HIWIN

Linear Guideway

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1. Features of HIWIN Linear Guideways

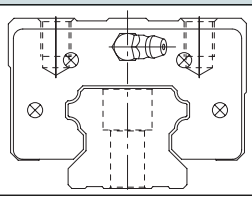
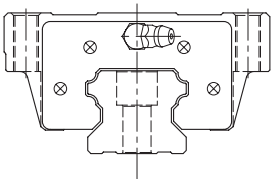
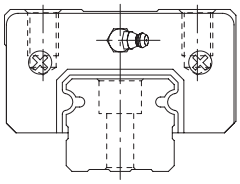
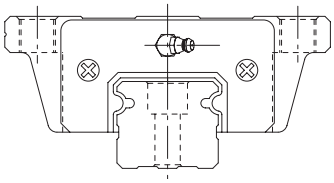
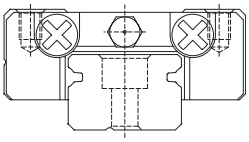
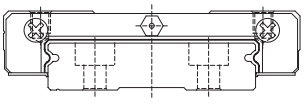
Linear guideway assemblies are designed for high accuracy, large capacity, high reliability and excellent operating characteristics.

Our patented recirculation system provides smooth linear motion with low noise.

1-1 Linear Guideways Offer the Following Outstanding Features

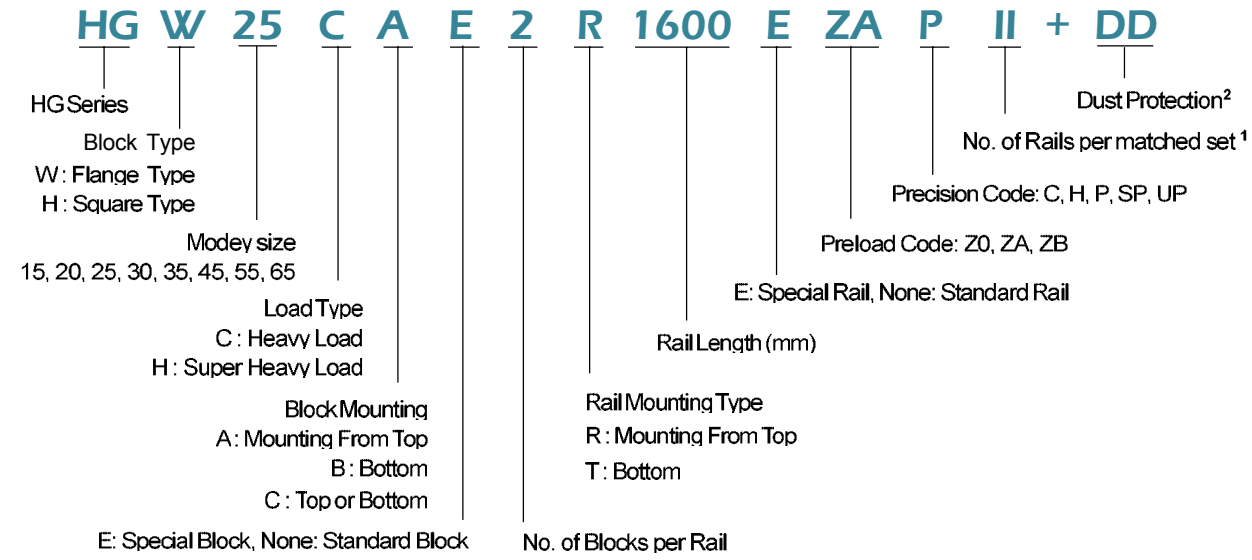
- High accuracy
- Large load capacity
- Low friction
- High Reliability
- Sealed carriages
- Smooth operation
- Low noise
- Interchangeability
- Easy installation
- Competitive pricing

