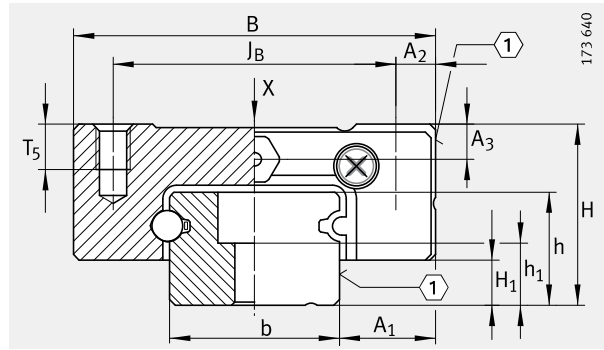


# Corrosion-resistant miniature linear ball bearing and guideway assemblies

Two-row



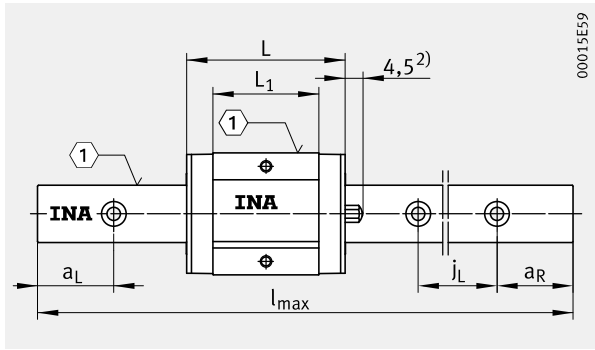
KWEM (-L, -C) with TKDM  
 (1)<sup>3)</sup>

**Dimension table** · Dimensions in mm

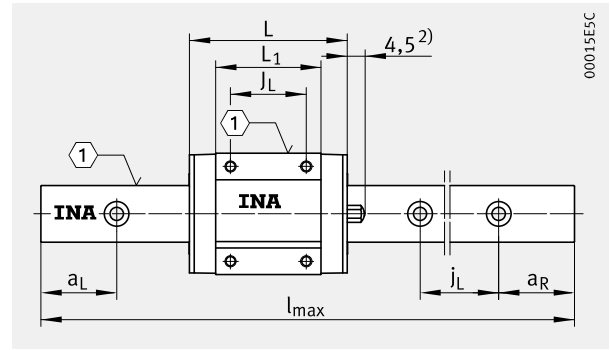
Carriage Designation	Guideway Designation	Dimensions				Mounting dimensions			
		$l_{\max}^{1)}$	H	B	L	A <sub>1</sub>	J <sub>B</sub>	b	A <sub>2</sub>
KWEM05	TKDM05	210	6	12	19	3,5	8	5	2
KWEM05-C			6	12	16	3,5	8	5	2
KWEM07	TKDM07	300	8	17	23,5	5	12	7	2,5
KWEM07-L			8	17	31	5	12	7	2,5
KWEM07-C			8	17	19	5	12	7	2,5
KWEM09	TKDM09	860	10	20	30	5,5	15	9	2,5
KWEM09-L			10	20	40,5	5,5	15	9	2,5
KWEM09-C			10	20	21,5	5,5	15	9	2,5
KWEM12	TKDM12	1 000	13	27	34	7,5	20	12	3,5
KWEM12-L			13	27	44	7,5	20	12	3,5
KWEM12-C			13	27	25	7,5	20	12	3,5
KWEM15	TKDM15	1 000	16	32	42	8,5	25	15	3,5
KWEM15-L			16	32	57	8,5	25	15	3,5
KWEM15-C			16	32	32	8,5	25	15	3,5

For further table values, see page 34 and page 35.

- 1) Maximum guideway length; longer guideways may be available by agreement. Available standard lengths: see page 34.
- 2) A lubrication nipple is supplied with size 15.
- 3) (1)<sup>3)</sup> Locating face.



