

RSR/RSR-W

LM Guide

B Product Specifications

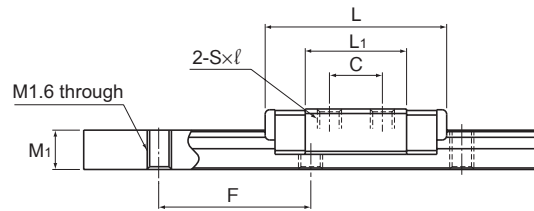
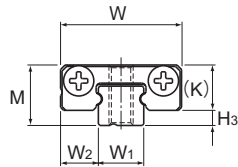
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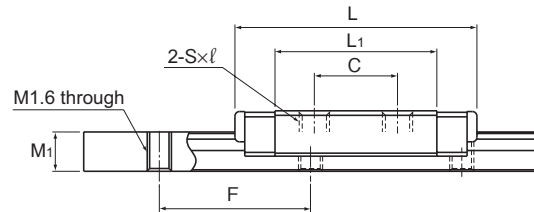
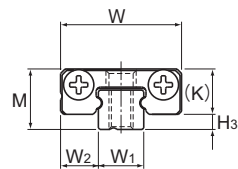
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* Please see the separate "A Technical Descriptions of the Products".

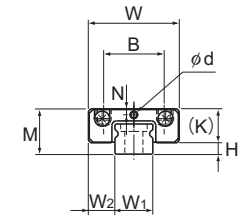
Models RSR-M and RSR-N



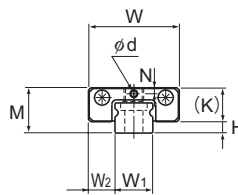
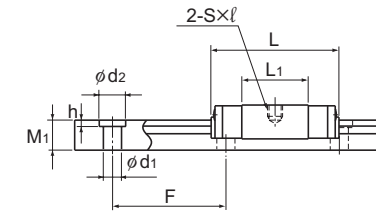
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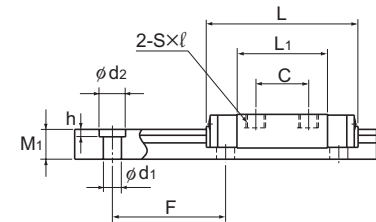
Model RSR3N



Model RSR5M



Model RSR5N



Unit: mm

Model No.	Outer dimensions			LM block dimensions										LM rail dimensions					Basic load rating		Static permissible moment N-m*			Mass					
	Height	Width	Length	B	C	S×ℓ	L ₁	T	K	N	E	Greasing hole	Grease nipple	H ₃	Width	Height	Pitch	Length*	C	C ₀	M _A	M _B	M _C	LM block	LM rail				
	M	W	L									d		W ₁	W ₂	M ₁	F	d ₁ ×d ₂ ×h	Max	kN	kN	1 block	Double blocks	1 block	Double blocks	1 block	kg	kg/m	
RSR 3M RSR 3N	4	8	12 16	—	3.5 5.5	M1.6×1.3 M2×1.3	6.7 10.7	—	3	—	—	—	—	1	3 ⁰ _{-0.02}	2.5	2.6	10	—	200	0.18 0.3	0.27 0.44	0.293 0.726	2.11 4.33	0.293 0.726	2.11 4.33	0.45 0.73	0.0011 0.0016	0.055
RSR 5M RSR 5N	6	12	16.9 20.1	8 —	— 7	M2×1.5 M2.6×1.8	8.8 12	—	4.5	0.8	—	0.8	—	1.5	5 ⁰ _{-0.02}	3.5	4	15	2.4×3.5×1	200	0.32 0.55	0.59 0.96	0.884 1.84	6.51 11.9	0.884 1.84	6.51 11.9	1.53 2.49	0.003 0.004	0.14

Note) Since stainless steel is used in the LM block, LM rail and balls, these models are highly resistant to corrosion and environment.

Models RSR3M and 3N do not have an oil hole. When lubricating them, apply a lubricant directly to the LM rail raceways. To secure the LM rail of models RSR5M and 5N, use cross-recessed head screws for precision equipment (No. 0 pan head screw, class 1) M2.

Note) The maximum length under "Length*" indicates the standard maximum length of an LM rail. (See B-120.)

Static permissible moment*: 1 block: static permissible moment value with 1 LM block

Double blocks: static permissible moment value with 2 blocks closely contacting with each other

Model number coding

2 RSR5 M UU C1 +130L P M -II

Model number
No. of LM blocks used on the same rail

Contamination protection accessory symbol (*1)

Radial clearance symbol (*2)
Normal (No symbol)
Light preload (C1)

LM rail length (in mm)

Stainless steel LM rail

Accuracy symbol (*3)
Normal grade (No Symbol)/High accuracy grade (H)
Precision grade (P)

Symbol for No. of rails used on the same plane (*4)

(*1) See contamination protection accessory on A-368. (*2) See A-114. (*3) See A-126. (*4) See A-59.