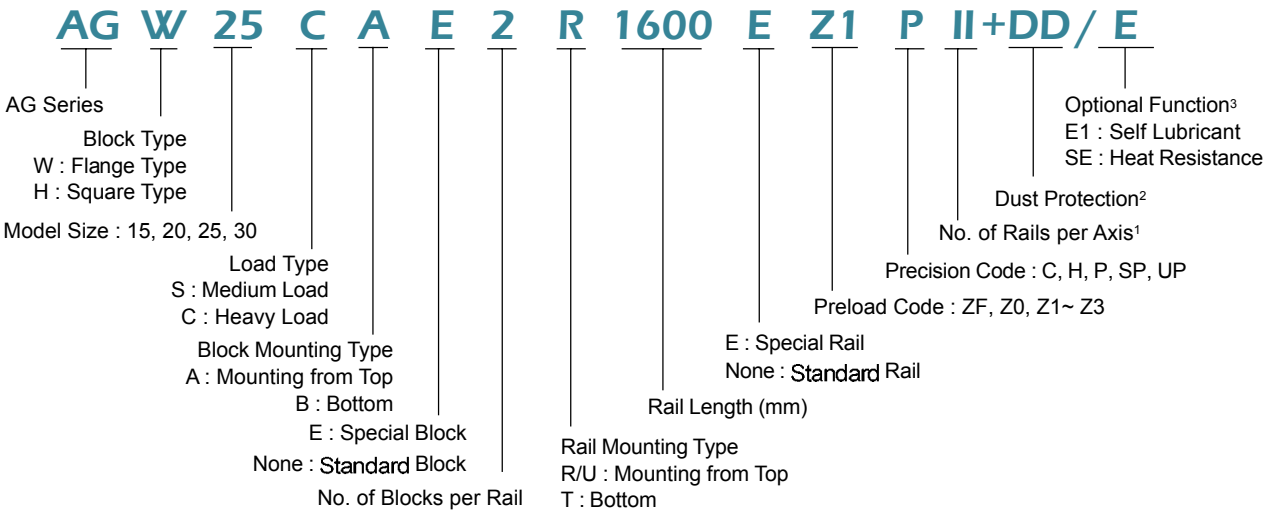
2 . Series of Linear Guideways

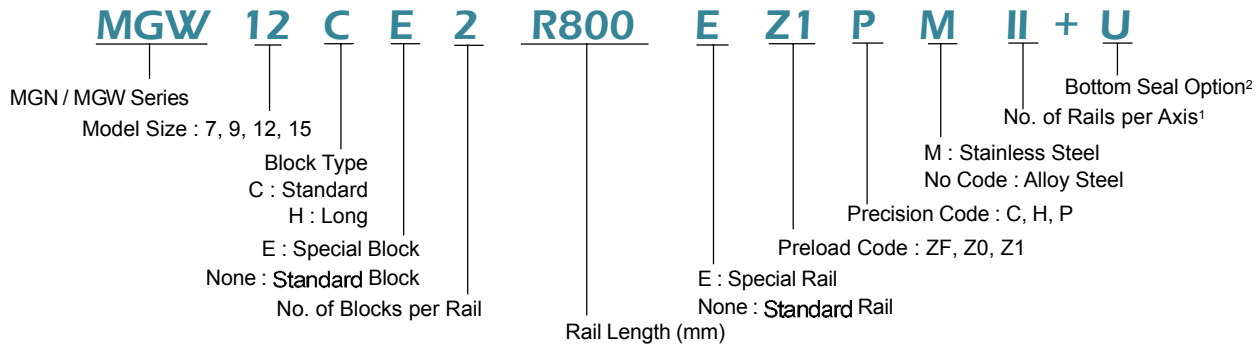
	Type	Shape	Height	Rail Length (mm)	Main Application (mm)
4-row type HG-Series	Square HGH		28 ↓ 90	100 ↓ 4000	• Machine Centers • NC Lathes • Grinding Machines • Precision Machining Machines • Heavy Cutting Machines • Automation Devices • Transportation Equipment • Measuring Equipment • Devices Requiring High Positional Accuracy
	Flange HGW		24 ↓ 90	100 ↓ 4000	
2-row type AG-Series	Square AGH		24 ↓ 42	100 ↓ 4000	• Automation equipment • High speed transportation equipment • Precision measuring equipment • Semiconductor equipment • Woodworking machinery
	Flange AGW		24 ↓ 42	100 ↓ 4000	
2-row type MGN/MGW-Series	Narrow MGN		24 ↓ 42	40 ↓ 1200	• Miniature devices • Medical equipment • IC manufacturing equipment • Woodworking machinery • X-Y tables
	Wide MGW		24 ↓ 42	50 ↓ 1000	