KWEM05, KWEM..-C with TKDM,  
view rotated 90°  
①<sup>3)</sup>

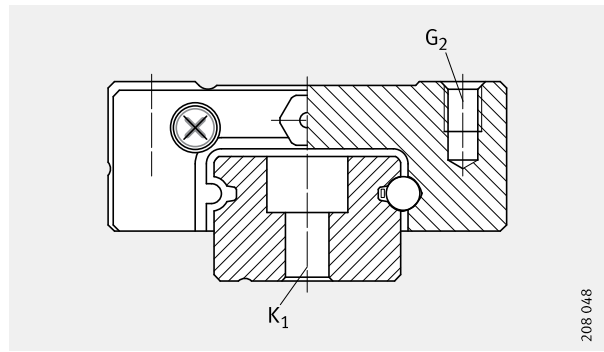


From KWEM07 (-L) with TKDM,  
view rotated 90°  
①<sup>3)</sup>

L <sub>1</sub>	j <sub>L</sub>	j <sub>L</sub>	a <sub>L</sub>		a <sub>R</sub>		H <sub>1</sub>	T <sub>5</sub>	A <sub>3</sub>	h	h <sub>1</sub>
			min.	max.	min.	max.					
12,6	–	15	4	11,5	4	11,5	1	1,5	1,2	3,7	2,9
9,6	–	15	4	11,5	4	11,5	1	1,5	1,2	3,7	2,9
14,3	8	15	4,5	12	4,5	12	1,5	2,5	1,5	5	2,7
21,6	12	15	4,5	12	4,5	12	1,5	2,5	1,5	5	2,7
9,6	–	15	4,5	12	4,5	12	1,5	2,5	1,5	5	2,7
20,8	10	20	4,5	14,5	4,5	14,5	2	3	2,2	6	2,5
30,9	15	20	4,5	14,5	4,5	14,5	2	3	2,2	6	2,5
11,9	–	20	4,5	14,5	4,5	14,5	2	3	2,2	6	2,5
21,6	15	25	5	17,5	5	17,5	3	3,5	2,7	8	3,5
32	20	25	5	17,5	5	17,5	3	3,5	2,7	8	3,5
13	–	25	5	17,5	5	17,5	3	3,5	2,7	8	3,5
27,8	20	40	5,5	25,5	5,5	25,5	4	4	3,1	10	5,5
42,7	25	40	5,5	25,5	5,5	25,5	4	4	3,1	10	5,5
17,7	–	40	5,5	25,5	5,5	25,5	4	4	3,1	10	5,5

# Corrosion-resistant miniature linear ball bearing and guideway assemblies

Two-row



KWEM (-L, -C) with TKDM

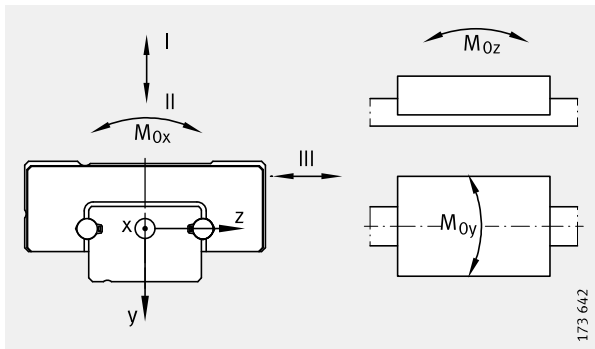
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Dimension table (continued) · Dimensions in mm					
Carriage				Guideway	
Designation			Mass m ≈kg	Designation	Mass m ≈kg/m
Standard	With long term lubrication unit	With metal end pieces <sup>1)</sup>			
<b>KWEM05</b>	<b>KWEM05-LZM</b>	<b>KWEM05-UG-MKS</b>	0,004	<b>TKDM05</b>	0,120
<b>KWEM05-C</b>	<b>KWEM05-C-LZM</b>	<b>KWEM05-C-UG-MKS</b>	0,003		
<b>KWEM07</b>	<b>KWEM07-LZM</b>	<b>KWEM07-UG-MKS</b>	0,010	<b>TKDM07</b>	0,220
<b>KWEM07-L</b>	<b>KWEM07-L-LZM</b>	<b>KWEM07-L-UG-MKS</b>	0,014		
<b>KWEM07-C</b>	<b>KWEM07-C-LZM</b>	<b>KWEM07-C-UG-MKS</b>	0,007		
<b>KWEM09</b>	<b>KWEM09-LZM</b>	<b>KWEM09-UG-MKS</b>	0,019	<b>TKDM09</b>	0,350
<b>KWEM09-L</b>	<b>KWEM09-L-LZM</b>	<b>KWEM09-L-UG-MKS</b>	0,028		
<b>KWEM09-C</b>	<b>KWEM09-C-LZM</b>	<b>KWEM09-C-UG-MKS</b>	0,011		
<b>KWEM12</b>	<b>KWEM12-LZM</b>	<b>KWEM12-UG-MKS</b>	0,035	<b>TKDM12</b>	0,650
<b>KWEM12-L</b>	<b>KWEM12-L-LZM</b>	<b>KWEM12-L-UG-MKS</b>	0,051		
<b>KWEM12-C</b>	<b>KWEM12-C-LZM</b>	<b>KWEM12-C-UG-MKS</b>	0,022		
<b>KWEM15</b>	<b>KWEM15-LZM</b>	<b>KWEM15-UG-MKS</b>	0,064	<b>TKDM15</b>	1,070
<b>KWEM15-L</b>	<b>KWEM15-L-LZM</b>	<b>KWEM15-L-UG-MKS</b>	0,095		
<b>KWEM15-C</b>	<b>KWEM15-C-LZM</b>	<b>KWEM15-C-UG-MKS</b>	0,042		