Note) This model number indicates that a single-rail unit constitutes one set. (i.e., required number of sets when 2 rails are used in parallel is 2 at a minimum.)

Recommended tightening torque when mounting the LM rail/block

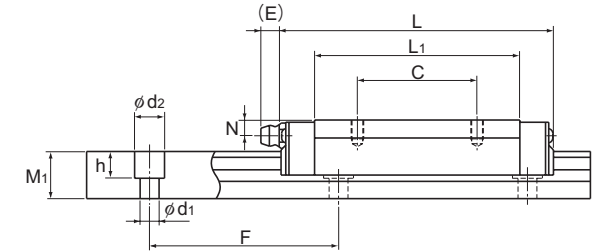
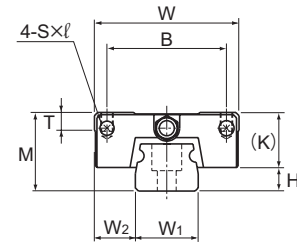
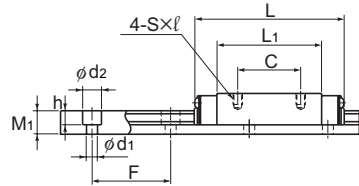
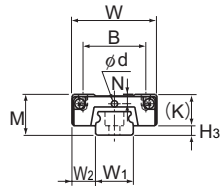
Table1 shows recommended bolt tightening torques when mounting the LM block and LM rail of models RSR3M/3N.

Table1 Recommended Tightening Torques of Mounting Bolts

Model No. of screw	Recommended tightening torque (N-m)
M1.6	0.09
M2	0.19

Note) Applicable to austenite stainless steel hexagonal-socket-head type bolts.

Models RSR-M, RSR-KM, RSR-VM and RSR-N



Models RSR7 to 12N/7M/9KM/12VM

Models RSR15 and 20VM/N

Unit: mm

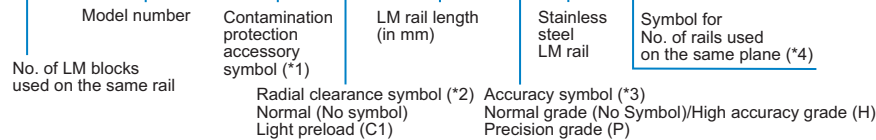
Model No.	Outer dimensions			LM block dimensions										H ₃	LM rail dimensions					Basic load rating		Static permissible moment N-m*					Mass	
	Height	Width	Length	B	C	S×ℓ	L ₁	T	K	N	E	Greas-ing hole	Grease nipple		Width	Height	Pitch	Length*	C	C ₀	M _A		M _B		M _C	LM block	LM rail	
	M	W	L									d			W ₁	W ₂	M ₁	F	d ₁ ×d ₂ ×h	Max	kN	kN	1 block	Double blocks	1 block	Double blocks	1 block	kg
RSR 7M RSR 7N	8	17	23.4 33	12	8 13	M2×2.5	13.4 23	—	6.5	1.7	—	1.2	—	7 ⁰ -0.02	5	4.7	15	2.4×4.2×2.3	300	0.88 1.59	1.37 2.5	2.93 8.68	20.8 49.9	2.93 8.68	20.8 49.9	5 9.12	0.013 0.018	0.23
RSR 9KM RSR 9N	10	20	30.8 41	15	10 16	M3×3	19.8 29.8	—	7.8	2.4	—	1.5	—	9 ⁰ -0.02	5.5	5.5	20	3.5×6×3.3	1000	1.47 2.6	2.25 3.96	7.34 18.4	43.3 97	7.34 18.4	43.3 97	10.4 18.4	0.018 0.027	0.32
RSR 12VM RSR 12N	13	27	35 47.7	20	15 20	M3×3.5	20.6 33.3	—	10	3	—	2	—	12 ⁰ -0.025	7.5	7.5	25	3.5×6×4.5	1340	2.65 4.3	4.02 6.65	11.4 28.9	74.9 163	10.1 25.5	67.7 145	19.2 31.8	0.037 0.055	0.58
RSR 15VM RSR 15N	16	32	43 61	25	20 25	M3×4	25.7 43.5	—	12	3.5	3.6 3.7	—	PB107	15 ⁰ -0.025	8.5	9.5	40	3.5×6×4.5	1430	4.41 7.16	6.57 10.7	23.7 63.1	149 330	21.1 55.6	135 293	38.8 63	0.069 0.093	0.925
RSR 20VM RSR 20N	25	46	66.5 86.3	38	38	M4×6	45.2 65	5.7	17.5	5	6.4	—	A-M6F	20 ⁰ -0.03	13	15	60	6×9.5×8.5	1800	8.82 14.2	12.7 20.6	75.4 171	435 897	66.7 151	389 795	96.6 157	0.245 0.337	1.95

Note) Since stainless steel is used in the LM block, LM rail and balls, these models are highly resistant to corrosion and environment.