2-1 Model Number of Linear Guideways

2-1-1 Non-interchangeable type

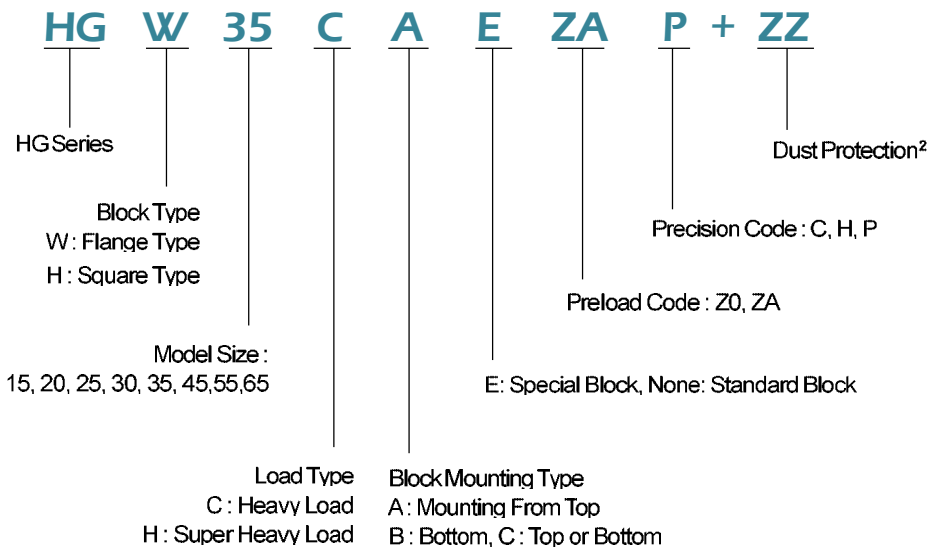


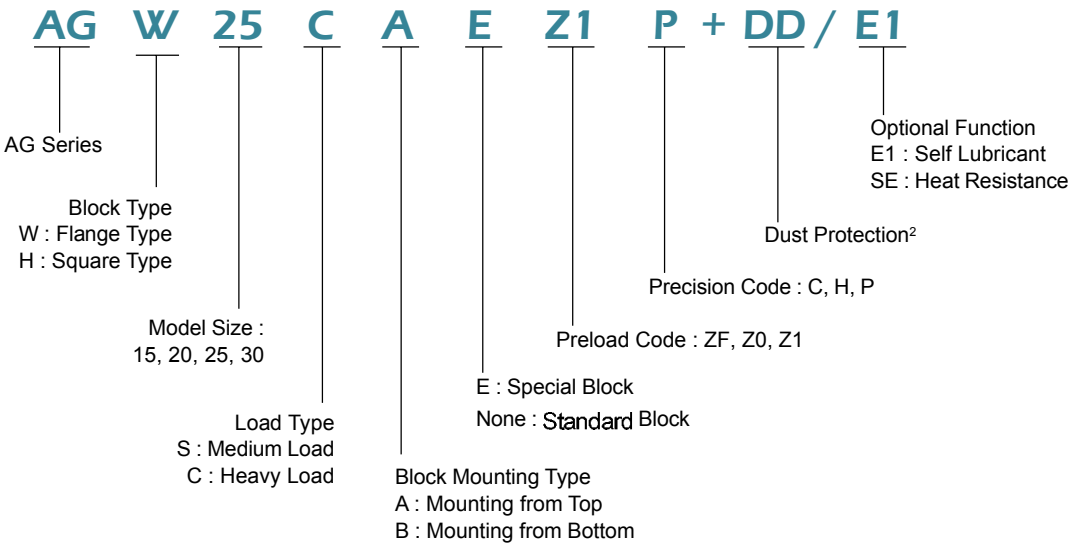


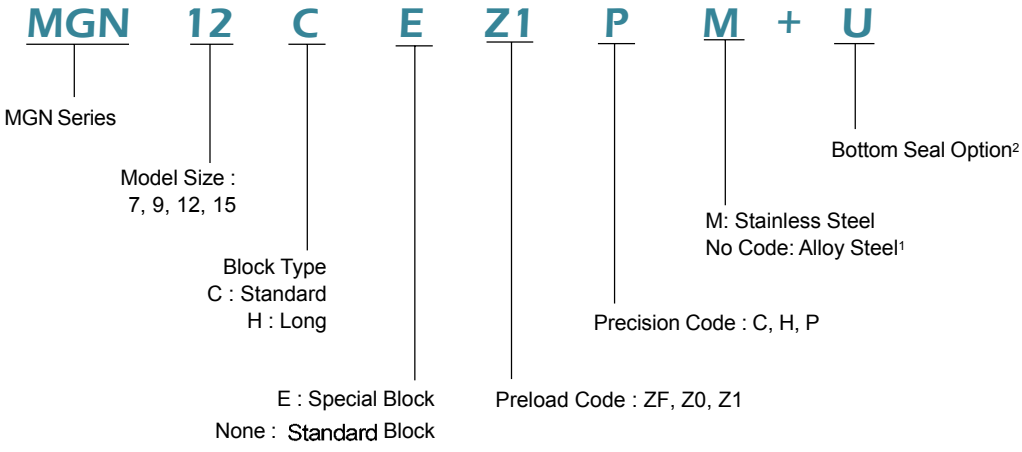


Note: 1. The roman numerals express the number of rails used in one axis. No symbol indicates single rail.
2. No symbol indicates standard protection (end seal and bottom seal).
ZZ : End seal, bottom seal and scraper KK: Double seals, bottom seal and scraper
DD: Double seals and bottom seal U: Optional bottom seal for MGN/MGW 12, 15.
3. Special option : E1: Self-lubricant linear guideway SE: Heat resistance (metallic end cap) linear guideway