- 1) Without greasing (preservative coating only) and without seals.
- 2) If there is a possibility of settling, the fixing screws should be secured against rotation.
- 3) For location, special screws are required that are available by agreement. Standard screws cannot be used.

## Standard lengths for guideways

TKDM05		TKDM07		TKDM09		TKDM12		TKDM15	
Length mm	Mass ≈kg	Length mm	Mass ≈kg	Length mm	Mass ≈kg	Length mm	Mass ≈kg	Length mm	Mass ≈kg
60	0,007	60	0,013	60	0,021	100	0,065	160	0,171
90	0,011	90	0,020	80	0,028	150	0,098	240	0,257
105	0,013	120	0,026	120	0,042	200	0,13	320	0,342
120	0,014	150	0,033	160	0,056	275	0,179	440	0,471
150	0,018	180	0,040	220	0,077	350	0,228	560	0,599
210	0,025	240	0,053	280	0,098	475	0,309	680	0,728
–	–	300	0,066	860	0,301	1 000	0,65	1 000	1,07

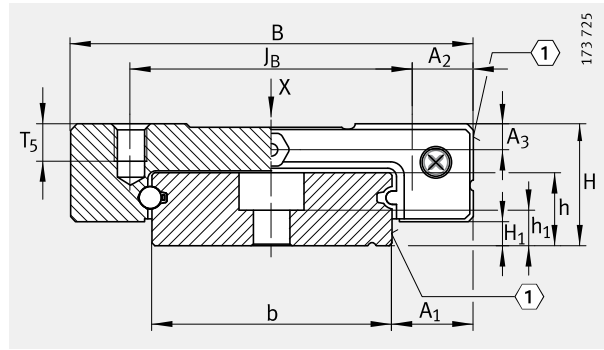


Load directions:  
see column Load carrying capacity

Fixing screws <sup>2)</sup>				Load carrying capacity						
K <sub>1</sub> DIN ISO 4762-12.9		G <sub>2</sub>		Basic load ratings				Moment ratings		
				Load directions I and II (tensile and compressive load)		Load directions III (lateral load)				
	M <sub>A</sub> Nm		M <sub>A</sub> Nm	C N	C <sub>0</sub> N	C N	C <sub>0</sub> N	M <sub>0x</sub> Nm	M <sub>0y</sub> Nm	M <sub>0z</sub> Nm
M2 <sup>3)</sup>	0,6	M2	0,6	534	1 090	470	916	2,9	1,9	2,3
				444	841	391	706	2,2	1,2	1,4
M2	0,6	M2	0,6	1 051	1 890	925	1 587,6	6,9	3,9	4,7
				1 335	2 650	1 175	2 226	9,7	7,4	8,8
				740	1 140	651	958	4,1	1,5	1,8
M3	2,2	M3	2,2	1 430	2 760	1 258	2 318	12,8	7,6	9,1
				1 872	4 030	1 648	3 385	18,7	15,7	18,7
				932	1 480	820	1 243	6,9	2,4	2,9
M3	2,2	M3	2,2	2 631	4 290	2 315	3 604	26,6	12,9	15,4
				3 405	6 200	2 996	5 208	38,4	25,7	30,6
				1 746	2 380	1 536	1 999	14,8	4,5	5,3
M3	2,2	M3	2,2	3 934	6 490	3 462	5 452	50	24,9	29,7
				5 230	9 740	4 602	8 182	75	53,6	63,9
				2 757	3 890	2 426	3 268	30	9,8	11,7

