



Standard Length and Maximum Length of the LM Rail

Table1 shows the standard and maximum lengths of the HRW model rail. If a rail length longer than the listed max length is required, rails may be jointed to meet the overall length. Contact THK for details. For special rail lengths, it is recommended to use a value corresponding to the G dimension from the table. As the G dimension increases, this portion becomes less stable and the accuracy performance is severely impacted. For the G dimension when a special length is required, we recommend selecting the corresponding G value from the table. The longer the G dimension is, the less stable the G area may become after installation, thus causing an adverse impact to accuracy.



Table1 Standard Length and Maximum Length of the LM Rail for Model HRW

Unit: mm

Model No.	HRW 12	HRW 14	HRW 17	HRW 21	HRW 27	HRW 35	HRW 50	HRW 60
	70	70	110	130	160	280	280	570
	110	110	190	230	280	440	440	885
	150	150	310	380	340	760	760	1200
	190	190	470	480	460	1000	1000	1620
LM rail	230	230	550	580	640	1240	1240	2040
standard length (L ₀)	270	270		780	820	1560	1640	2460
	310	310					2040	
	390	390						
	470	470						
		550						
		670						
Standard pitch F	40	40	40	50	60	80	80	105
G	15	15	15	15	20	20	20	22.5
Max longth	(1000)	(1420)	1900	3000	3000	3000	2000	2000
Max length	(1000)	(1430)	(800)	(1000)	(1200)	(2120)	3000	3000

Note1) The maximum length varies with accuracy grades. Contact THK for details.

Note2) If jointed rails are not allowed and a greater length than the maximum values above is required, contact THK.

Note3) The fi gures in the parentheses indicate the maximum lengths of stainless steel made models.

Prevention of LM block from falling off of LM rail

In miniature model HRW, the balls fall out if the LM block comes off the LM rail.

For this reason, LM Guide assemblies are delivered with a part which prevents the LM block from coming off the rail. If you remove this part when using the product, please take precautions to avoid overrunning the blocks off of the rail.



Structure and Features

Balls roll in four rows of raceways precision-ground on an LM rail and an LM block, and endplates incorporated in the LM block allow the balls to circulate.

Since retainer plates hold the balls, they do not fall off even if the LM rail is pulled out. (except models HRW 12 and 14LR).

Each row of balls is placed at a contact angle of 45° so that the rated loads applied to the LM block are uniform in the four directions (radial, reverse radial and lateral directions), enabling the LM Guide to be used in all orientations. In addition, the LM block can receive a well-balanced preload, increasing the rigidity in four directions while maintaining a constant, low friction coefficient. In a low center of gravity structure with a large rail width and a low overall height, this model can be used in places where space saving is required or high rigidity against a moment is required even in a single axis configuration.

[Compact, Heavy Load]

Since the number of effective balls is large, this model is highly rigid in all directions. It can adequately receive a moment even in a single rail configuration.

Additionally, since the second moment of inertia of the rail is large, the rigidity in the lateral directions is also high. Accordingly, it does not need reinforcement such as a side support.

[Self-adjustment Capability]

The self-adjustment capability through front-to-front configuration of THK's unique circular-arc grooves (DF set) enables a mounting error to be absorbed even under a preload, thus to achieve highly accurate, smooth straight motion.



Types and Features

Model HRW-CA

Can be mounted from the top or the bottom.



Model HRW-CR

The LM block has tapped holes.