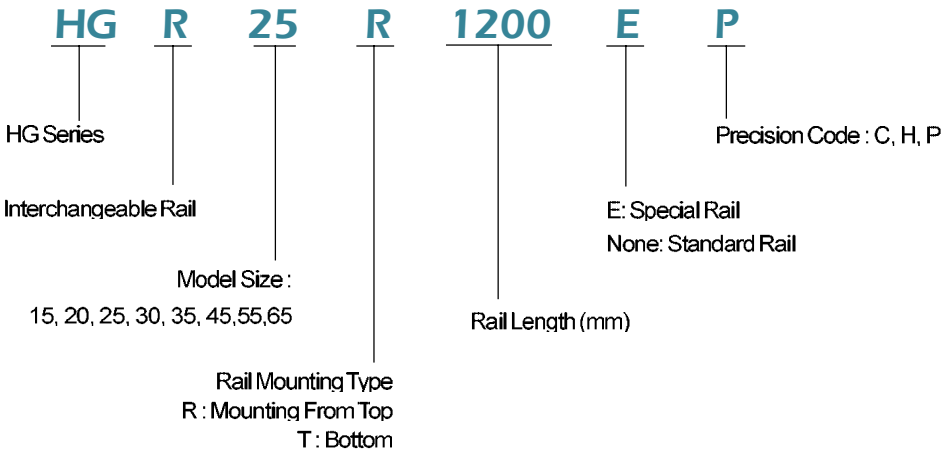
2-1-2 Interchangeable Block

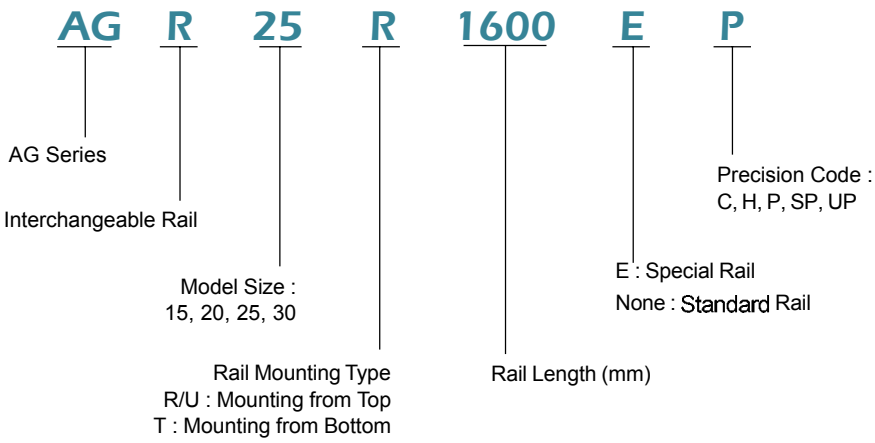


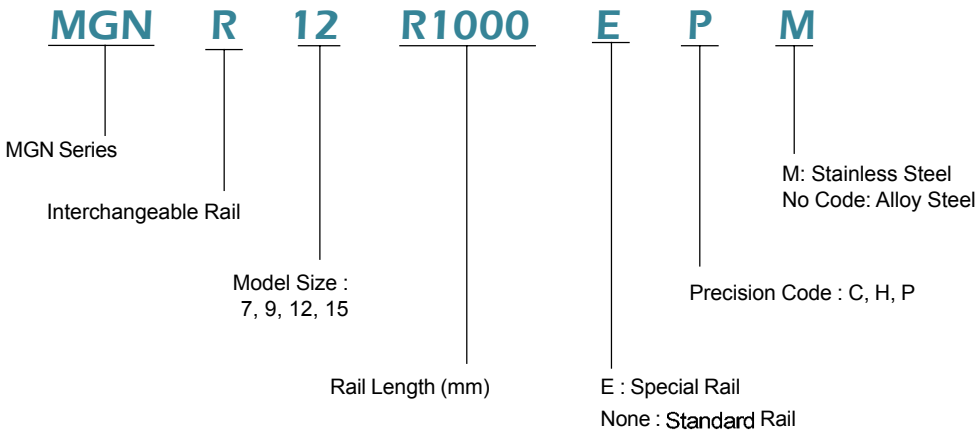




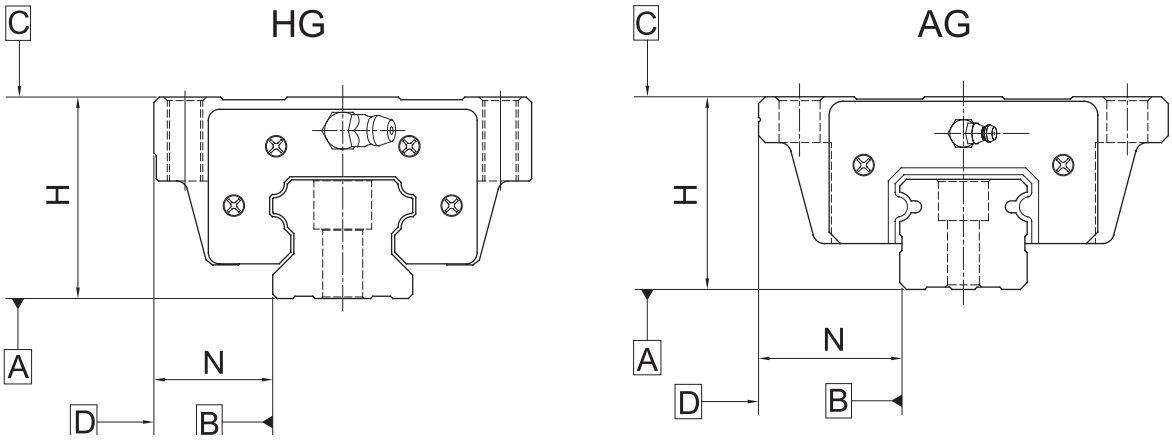
2-1-3 Interchangeable Rail







2-2 Accuracy Standards



2-2-1 HG/AG Non-interchangeable Type

Sizes 25, 30, 35

Item		Normal (C)	High (H)	Precision (P)	Super Precision (SP)	Ultra Precision (UP)
Dimensional tolerance of height H		± 0.1	± 0.04	0 - 0.04	0 - 0.02	0 - 0.01
Dimensional tolerance of width N		± 0.1	± 0.04	0 - 0.04	0 - 0.02	0 - 0.01
Pair	Variation of height H	0.02	0.015	0.007	0.005	0.003
	Variation of width N (Master Rail)	0.03	0.015	0.007	0.005	0.003
Running parallelism of block surface C to surface A		According to Figure 1				
Running parallelism of block surface D to surface B		According to Figure 1				

2-2-2 HG/AG Interchangeable Type

Sizes 25, 30, 35

Item		Normal (C)	High (H)	Precision (P)
Dimensional tolerance of height H		± 0.1	± 0.04	± 0.02
Dimensional tolerance of width N		± 0.1	± 0.04	± 0.02
Pair	Variation of height H	0.02	0.015	0.007
	Variation of width N	0.03	0.015	0.007
Pair variation of height H (multi sets)		0.06	0.045	0.027
Running parallelism of block surface C to surface A		According to Figure 1		
Running parallelism of block surface D to surface B		According to Figure 1		

Note : If more detailed information is needed, please refer to HIWIN linear guideway technical information.

2-2-3 MGN/MGW Non-interchangeable Type

Unit: mm

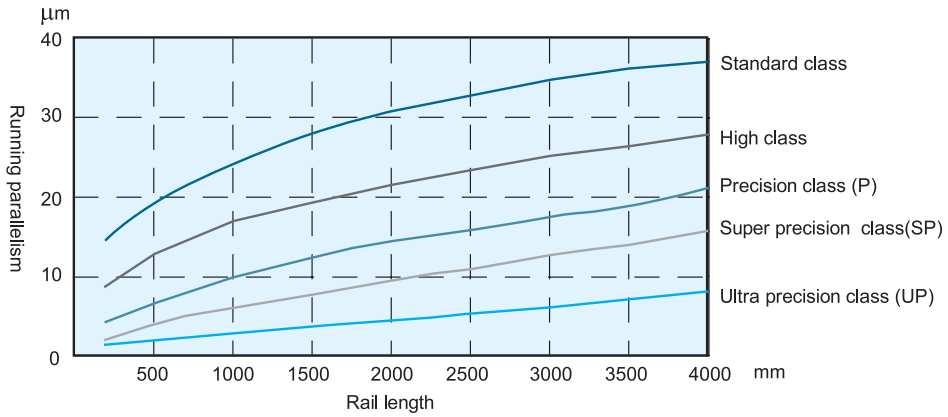
Item	Normal (C)	High (H)	Precision (P)
Dimensional tolerance of height H	± 0.04	± 0.02	± 0.01
Dimensional tolerance of width N	± 0.04	± 0.025	± 0.015
Pair Variation of height H	0.03	0.015	0.007
Pair Variation of width N (Master Rail)	0.03	0.02	0.01
Running parallelism of block surface C to surface A	According to Figure 1		
Running parallelism of block surface D to surface B	According to Figure 1		

2-2-4 MGN/MGW Interchangeable Type

Unit: mm

Item		Normal (C)	High (H)	Precision (P)
Dimensional tolerance of height H		± 0.04	± 0.02	± 0.01
Dimensional tolerance of width N		± 0.04	± 0.025	± 0.015
One Set	Pair Variation of height H	0.03	0.015	0.007
	Pair Variation of width N	0.03	0.02	0.01
Pair variation of height H (Multi Sets)		0.07	0.04	0.02
Running parallelism of block surface C to surface A		According to Figure 1		
Running parallelism of block surface D to surface B		According to Figure 1		

Figure 1 : Rail length and running parallelism



2-3 Preload

2-3-1 HG Series

Class	Preload	Code
Very Light Preload	0 ~ 0.02C	Z0
Light Preload	0.05C ~ 0.07C	ZA
Medium Preload	0.10C ~ 0.12C	ZB

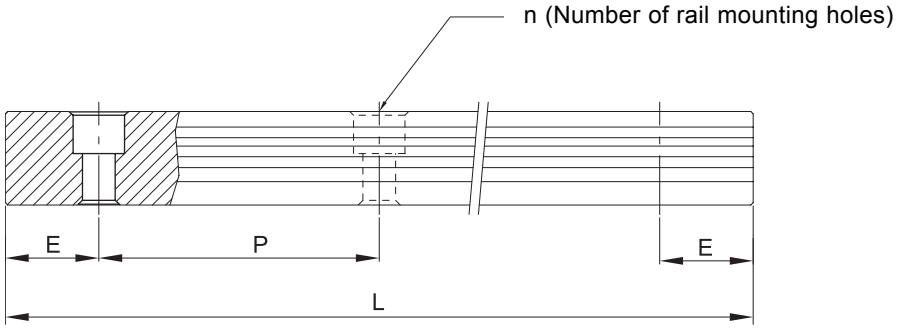
2-3-2 AG/MG Series

Preload		Code	AG series	MGN series	MGW series
Light Clearance	Clearance 4~10μm	ZF	●	●	●
Very Light Preload	0	Z0	●	●	●
Light Preload	0.02C	Z1	●	●	●
Medium Preload	0.05C	Z2	●	-	-
Heavy Preload	0.07C	Z3	●	-	-

Note : “C” is basic dynamic load rating.