# Corrosion-resistant miniature linear ball bearing and guideway assemblies

Two-row



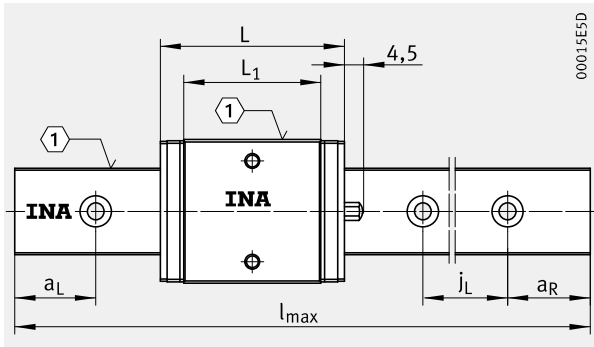
KWEM...-W (-WL, -WC) with TKDM...-W  
①<sup>2)</sup>

**Dimension table** · Dimensions in mm

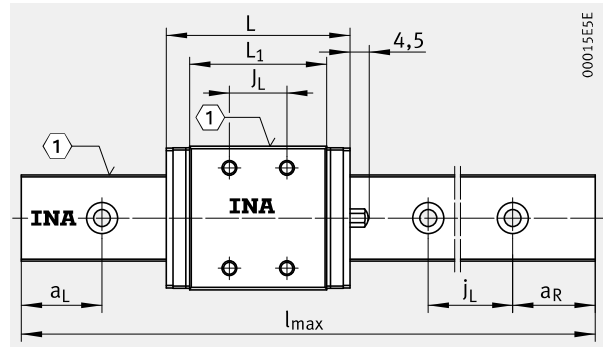
Carriage Designation	Guideway Designation	Dimensions				Mounting dimensions			
		$l_{\max}^{1)}$	H	B	L	A <sub>1</sub>	J <sub>B</sub>	b	A <sub>2</sub>
KWEM05-W	TKDM05-W	300	6,5	17	24,5	3,5	13	10	2
KWEM05-WC			6,5	17	20,5	3,5	13	10	2
KWEM07-W	TKDM07-W	300	9	25	31,5	5,5	19	14	3
KWEM07-WL			9	25	42	5,5	19	14	3
KWEM07-WC			9	25	22,5	5,5	19	14	3
KWEM09-W	TKDM09-W	690	12	30	39	6	21	18	4,5
KWEM09-WL			12	30	50,5	6	23	18	3,5
KWEM09-WC			12	30	26,5	6	21	18	4,5

For further table values, see page 38 and page 39.

- 1) Maximum guideway length; longer guideways may be available by agreement.  
Available standard lengths: see page 38.
- 2) ① Locating face.



KWEM05-W (-WC) with TKDM05-W,  
view rotated 90°  
① 2)

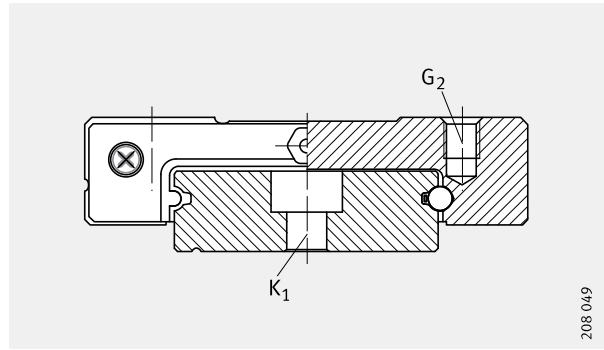


From KWEM07-W (-WL) with TKDM...-W,  
view rotated 90°  
① 2)

L <sub>1</sub>	j <sub>L</sub>	j <sub>L</sub>	a <sub>L</sub>		a <sub>R</sub>		H <sub>1</sub>	T <sub>5</sub>	A <sub>3</sub>	h	h <sub>1</sub>
			min.	max.	min.	max.					
17,6	–	20	4,5	14,5	4,5	14,5	1,5	1,5	1,3	4	2,4
13,6	–	20	4,5	14,5	4,5	14,5	1,5	1,5	1,3	4	2,4
22	10	30	5,5	20,5	5,5	20,5	2	3	1,7	5,5	2,3
32,5	19	30	5,5	20,5	5,5	20,5	2	3	1,7	5,5	2,3
13	–	30	5,5	20,5	5,5	20,5	2	3	1,7	5,5	2,3
28,6	12	30	5,5	20,5	5,5	20,5	3	3	2,5	7	2,5
40,4	24	30	5,5	20,5	5,5	20,5	3	3	2,5	7	2,5
16,6	–	30	5,5	20,5	5,5	20,5	3	3	2,5	7	2,5

# Corrosion-resistant miniature linear ball bearing and guideway assemblies

Two-row



KWEM...-W (-WL, -WC) with TKDM...-W

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**Dimension table** (continued) · Dimensions in mm