Note) The maximum length under "Length*" indicates the standard maximum length of an LM rail. (See B-120.)
 Static permissible moment*: 1 block: static permissible moment value with 1 LM block
 Double blocks: static permissible moment value with 2 blocks closely contacting with each other

Model number coding

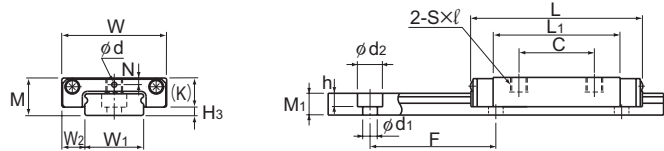
2 RSR15V M UU C1 +230L P M -II



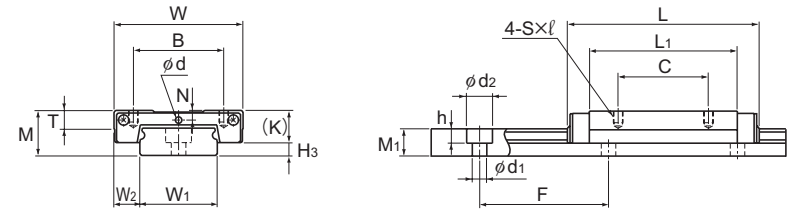
(*1) See contamination protection accessory on A-368. (*2) See A-114. (*3) See A-126. (*4) See A-59.

Note) This model number indicates that a single-rail unit constitutes one set. (i.e., required number of sets when 2 rails are used in parallel is 2 at a minimum.)

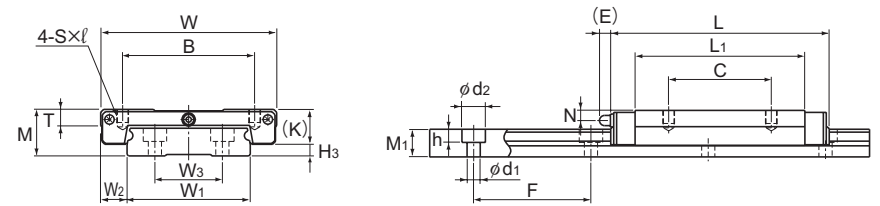
Models RSR-WM (WV), RSR-WVM and RSR-WN



Models RSR3 to 7WV/WN



Models RSR9 and 12WV/WVM/WN



Models RSR15WV/WVM/WN

Unit: mm

Model No.	Outer dimensions			LM block dimensions										H ₃	LM rail dimensions						Basic load rating		Static permissible moment N-m*					Mass		
	Height	Width	Length	B	C	S×ℓ	L ₁	T	K	N	E	Greas-ing hole	Grease nipple		Width		Height	Pitch		Length*	C	C ₀	M _a		M _b		M _c	LM block	LM rail	
	M	W	L									d			W ₁	W ₂	W ₃	M ₁	F	d ₁ ×d ₂ ×h	Max	kN	kN	1 block	Double blocks	1 block	Double blocks	1 block	kg	kg/m
* RSR 3WM * RSR 3WN	4.5	12	14.9 19.9	—	4.5 8	M2×1.7	8.5 13.3	—	3.5	0.8	—	0.8	—	1	6 ⁰ -0.02	3	—	2.6	15	2.4×4×1.5	100	0.25 0.39	0.47 0.75	0.668 1.57	4.44 9.06	0.668 1.57	4.44 9.06	1.48 2.36	0.002 0.003	0.12
* RSR 5WM * RSR 5WN	6.5	17	22.1 28.1	—	6.5 11	M3×2.3	13.7 19.7	—	5	1.1	—	0.8	—	1.5	10 ⁰ -0.025	3.5	—	4	20	3×5.5×3	200	0.51 0.75	0.96 1.4	1.97 4.06	13.1 23.5	1.97 4.06	13.1 23.5	4.89 7.13	0.007 0.01	0.28
* RSR 7WM * RSR 7WN	9	25	31 40.9	—	12 18	M4×3.5	20.4 30.3	—	7	1.6	—	1.2	—	2	14 ⁰ -0.05	5.5	—	5.2	30	3.5×6×3.2	400	1.37 2.04	2.16 3.21	7.02 14.7	40.7 77.6	7.02 14.7	40.7 77.6	15.4 22.9	0.021 0.026	0.51
RSR 9WV * RSR 9WVM * RSR 9WN	12	30	39 39 50.7	21 21 23	12 12 24	M2.6×3 M2.6×3 M3×3	27 27 38.7	—	7.8	2	—	1.6	—	4.2	18 ⁰ -0.05	6	—	7.5	30	3.5×6×4.5	1000	2.45 2.45 3.52	3.92 3.92 5.37	16 16 31	92.9 92.9 161	16 16 31	92.9 92.9 161	36 36 49.4	0.035 0.035 0.051	1.08
RSR 12WV * RSR 12WVM * RSR 12WN	14	40	44.5 44.5 59.5	28	15 15 28	M3×3.5	30.9 30.9 45.9	4.5	10	3	—	2	—	4	24 ⁰ -0.05	8	—	8.5	40	4.5×8×4.5	1430	4.02 4.02 5.96	6.08 6.08 9.21	24.5 24.5 53.9	138 123 274	21.7 123 47.3	123 59.5 90.1	59.5 0.075 0.101	1.5	
RSR 15WV * RSR 15WVM * RSR 15WN	16	60	55.5 55.5 74.5	45	20 20 35	M4×4.5	38.9 38.9 57.9	5.6	12	3.5	3	—	PB107	4	42 ⁰ -0.05	9	23	9.5	40	4.5×8×4.5	1800	6.66 6.66 9.91	9.8 9.8 14.9	50.3 50.3 110	278 278 555	44.4 248 97.3	248 168 490	168 168 255	0.17 0.17 0.21	3

