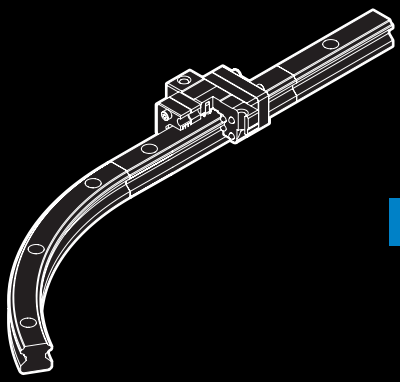


HMG

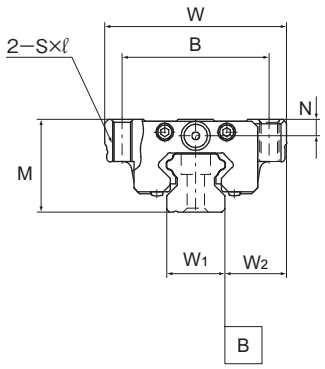
LM Guide

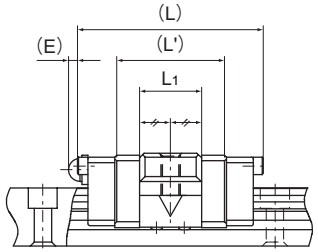
B Product Specifications

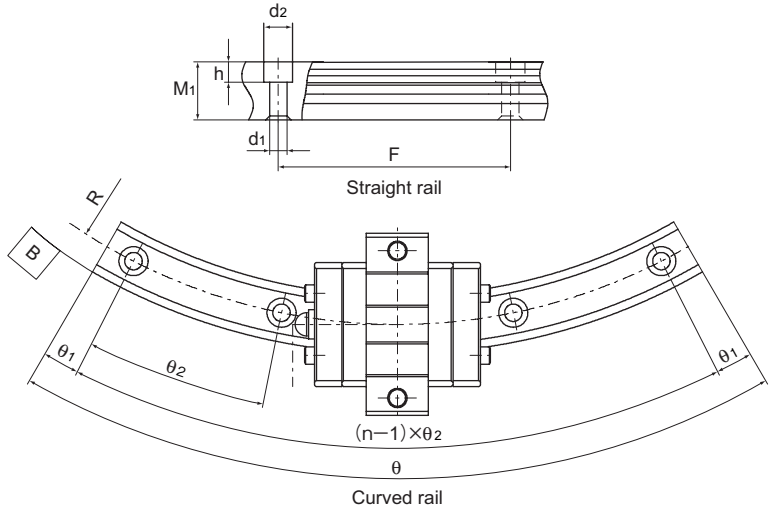
A Technical Descriptions of the Products (Separate)

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

Model HMG







Unit: mm

Model No.	Outer dimensions				LM block dimensions					LM rail dimensions					Basic dynamic load rating (C)	Basic static load rating (C_0)	
										LM rail			Height	Mounting hole	Curved rail							
	M	W	L	L´	B	S×ℓ	L_1	N	E	W_1	W_2	F	M_1	d_1×d_2×h	R	n	θ°	θ_1°	θ_2°	Resultant load (C) kN	Straight section (Cost) kN	Curved section (Cor) kN
HMG15A	25	47	48	28.8	38	M5×11	16	4.3	5.5	15	16	60	15	4.5×7.5×5.3	150	3	60	7	23	2.56	4.23	0.44
															300	5	60	6	12			
															400	7	60	3	9			
HMG25A	36	70	62.2	42.2	57	M8×16	25.6	6	12	23	23.5	60	22	7×11×9	500	9	60	2	7	9.41	10.8	6.7
															750	12	60	2.5	5			
															1000	15	60	2	4			
HMG35A	48	100	80.6	54.6	82	M10×21	32.6	8	12	34	33	80	29	9×14×12	600	7	60	3	9	17.7	19	11.5
															800	11	60	2.5	5.5			
															1000	12	60	2.5	5			
															1300	17	60	2	3.5			
HMG45A	60	120	107.6	76.6	100	M12×25	42.6	10	16	45	37.5	105	38	14×20×17	800	8	60	2	8	28.1	29.7	18.2
															1000	10	60	3	6			
															1200	12	60	2.5	5			
															1600	15	60	2	4			
HMG65A	90	170	144.4	107.4	142	M16×37	63.4	19	16	63	53.5	150	53	18×26×22	1000	8	60	2	8	66.2	66.7	36.2
															1500	10	60	3	6			
															2000	12	45	0.5	4			
															2500	13	45	1.5	3.5			
															3000	10	30	1.5	3			

With HMG, a single LM block is capable of receiving moments in all directions.
Table 1 shows the permissible moment of an LM block in the M_A, M_B and M_C directions.