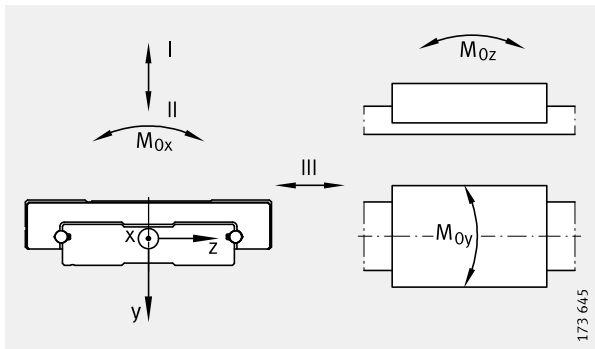
Carriage			Guideway	
Designation		Mass m  ≈kg	Designation	Mass m  ≈kg/m
Standard	With metal end pieces <sup>1)</sup>			
<b>KWEM05-W</b>	<b>KWEM05-W-UG-MKS</b>	0,008	<b>TKDM05-W</b>	0,280
<b>KWEM05-WC</b>	<b>KWEM05-WC-UG-MKS</b>	0,006		
<b>KWEM07-W</b>	<b>KWEM07-W-UG-MKS</b>	0,021	<b>TKDM07-W</b>	0,540
<b>KWEM07-WL</b>	<b>KWEM07-WL-UG-MKS</b>	0,031		
<b>KWEM07-WC</b>	<b>KWEM07-WC-UG-MKS</b>	0,013		
<b>KWEM09-W</b>	<b>KWEM09-W-UG-MKS</b>	0,044	<b>TKDM09-W</b>	0,900
<b>KWEM09-WL</b>	<b>KWEM09-WL-UG-MKS</b>	0,061		
<b>KWEM09-WC</b>	<b>KWEM09-WC-UG-MKS</b>	0,026		

1) Without greasing (preservative coating only) and without seals.

2) If there is a possibility of settling, the fixing screws should be secured against rotation.

**Standard lengths for guideways**

<b>TKDM05-W</b>		<b>TKDM07-W</b>		<b>TKDM09-W</b>	
Length mm	Mass ≈kg	Length mm	Mass ≈kg	Length mm	Mass ≈kg
60	0,017	90	0,049	90	0,081
80	0,022	120	0,065	120	0,108
120	0,034	150	0,081	150	0,135
160	0,045	180	0,097	180	0,162
220	0,062	240	0,13	240	0,216
280	0,078	300	0,162	300	0,27
300	0,084	–	–	690	0,621



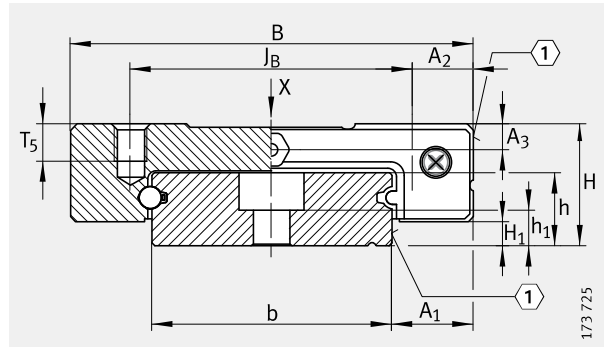
Load directions:  
see column Load carrying capacity

Fixing screws <sup>2)</sup>				Load carrying capacity						
K <sub>1</sub> DIN ISO 4762-12.9		G <sub>2</sub>		Basic load ratings				Moment ratings		
				Load directions I and II (tensile and compressive load)		Load directions III (lateral load)				
	M <sub>A</sub> Nm		M <sub>A</sub> Nm	C N	C <sub>0</sub> N	C N	C <sub>0</sub> N	M <sub>0x</sub> Nm	M <sub>0y</sub> Nm	M <sub>0z</sub> Nm
M2,5	-	M2,5	-	671	1 510	590	1 268	7,8	3,5	4,2
				562	1 180	495	991	6,1	2,2	2,6
M3	2,2	M3	2,2	1 398	2 840	1 231	2 386	20,3	8,4	10,1
				1 833	4 160	1 613	3 494	29,8	17,6	21
				980	1 700	862	1 428	12,2	3,2	3,8
M3	2,2	M3	2,2	1 801	3 810	1 585	3 200	34,9	14,2	16,9
				2 267	5 300	1 995	4 452	48,5	26,7	31,9
				1 193	2 120	1 050	1 781	19,4	4,7	5,5