2-4 Standard Length and Maximum Length

2-4-1 HG Series

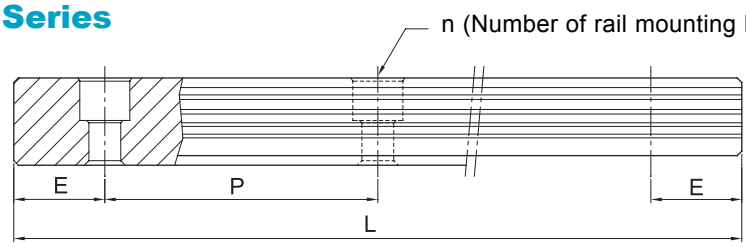


Unit: mm

Item	HGR15	HGR20	HGR25	HGR30	HGR35	HGR45	HGR55	HGR65
Standard Length L(n)	160(3)	220(4)	220(4)	280(4)	280(4)	570(6)	780(7)	1,270(9)
	220(4)	280(5)	280(5)	440(6)	440(6)	885(9)	1,020(9)	1,570(11)
	280(5)	340(6)	340(6)	600(8)	600(8)	1,200(12)	1,260(11)	2,020(14)
	340(6)	460(8)	460(8)	760(10)	760(10)	1,620(16)	1,500(13)	2,620(18)
	460(8)	640(11)	640(11)	1,000(13)	1,000(13)	2,040(20)	1,980(17)	
	640(11)	820(14)	820(14)	1,640(21)	1,640(21)	2,460(24)	2,580(22)	
	820(14)	1,000(17)	1,000(17)	2,040(26)	2,040(26)	2,985(29)	2,940(25)	
	1,240(21)	1,240(21)	2,520(32)	2,520(32)				
		1,600(27)	3,000(38)	3,000(38)				
Pitch (P)	60	60	60	80	80	105	120	150
Distance to End (E_s)	20	20	20	20	20	22.5	30	35
Max. Standard Length	1,960(33)	4,000(67)	4,000(67)	3,960(50)	3,960(50)	3,930(38)	3,540(30)	3,520(24)
Max. Length	2,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000

Notes : 1. Tolerance of E value for standard rail is 0.5~-0.5 mm. Tolerance of E value for butt-joint is 0~-0.3 mm.
2. Maximum standard length means the max. length of the rail with standard E value on both sides.
3. If different E value is needed, please contact HIWIN.

2-4-2 AG Series

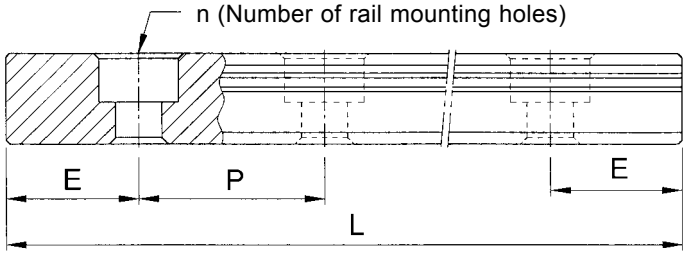


Unit: mm

Item	AGR15	AGR20	AGR25	AGR30
Standard Length L (n)	160(3)	220(4)	220(4)	280(4)
	220(4)	280(5)	280(5)	440(6)
	280(5)	340(6)	340(6)	600(8)
	340(6)	460(8)	460(8)	760(10)
	460(8)	640(11)	640(11)	1,000(13)
	640(11)	820(14)	820(14)	1,640(21)
	820(14)	1,000(17)	1,000(17)	2,040(26)
		1,240(21)	1,240(21)	2,520(32)
		1,600(27)	1,600(27)	3,000(38)
Pitch (P)	60	60	60	80
Distance to End (E_s)	20	20	20	20
Max. Standard Length	1,960(33)	4,000(67)	4,000(67)	3,960(50)
Max. Length	2,000	4,000	4,000	4,000

Note: 1. Tolerance of E value for standard rail is 0.5 ~ -0.5 mm. Tolerance of E value for butt-joint is 0 ~ -0.3 mm.
2. Maximum standard length means the max. length of the rail with standard E value on both sides.
3. If smaller E value is needed, please contact HIWIN.