Note) * indicates that since stainless steel is used in the LM block, LM rail and balls, these models are highly resistance to corrosion and environment.
To secure the LM rail of models RSR3WM and 3WN, use cross-recessed head screws for precision equipment (No. 0 pan head screw, class 1) M2.

Note) The maximum length under "Length*" indicates the standard maximum length of an LM rail. (See B-120.)
Static permissible moment*: 1 block: static permissible moment value with 1 LM block
Double blocks: static permissible moment value with 2 blocks closely contacting with each other

Model number coding

2 RSR12WV M UU C1 +310L H M

Model number: 2 (No. of LM blocks used on the same rail)
 Contamination protection accessory symbol (*1): RSR
 LM rail length (in mm): 12 (Radial clearance symbol (*2) Normal (No symbol)/Light preload (C1))
 Stainless steel LM rail: W (Accuracy symbol (*3) Normal grade (No Symbol)/High accuracy grade (H) Precision grade (P))

(*1) See contamination protection accessory on A-368. (*2) See A-114. (*3) See A-126.

Standard Length and Maximum Length of the LM Rail

Table2 shows the standard lengths and the maximum lengths of model RSR variations.

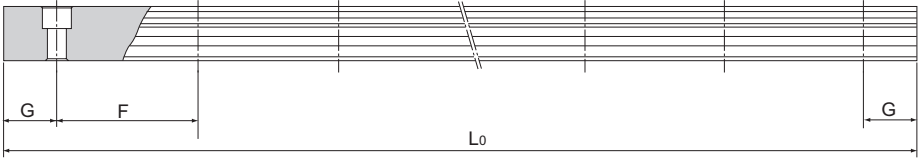


Table2 Standard Length and Maximum Length of the LM Rail for Model RSR/RSR-W

Unit: mm

Model No.	RSR 3	RSR 5	RSR 7	RSR 9	RSR 12	RSR 15	RSR 20	RSR 3W	RSR 5W	RSR 7W	RSR 9W	RSR 12W	RSR 15W
LM rail standard length (L_0)	30	40	40	55	70	70	220	40	50	50	50	70	110
	40	55	55	75	95	110	280	55	70	80	80	110	150
	60	70	70	95	120	150	340	70	90	110	110	150	190
	80	100	85	115	145	190	460		110	140	140	190	230
	100	130	100	135	170	230	640		130	170	170	230	270
			160	155	195	270	880		150	200	200	270	310
				175	220	310	1000		170	260	260	310	430
				195	245	350				290	290	390	550
				275	270	390					320	470	670
				375	320	430						550	790
					370	470							
					470	550							
					570	670							
						870							
Standard pitch F	10	15	15	20	25	40	60	15	20	30	30	40	40
G	5	5	5	7.5	10	15	20	5	5	10	10	15	15
Max length	200	200	300	1000	1340	1430	1800	100	200	400	1000	1430	1800

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

Note2) The LM rail mounting hole of model RSR3 is an M1.6 through hole.