# Corrosion-resistant miniature linear ball bearing and guideway assemblies

Two-row



KWEM12-W (-WL, -WC) with TKDM12-W  
①<sup>3)</sup>

**Dimension table** · Dimensions in mm

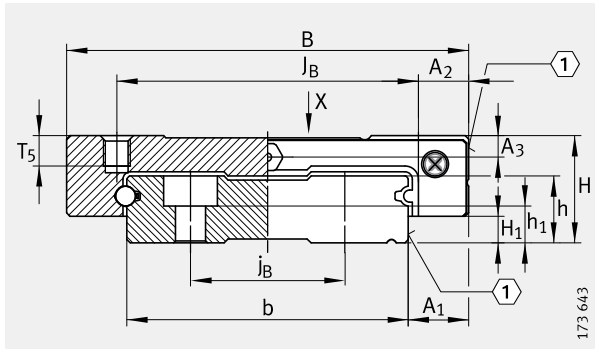
Carriage Designation	Guideway Designation	Dimensions				Mounting dimensions			
		$l_{\max}^{1)}$	H	B	L	A <sub>1</sub>	J <sub>B</sub>	b	A <sub>2</sub>
<b>KWEM12-W</b>	<b>TKDM12-W</b>	680	14	40	44	8	28	24	6
<b>KWEM12-WL</b>			14	40	59	8	28	24	6
<b>KWEM12-WC</b>			14	40	30,5	8	28	24	6
<b>KWEM15-W</b>	<b>TKDM15-W</b>	680	16	60	55	9	45	42	7,5
<b>KWEM15-WL</b>			16	60	74,5	9	45	42	7,5
<b>KWEM15-WC</b>			16	60	41,5	9	45	42	7,5

For further table values, see page 42 and page 43.

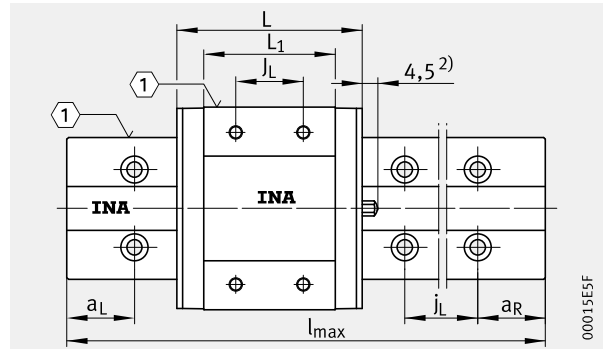
1) Maximum guideway length; longer guideways may be available by agreement.  
Available standard lengths: see page 42.

2) A lubrication nipple is supplied with size 15.

3) ① Locating face.