2-4-2 MGN/MGW Series



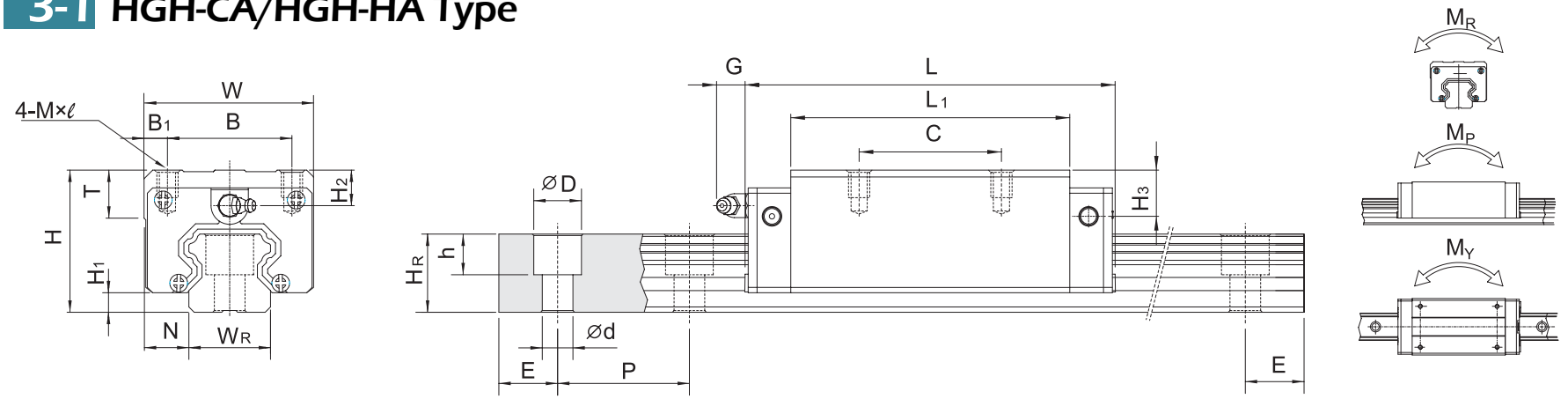
Unit : mm

Item	MGNR7	MGNR9	MGNR12	MGNR	MGWR7	MGWR9	MGWR12	MGWR15
Standard Length L (n)	40(3)	55(3)	70(3)	70(2)	80(3)	80(3)	110(3)	110(3)
	55(4)	75(4)	95(4)	110(3)	110(4)	110(4)	150(4)	150(4)
	70(5)	95(5)	120(5)	150(4)	140(5)	140(5)	190(5)	190(5)
	85(6)	115(6)	145(6)	190(5)	170(6)	170(6)	230(6)	230(6)
	100(7)	135(7)	170(7)	230(6)	200(7)	200(7)	270(7)	270(7)
	130(9)	155(8)	195(8)	270(7)	260(9)	230(8)	310(8)	310(8)
		175(9)	220(9)	310(8)		260(9)	350(9)	350(9)
		195(10)	245(10)	350(9)		290(10)	390(10)	390(10)
		275(14)	270(11)	390(10)		350(14)	430(11)	430(11)
		375(19)	320(13)	430(11)		500(19)	510(13)	510(13)
			370(15)	470(12)		710(24)	590(15)	590(15)
			470(19)	550(14)		860(29)	750(19)	750(19)
			570(23)	670(17)			910(23)	910(23)
			695(28)	870(22)			1070(27)	1070(27)
Pitch (P)	15	20	25	40	30	30	40	40
Distance to End (E_s)	5	7.5	10	15	10	10	15	15
Max. Standard Length	595(40)	995(50)	995(40)	990(25)	590(20)	980(33)	1150(29)	1150(29)
Max. Length	600	1,000	1,000	1,000	600	1,000	1,200	1,200

Note: 1. Tolerance of E value for standard rail is 0.5 ~ -0.5 mm. Tolerance of E value for butt-joint is 0 ~ -0.3 mm.
2. Maximum standard length means is the max. rail length with standard E value is on both sides.
3. If smaller E value is needed, please contact HIWIN.

3. Specifications

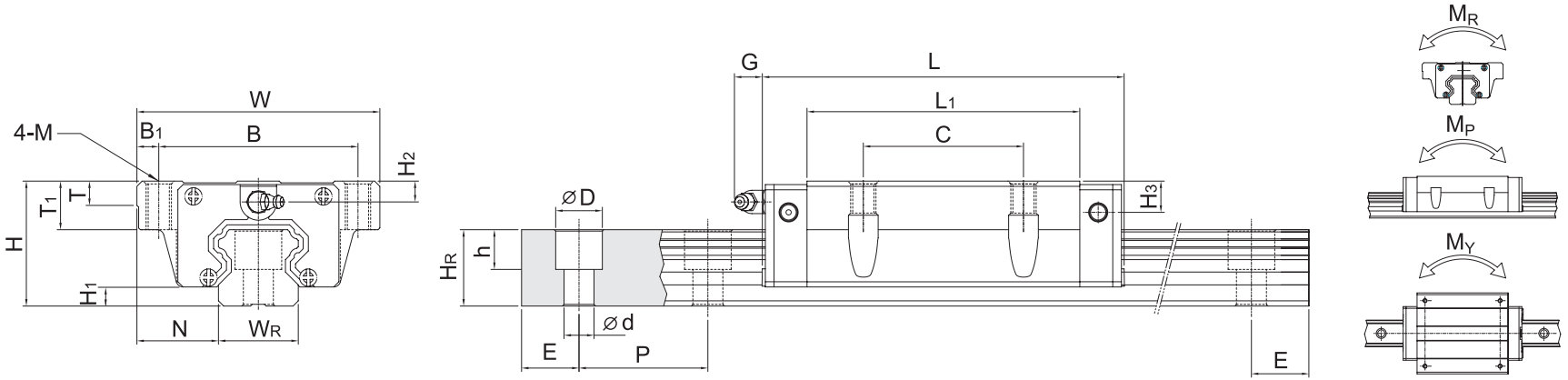
3-1 HGH-CA/HGH-HA Type



Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)											Dimensions of Rail (mm)							Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kN)	Basic Static Load Rating C_0 (kN)	Static Rated Moment			Weight	
	H	H_1	N	W	B	B_1	C	L_1	L	G	M x ℓ	T	H_2	H_3	W_R	H_R	D	h	d	P	E				M_R (kN-m)	M_P (kN-m)	M_Y (kN-m)	Block (kg)	Rail (kg/m)
HGH 15CA	28	4.3	9.5	34	26	4	26	39.4	61.4	5.3	M4x5	6	8.5	9.5	15	15	7.5	5.3	4.5	60	20	M4x16	11.38	25.31	0.17	0.15	0.15	0.18	1.45
HGH 20CA	30	4.6	12	44	32	6	36	50.5	75.6	12	M5x6	8	6	7	20	17.5	9.5	8.5	6	60	20	M5x16	17.75	37.84	0.38	0.27	0.27	0.30	2.21
HGH 20HA							50	65.2	90.3														21.18	48.84	0.48	0.47	0.47	0.39	
HGH 25CA	40	5.5	12.5	48	35	6.5	35	58	83	12	M6x8	8	10	13	23	22	11	9	7	60	20	M6x20	26.48	56.19	0.64	0.51	0.51	0.51	3.21
HGH 25HA							50	78.6	103.6														32.75	76.00	0.87	0.88	0.88	0.69	
HGH 30CA	45	6	16	60	40	10	40	70	97.4	12	M8x10	8.5	9.5	13.8	28	26	14	12	9	80	20	M8x25	38.74	83.06	1.06	0.85	0.85	0.88	4.47
HGH 30HA							60	93	120.4														47.27	110.13	1.40	1.47	1.47	1.16	
HGH 35CA	55	7.5	18	70	50	10	50	80	112.4	12	M8x12	10.2	16	19.6	34	29	14	12	9	80	20	M8x25	49.52	102.87	1.73	1.20	1.20	1.45	6.30
HGH 35HA							72	105.8	138.2														60.21	136.31	2.29	2.08	2.08	1.92	
HGH 45CA	70	9.5	20.5	86	60	13	60	97	138	12.9	M10x17	16	18.5	30.5	45	38	20	17	14	105	22.5	M12x35	77.57	155.93	3.01	2.35	2.35	2.73	10.41
HGH 45HA							80	128.8	169.8														94.54	207.12	4.00	4.07	4.07	3.61	
HGH 55CA	80	13	23.5	100	75	12.5	75	117.7	165.7	12.9	M12x18	17.5	22	29	53	44	23	20	16	120	30	M14x45	114.44	227.81	5.66	4.06	4.06	4.17	15.08
HGH 55HA							95	155.8	203.8														139.35	301.26	7.49	7.01	7.01	5.49	
HGH 65CA	90	15	31.5	126	76	25	70	144.2	198.2	12.9	M16x20	25	15	15	63	53	26	22	18	150	35	M16x50	163.63	324.71	10.02	6.44	6.44	7.00	21.18
HGH 65HA							120	203.6	257.6														208.36	457.15	14.15	11.12	11.12	9.82	