Table1 Static Permissible Moments of Model HMG

Unit: kN-m

Model No.	M_A		M_B		M_C	
	Straight section	Curved section	Straight section	Curved section	Straight section	Curved section
HMG15	0.008	0.007	0.008	0.01	0.027	0.003
HMG25	0.1	0.04	0.1	0.05	0.11	0.07
HMG35	0.22	0.11	0.22	0.12	0.29	0.17
HMG45	0.48	0.2	0.48	0.22	0.58	0.34
HMG65	1.47	0.66	1.47	0.73	1.83	0.94

Description of Each Option ⇒A-351 Dimensions⇒B-223

Jointed LM rail

[Level Difference Specification for the Joint]

An accuracy error in LM rail installation has influence on the service life of the product. When installing the LM rail, take care to minimize the level difference in the joint within the specification indicated in Table2. For the joint between curved rails and another between the curved section and the joint rail, we recommend using a flushing piece like the one shown in Fig.1. When using the flushing piece, place the fixed butt piece on the outer side, push the rail against the butt piece, and then adjust the level difference in the joint section by turning the adjustment screw from the inner side.

Table2 Level Difference Specification for the Joint

Unit: mm

Model No.	Ball raceway, side face	Upper face	Maximum clearance of the joint section
15	0.01	0.02	0.6
25	0.01	0.02	0.7
35	0.01	0.02	1.0
45	0.01	0.02	1.3
65	0.01	0.02	1.3

Note) Place the pin on the outer circumference and the bolt on the inner circumference.

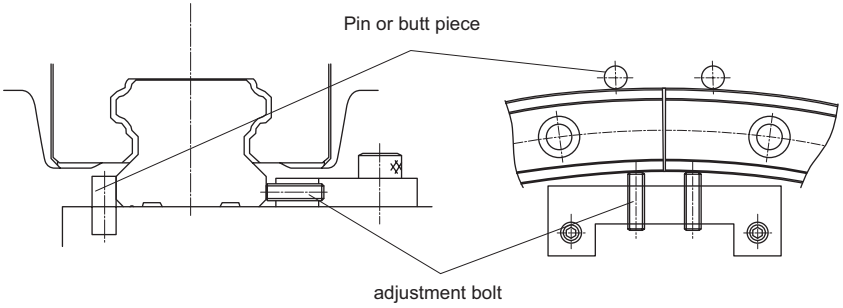


Fig.1 Flush piece

[About the Curved Section]

The curved section of model HMG has a clearance for a structural reason. Therefore, this model may not be used in applications where highly accurate feed is required. In addition, the curved section cannot withstand a large moment. When a large moment is applied, it is necessary to increase the number of LM blocks or LM rails. For permissible moment values, see Table1 on B-173.

[Jointed LM Rail]

Model HMG always requires a jointed rail where an LM block travels from the straight section to the curved section and where the curve is inverted such as an S curve. Take this into account when design the system.

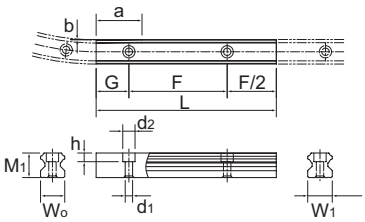


Table3 Dimension of the Jointed Rail Unit: mm

Model No.	Dimension of the jointed rail							
	Height	Pitch	Mounting hole	Width		Taper length	Taper depth	Radius
	M_1	F	$d_1 \times d_2 \times h$	W_1	W_0	a	b	R
15A	15	60	4.5×7.5×5.3	15	14.78	28	0.22	150
					14.89		0.11	300
					14.92		0.08	400
25A	22	60	7×11×9	23	22.83	42	0.17	500
					22.89		0.11	750
					22.92		0.08	1000
35A	29	80	9×14×12	34	33.77	54	0.23	600
					33.83		0.17	800
					33.86		0.14	1000
					33.9		0.1	1300
45A	38	105	14×20×17	45	44.71	76	0.29	800
					44.77		0.23	1000
					44.81		0.19	1200
					44.86		0.14	1600
65A	53	150	18×26×22	63	62.48	107	0.52	1000
					62.66		0.34	1500
					62.74		0.26	2000
					62.8		0.2	2500
					62.83		0.17	3000

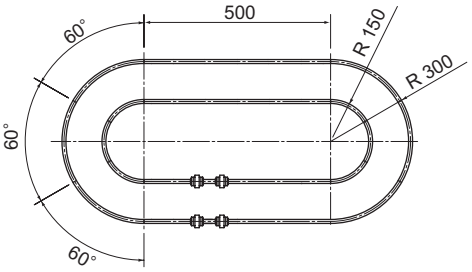


Fig.2 Examle of model No.

Model number coding

When 2 rails are used

HMG15A 2 UU C1 +1000L T + 60/150R 6T + 60/300R 6T -Ⅱ

- HMG15A: Model number
- 2: No. of LM blocks per rail
- UU: Contamination protection accessory symbol (*1)
- C1: Radial clearance symbol — Normal (No symbol) / Light preload (C1)/Medium preload (C0)
- +1000L: Overall linear LM rail length per rail
- T: Symbol for linear LM rail joint
- 60/150R: Center angle of one inner curved rail
- 6T: No. of inner curved LM rails jointed
- 60/300R: Radius of outer curved rail
- 6T: Center angle of one outer curved rail
- -Ⅱ: No. of outer curved LM rails jointed
- Symbol for No. of rails (*2)
- Radius of inner curved rail

(*1) See contamination protection accessory on A-368. (*2) See A-59.

Note) This model number indicates that an LM block and an LM rail constitute one set (i.e., the required number of sets when 2 rails are used is 2).
Model HMG does not have a seal as standard. For the model number above, Fig.2 applies.