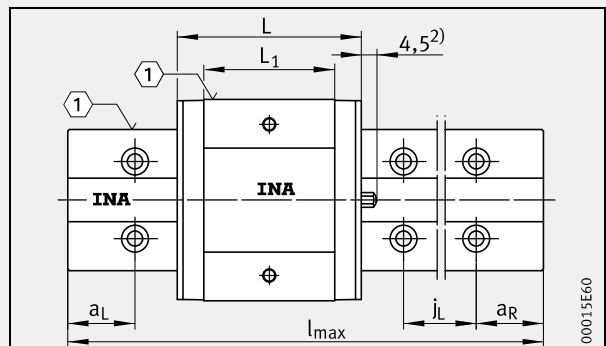


KWEM15-W (-WL, -WC) with TKDM15-W  
 ①<sup>3)</sup>



KWEM15-W (-WL) with TKDM15-W,  
 view rotated 90°  
 ①<sup>3)</sup>

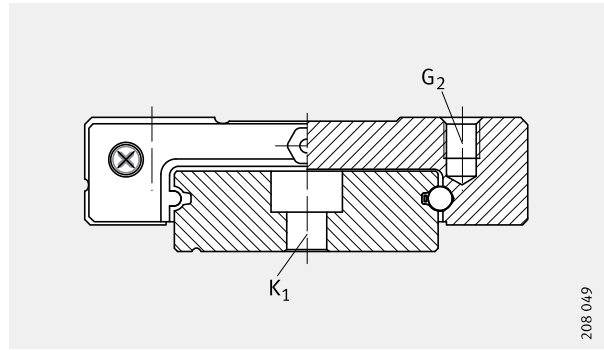
L <sub>1</sub>	J <sub>L</sub>	j <sub>L</sub>	j <sub>B</sub>	a <sub>L</sub>		a <sub>R</sub>		H <sub>1</sub>	T <sub>5</sub>	A <sub>3</sub>	h	h <sub>1</sub>
				min.	max.	min.	max.					
31	15	40	–	6,5	26,5	6,5	26,5	3	3,5	3,2	8	3,5
46,3	28	40	–	6,5	26,5	6,5	26,5	3	3,5	3,2	8	3,5
17,7	–	40	–	6,5	26,5	6,5	26,5	3	3,5	3,2	8	3,5
39	20	40	23	6,5	26,5	6,5	26,5	4	4,5	3,2	10	5,5
58,3	35	40	23	6,5	26,5	6,5	26,5	4	4,5	3,2	10	5,5
25,3	–	40	23	6,5	26,5	6,5	26,5	4	4,5	3,2	10	5,5



KWEM15-WC with TKDM15-W,  
 view rotated 90°  
 ①<sup>3)</sup>

# Corrosion-resistant miniature linear ball bearing and guideway assemblies

Two-row



KWEM...-W (-WL, -WC) with TKDM...-W

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**Dimension table** (continued) · Dimensions in mm

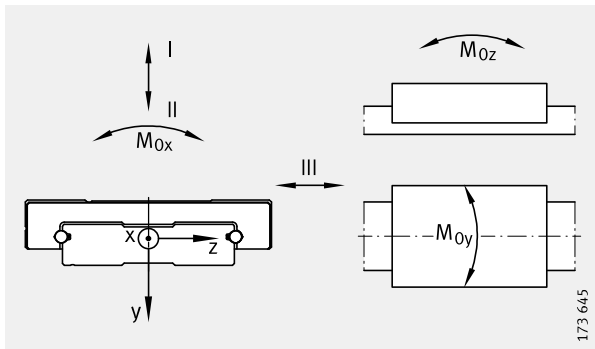
Carriage			Guideway	
Designation		Mass m ≈kg	Designation	Mass m ≈kg/m
Standard	With metal end pieces <sup>1)</sup>			
<b>KWEM12-W</b>	<b>KWEM12-W-UG-MKS</b>	0,076	<b>TKDM12-W</b>	1,390
<b>KWEM12-WL</b>	<b>KWEM12-WL-UG-MKS</b>	0,111		
<b>KWEM12-WC</b>	<b>KWEM12-WC-UG-MKS</b>	0,045		
<b>KWEM15-W</b>	<b>KWEM15-W-UG-MKS</b>	0,140	<b>TKDM15-W</b>	2,940
<b>KWEM15-WL</b>	<b>KWEM15-WL-UG-MKS</b>	0,204		
<b>KWEM15-WC</b>	<b>KWEM15-WC-UG-MKS</b>	0,095		

<sup>1)</sup> Without greasing (preservative coating only) and without seals.

<sup>2)</sup> If there is a possibility of settling, the fixing screws should be secured against rotation.

**Standard lengths for guideways**

<b>TKDM12-W</b>		<b>TKDM15-W</b>	
Length mm	Mass ≈kg	Length mm	Mass ≈kg
120	0,167	160	0,470
160	0,222	240	0,706
240	0,334	320	0,941
320	0,445	440	1,294
400	0,556	560	1,646
480	0,667	680	2,000
680	0,945	—	—