Note : 1 kgf = 9.81 N

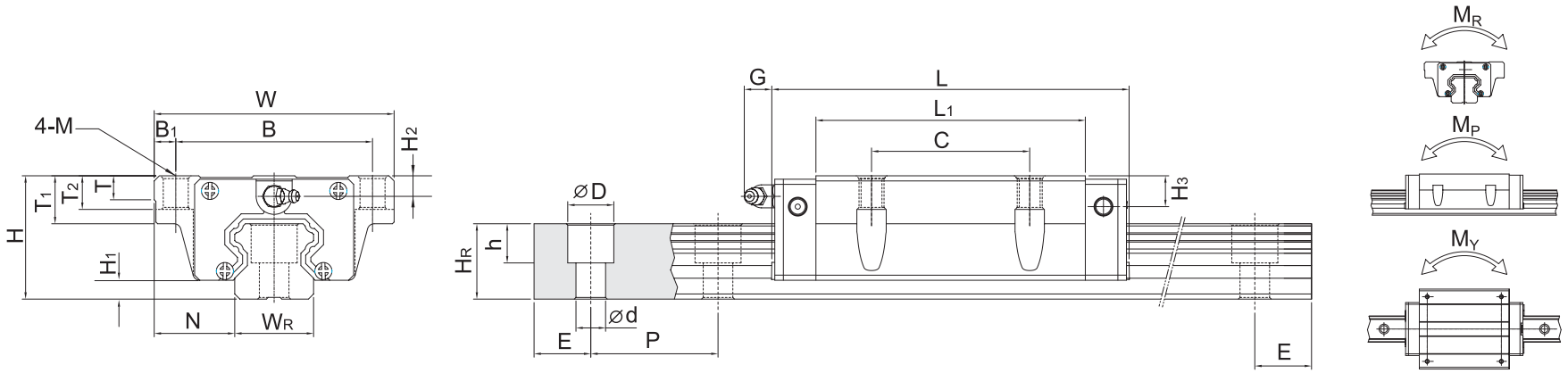
3-2 HGW-CA/HGW-HA Type



Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)												Dimensions of Rail (mm)							Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kN)	Basic Static Load Rating C_0 (kN)	Static Rated Moment			Weight	
	H	H_1	N	W	B	B_1	C	L_1	L	G	M	T	T_1	H_2	H_3	W_R	H_R	D	h	d	P	E				M_R (kN-m)	M_P (kN-m)	M_Y (kN-m)	Block (kg)	Rail (kg/m)
HGW 15CA	24	4.3	16	47	38	4.5	30	39.4	61.4	5.3	M5	6	8.9	4.5	5.5	15	15	7.5	5.3	4.5	60	20	M4x16	11.38	25.31	0.17	0.15	0.15	0.17	1.45
HGW 20CA	30	4.6	21.5	63	53	5	40	50.5	75.6	12	M6	8	10	6	7	20	17.5	9.5	8.5	6	60	20	M5x16	17.75	37.84	0.38	0.27	0.27	0.40	2.21
HGW 20HA								65.2	90.3															21.18	48.84	0.48	0.47	0.47	0.52	
HGW 25CA	36	5.5	23.5	70	57	6.5	45	58	83	12	M8	8	14	6	9	23	22	11	9	7	60	20	M6x20	26.48	56.19	0.64	0.51	0.51	0.59	3.21
HGW 25HA								78.6	103.6															32.75	76.00	0.87	0.88	0.88	0.80	
HGW 30CA	42	6	31	90	72	9	52	70	97.4	12	M10	8.5	16	6.5	10.8	28	26	14	12	9	80	20	M8x25	38.74	83.06	1.06	0.85	0.85	1.09	4.47
HGW 30HA								93	120.4															47.27	110.13	1.40	1.47	1.47	1.44	
HGW 35CA	48	7.5	33	100	82	9	62	80	112.4	12	M10	10.1	18	9	12.6	34	29	14	12	9	80	20	M8x25	49.52	102.87	1.73	1.20	1.20	1.56	6.30
HGW 35HA								105.8	138.2															60.21	136.31	2.29	2.08	2.08	2.06	
HGW 45CA	60	9.5	37.5	120	100	10	80	97	138	12.9	M12	15.1	22	8.5	20.5	45	38	20	17	14	105	22.5	M12x35	77.57	155.93	3.01	2.35	2.35	2.79	10.41
HGW 45HA								128.8	169.8															94.54	207.12	4.00	4.07	4.07	3.69	
HGW 55CA	70	13	43.5	140	116	12	95	117.7	165.7	12.9	M14	17.5	26.5	12	19	53	44	23	20	16	120	30	M14x45	114.44	227.81	5.66	4.06	4.06	4.52	15.08
HGW 55HA								155.8	203.8															139.35	301.26	7.49	7.01	7.01	5.96	
HGW 65CA	90	15	53.5	170	142	14	110	144.2	198.2	12.9	M16	25	37.5	15	15	63	53	26	22	18	150	35	M16x50	163.63	324.71	10.02	6.44	6.44	9.17	21.18
HGW 65HA								203.6	257.6															208.36	457.15	14.15	11.12	11.12	12.89	