Miniature Type Model HRW-LRM

The LM block has tapped holes.





www.albeco.com.pl

Models HRW-CA and HRW-CAM



	Outer	[.] dimer	nsions	LM block dimensions											
Model No.	Height M	Width W	Length	В	С	Н	S	Lı	Т	T ₁	к	N	E	Grease nipple	H₃
HRW 17CA HRW 17CAM	17	60	50.8	53	26	3.3	M4	33.6	5.5	6	14.5	4	2	PB107	2.5
HRW 21CA HRW 21CAM	21	68	58.8	60	29	4.4	M5	40	7.3	8	18	4.5	12	B-M6F	3
HRW 27CA HRW 27CAM	27	80	72.8	70	40	5.3	M6	51.8	9.5	10	24	6	12	B-M6F	3
HRW 35CA HRW 35CAM	35	120	106.6	107	60	6.8	M8	77.6	13	14	31	8	12	B-M6F	4
HRW 50CA	50	162	140.5	144	80	8.6	M10	103.5	16.5	18	46.6	14	16	B-PT1/8	3.4
HRW 60CA	60	200	158.9	180	80	10.5	M12	117.5	23.5	25	53.5	15	16	B-PT1/8	6.5

Model number coding

HRW35 CA 2 UU C1 M +1000L P T M

Model number	Type of LM block	Contamination protection accessory	Stainless steel LM block	LM rail length (in mm)	Symbol for LM rail jointed use	Stainless steel LM rail		
	No. of LM bl used on the	symbol (*1) ocks Radia same rail Norm Light Medi	bol (*2) Accurac Normal Precisio Ultra pre	y symbol (*3 grade (No S n grade (P)/ ecision grade	8) ymbol)/High accuracy grade (H) Super precision grade (SP) e (UP)			
	(*1) See	e contaminatio	n protection ac	cessory on A1-	-496 . (*2)	See A1-71 . (*3) See A1-76		



www.albeco.com.pl



Unit: mm

		L	_M rai	l dime	ensions		Basic rat	load ing	Static	permis	Mass				
Width			Height	t Pitch		Length*	С	C₀	MA		M _B		ĘĴ) ș	LM block	LM rail
₩₁ <u>+</u> 0.05	W_2	W₃	M ₁	F	$d_1 \times d_2 \times h$	Max	kN	kN	1 block	Double blocks	1 block	Double blocks	1 block	kg	kg/m
33	13.5	18	9	40	4.5×7.5×5.3	1900 (800)	5.53	9.1	0.0464	0.272	0.0464	0.272	0.144	0.15	2.1
37	15.5	22	11	50	4.5×7.5×5.3	3000 (1000)	8.02	12.9	0.0784	0.445	0.0784	0.445	0.219	0.25	2.9
42	19	24	15	60	4.5×7.5×5.3	3000 (1200)	14.2	21.6	0.166	0.923	0.166	0.923	0.423	0.5	4.3
69	25.5	40	19	80	7×11×9	3000 (2120)	33.8	48.6	0.559	3.03	0.559	3.03	1.59	1.4	9.9
 90	36	60	24	80	9×14×12	3000	62.4	86.3	1.32	7.08	1.32	7.08	3.67	4	14.6
120	40	80	31	105	11×17.5×14	3000	80.3	109	1.88	10.1	1.88	10.1	6.17	5.7	27.8

 Note) The maximum length under "Length*" indicates the standard maximum length of an LM rail. (See A1-246 .) Static permissible moment* Total block length L
 1 block: the static permissible moment with one LM block Double blocks: static permissible moment when two LM blocks are in close contact with each other

 Total block length L
 : The total block length L shown in the table is the length with the dust proof parts, code UU or SS. If other contamination protection accessories or lubricant equipment are installed, the total block length will increase. (See A1-472 or A1-492)

 The M in the model number symbol indicates that the LM block, LM rail and balls are made of stainless steel. The stainless steel provides excellent corrision and environmental resistance

The stainless steel provides excellent corrosion and environmental resistance.

