	M4 x 16	17,75	37,85
LGB20WLC1H-RTK	Long	17,5	9,5 x 6 x 8,5	60	20	M4 x 16	21,2	48,85
LGB25WSC1H-RTK	Std	22	11 x 7 x 9	60	20	M6 x 20	26,5	59,2
LGB25WLC1H-RTK	Long	22	11 x 7 x 9	60	20	M6 x 20	32,75	76
LGB30WSC1H-RTK	Std	26	14 x 9 x 12	80	20	M8 x 25	38,7	83
LGB30WLC1H-RTK	Long	26	14 x 9 x 12	80	20	M8 x 25	47,3	110
LGB35WSC1H-RTK	Std	29	14 x 9 x 12	80	20	M8 x 25	49,52	103
LGB35WLC1H-RTK	Long	29	14 x 9 x 12	80	20	M8 x 25	60,21	136
LGB45WSC1H-RTK	Std	38	20 x 14 x 17	105	22,5	M12 x 35	77,57	156
LGB45WLC1H-RTK	Long	38	20 x 14 x 17	105	22,5	M12 x 35	94,54	207

C dyn

Dynamic load capacity (kN). The load giving a 60 km nominal life (L_{10}). Used in the sizing formula on page 11.

C0

Static load capacity (kN). The maximum load the carriage withstands at standstill without permanent deformation.

Note the difference from the dimension letter C on the previous page: that is a geometric dimension (hole pitch lengthwise), whereas C dyn and C0 above are load ratings in kN.

L₁₀ life – how to size it.

Nominal life is the distance at which 90% of an identical group of linear guides is expected to survive without material fatigue under constant conditions.

Nominal life

$$L_{10} = (C / P)^3 \times 60$$

L₁₀ Nominal life (km)

C Dynamic load capacity per carriage (kN)

P Equivalent dynamic load (kN)

fw Vibration and shock factor

Vibration factor fw

Operating condition	Speed (m/s)	fw	Typical application
Smooth travel, no shock	≤ 0,25	1,0–1,2	Light positioning, handling
Normal operation	0,25–1,0	1,2–1,5	General automation
Moderate vibration	1,0–2,0	1,5–2,0	Pick & place, packaging
Shock and vibration	> 2,0	2,0–3,5	Heavier transport, material handling

fw values are indicative guide figures. Dynamic load capacity C is rated at a 60 km nominal reference distance.

Example — step by step

Given: total moving mass 80 kg, 2×2 system (4 carriages), normal operation.

1. Load per carriage = 80 kg ÷ 4 = 20 kg
2. Convert to kN = 20 × 9.81 / 1000 = 0.196 kN
3. Apply fw → $P_d = 0.196 \times fw$ kN
4. $L_{10} = (C / P_d)^3 \times 60$ km

Recommendation: choose a carriage where $L_{10} \geq 20,000$ km with $\geq 20\%$ margin.

ou treat people well, they treat you well. If you act
y will mirror that. If you recognize their dreams of
y will make your life better, too. In the Nordics, we
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