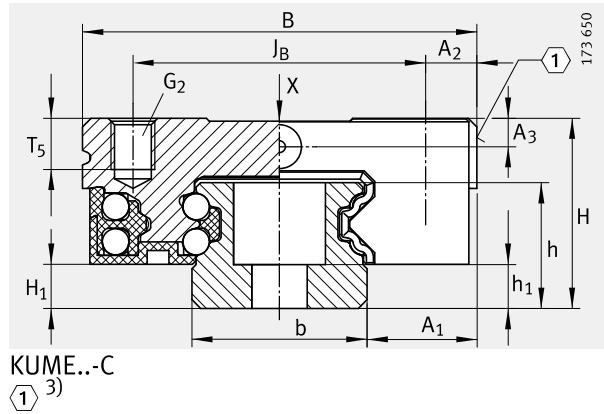


Load directions:  
see column Load carrying capacity

Fixing screws <sup>2)</sup>				Load carrying capacity						
K <sub>1</sub>		G <sub>2</sub>		Basic load ratings				Moment ratings		
DIN ISO 4762-12.9				Load directions I and II (tensile and compressive load)		Load directions III (lateral load)				
	M <sub>A</sub> Nm		M <sub>A</sub> Nm	C N	C <sub>0</sub> N	C N	C <sub>0</sub> N	M <sub>0x</sub> Nm	M <sub>0y</sub> Nm	M <sub>0z</sub> Nm
M3	2,2	M3	2,2	3 405	6 200	2 996	5 208	75,6	25,7	30,6
				4 440	9 060	3 907	7 610	111	53,1	63,3
				2 212	3 340	1 947	2 806	40,7	8,2	9,7
M4	5	M4	5	5 570	9 840	4 901	8 266	209	51,4	61,3
				7 268	14 400	6 396	12 096	305	106	126
				3 974	6 050	3 497	5 082	128	20,8	24,8

# Corrosion-resistant miniature linear ball bearing and guideway assemblies

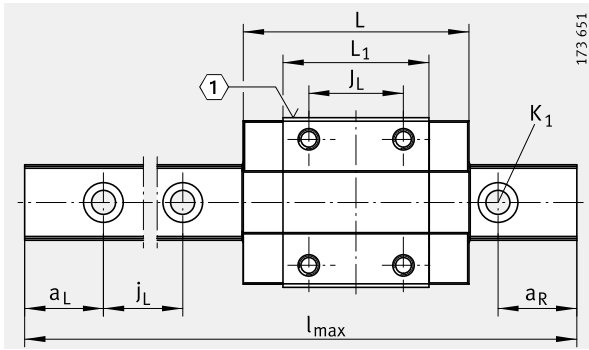
Four-row



Dimension table · Dimensions in mm											
Designation	Carriage		Guideway		Closing plug	Mounting dimensions				Dimensions	
	Designation	Mass m ≈kg	Designation	Mass m ≈kg/m		$l_{max}^{1)}$	H	B	L	A <sub>1</sub>	J <sub>B</sub>
<b>KUME12-C</b>	<b>KWME12-C</b>	0,03	<b>TKMD12-C</b>	0,6	KA6-TN	1 000	13	27	35,8	7,5	20
<b>KUME15-C</b>	<b>KWME15-C</b>	0,06	<b>TKMD15-C</b>	1,1	KA6-TN	1 200	16	32	44	8,5	25

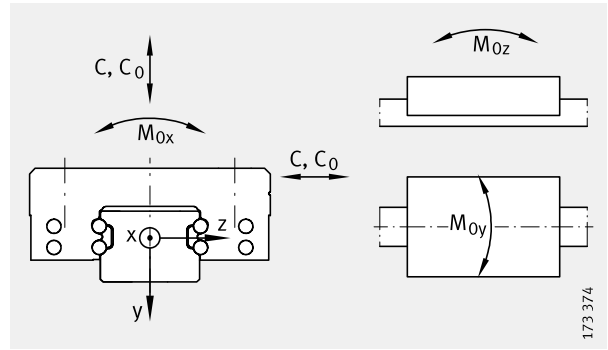
- 1) Maximum guideway length; longer guideways available by agreement.
- 2) If there is a possibility of settling, the fixing screws should be secured against rotation.
- 3) ① Locating face.

Dimension table (continued) · Dimensions in mm									
Designation	Load carrying capacity					Fixing screws <sup>2)</sup>			
	Basic load ratings		Moment ratings			K <sub>1</sub>		G <sub>2</sub>	
	C	C <sub>0</sub>	M <sub>0x</sub>	M <sub>0y</sub>	M <sub>0z</sub>	DIN ISO 4 762-12.9			
N	N	Nm	Nm	Nm		M <sub>A</sub> Nm		M <sub>A</sub> Nm	
<b>KUME12-C</b>	2 900	5 200	33	17	17	M3	2,2	M3	2,2
<b>KUME15-C</b>	4 400	8 300	67	34	34	M3	2,2	M3	2,2



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KUME..-C,  
view rotated 90°  
①<sup>3)</sup>



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Load directions:  
see column Load carrying capacity

b	A <sub>2</sub>	L <sub>1</sub>	J <sub>L</sub>	j <sub>L</sub>	a <sub>L</sub>		a <sub>R</sub>		H <sub>1</sub>	T <sub>5</sub>	A <sub>3</sub>	h	h <sub>1</sub>
					min.	max.	min.	max.					
12	3,5	23,2	15	25	5	20	5	20	3	3,5	1,95	8,6	3
15	3,5	28	20	40	6	34	6	34	3,5	4	2,46	10,6	4,1