Models HRW-CR, HRW-CRM and HRW-LRM



Models HRW12 and 14LRM

	Outer	dimer	nsions											
Model No.	Height	Width	Length	в	С	S×ℓ	Lı	т	к	N	E	Greasing hole d	Grease nipple	H3
HRW 12I RM	12	30	37	21	12	M3×3.5	27	4	10	28		22		2
			0.	·										-
HRW 14LRM	14	40	45.5	28	15	M3×4	32.9	5	12	3.3		2.2		2
HRW 17CR HRW 17CRM	17	50	50.8	29	15	M4×5	33.6	6	14.5	4	2	_	PB107	2.5
HRW 21CR HRW 21CRM	21	54	58.8	31	19	M5×6	40	8	18	4.5	12	-	B-M6F	3
HRW 27CR HRW 27CRM	27	62	72.8	46	32	M6×6	51.8	10	24	6	12	_	B-M6F	3
HRW 35CR HRW 35CRM	35	100	106.6	76	50	M8×8	77.6	14	31	8	12	_	B-M6F	4
HRW 50 CR	50	130	140.5	100	65	M10×15	103.5	18	46.6	14	16	_	B-PT1/8	3.4

Model number coding

CR 2 UU C1 M +820L P **HRW27** ТМ

Contamination Type of LM block Stainless Model LM rail length Symbol Stainless steel protection for LM rail number steel (in mm) accessory symbol (*1) LM rail LM block jointed use Accuracy symbol (*3) Normal grade (No Symbol)/High accuracy grade (H) Precision grade (P)/Super precision grade (SP) No. of LM blocks Radial clearance symbol (*2) Normal (No symbol) used on the same rail Light preload (C1) Medium preload (C0) Ultra precision grade (UP) (*1) See contamination protection accessory on A1-496 . (*2) See A1-71 . (*3) See A1-76 .



www.albeco.com.pl



Models HRW17 and 21CR/CRM





Models HRW27 to 50CR/CRM

Unit: mm LM rail dimensions Basic load rating Static permissible moment kN-m* Mass MB MA Mc LM LM Width Height Pitch С Length* C₀ block rail G W₁ 1 Double 1 Double 1 F W_2 W₃ M₁ $d_1 \times d_2 \times h$ Max kΝ kΝ kg kg/m ±0.05 block blocks block block blocks (1000)40 3.29 7.16 0.0262 0.138 0.013 0.051 0.045 0.79 18 6 6.5 4.5×8×4.5 0.069 8 7.2 (1430)0.0499 0.273 0.025 0.08 24 40 4.5×7.5×5.3 5.38 11.4 0.137 0.112 1.2 1900 8.5 9 40 4.5×7.5×5.3 5.53 0.0464 0.272 0.0464 0.272 0.12 2.1 33 18 9.1 0.144 (800)3000 37 8.5 22 11 50 4.5×7.5×5.3 8.02 12.9 0.0784 0.445 0.0784 0.445 0.219 0.19 2.9 (1000)3000 10 4.5×7.5×5.3 0.923 0.166 0.923 0.423 0.37 4.3 42 24 15 60 14.2 21.6 0.166 (1200)3000 69 15.5 80 33.8 48.6 0.559 3.03 0.559 3.03 1.2 9.9 40 19 $7 \times 11 \times 9$ 1.59 (2120)90 20 60 24 80 $9 \times 14 \times 12$ 3000 62.4 86.3 1.32 7.08 1.32 7.08 3.67 3.2 14.6

Note1)The maximum length under "Length*" indicates the standard maximum length of an LM rail. (See A1-246 .) Static permissible moment* 1 block: the static permissible moment with one LM block

Total block length L Double b

Double blocks: static permissible moment when two LM blocks are in close contact with each other : The total block length L shown in the table is the length with the dust proof parts, code UU or SS. If other contamination protection accessories or lubricant equipment are installed, the total block length will increase.

(See A1-472 or A1-492)

The M in the model number symbol indicates that the LM block, LM rail and balls are made of stainless steel.

The stainless steel provides excellent corrosion and environmental resistance.

Note2) The basic load rating in the dimension table is for a load in the radial direction. Use Table7 on A 1–58 to calculate the load rating for loads in the reverse radial direction or lateral direction for models 12 and 14, as those values are different.

Pełny katalog: http://alb.eco/THKKatalog