Note : 1 kgf = 9.81 N

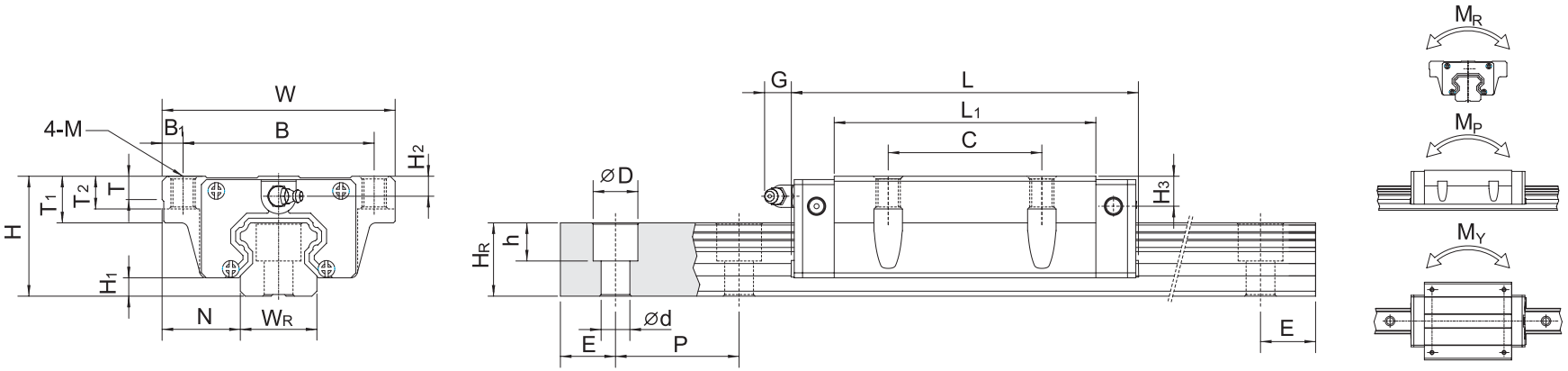
3-3 HGW-CB/HGW-HB Type



Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)													Dimensions of Rail (mm)							Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kN)	Basic Static Load Rating C_0 (kN)	Static Rated Moment			Weight	
	H	H_1	N	W	B	B_1	C	L_1	L	G	M	T	T_1	T_2	H_2	H_3	W_R	H_R	D	h	d	P	E				M_R (kN-m)	M_P (kN-m)	M_Y (kN-m)	Block (kg)	Rail (kg/m)
HGW 15CB	24	4.3	16	47	38	4.5	30	39.4	61.4	5.3	ø4.5	6	8.9	6.95	4.5	5.5	15	15	7.5	5.3	4.5	60	20	M4x16	11.38	25.31	0.17	0.15	0.15	0.17	1.45
HGW 20CB	30	4.6	21.5	63	53	5	40	50.5	75.6	12	ø6	8	10	9.5	6	7	20	17.5	9.5	8.5	6	60	20	M5x16	17.75	37.84	0.38	0.27	0.27	0.40	2.21
HGW 20HB								65.2	90.3																21.18	48.84	0.48	0.47	0.47	0.52	
HGW 25CB	36	5.5	23.5	70	57	6.5	45	58	83	12	ø7	8	14	10	6	9	23	22	11	9	7	60	20	M6x20	26.48	56.19	0.64	0.51	0.51	0.59	3.21
HGW 25HB								78.6	103.6																32.75	76.00	0.87	0.88	0.88	0.80	
HGW 30CB	42	6	31	90	72	9	52	70	97.4	12	ø9	8.5	16	10	6.5	10.8	28	26	14	12	9	80	20	M8x25	38.74	83.06	1.06	0.85	0.85	1.09	4.47
HGW 30HB								93	120.4																47.27	110.13	1.40	1.47	1.47	1.44	
HGW 35CB	48	7.5	33	100	82	9	62	80	112.4	12	ø9	10.1	18	13	9	12.6	34	29	14	12	9	80	20	M8x25	49.52	102.87	1.73	1.20	1.20	1.56	6.30
HGW 35HB								105.8	138.2																60.21	136.31	2.29	2.08	2.08	2.06	
HGW 45CB	60	9.5	37.5	120	100	10	80	97	138	12.9	ø11	15.1	22	15	8.5	20.5	45	38	20	17	14	105	22.5	M12x35	77.57	155.93	3.01	2.35	2.35	2.79	10.41
HGW 45HB								128.8	169.8																94.54	207.12	4.00	4.07	4.07	3.69	
HGW 55CB	70	13	43.5	140	116	12	95	117.7	165.7	12.9	ø14	17.5	26.5	17	12	19	53	44	23	20	16	120	30	M14x45	114.44	227.81	5.66	4.06	4.06	4.52	15.08
HGW 55HB								155.8	203.8																139.35	301.26	7.49	7.01	7.01	5.96	
HGW 65CB	90	15	53.5	170	142	14	110	144.2	198.2	12.9	ø16	25	37.5	23	15	15	63	53	26	22	18	150	35	M16x50	163.63	324.71	10.02	6.44	6.44	9.17	21.18
HGW 65HB								203.6	257.6																208.36	457.15	14.15	11.12	11.12	12.89	

Note : 1 kgf = 9.81 N

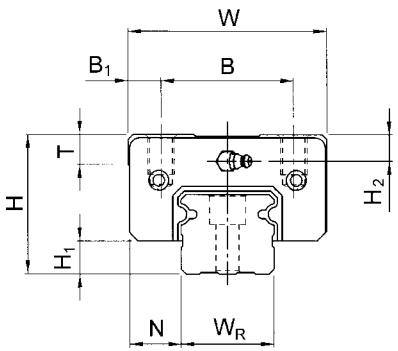
3-4 HGW-CC/HGW-HC Type

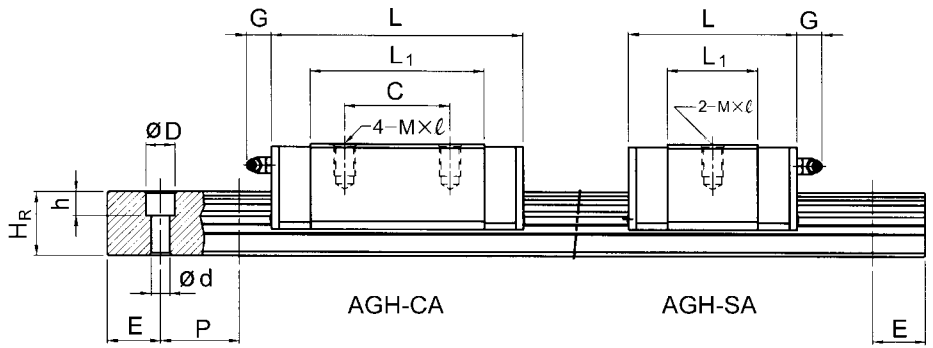


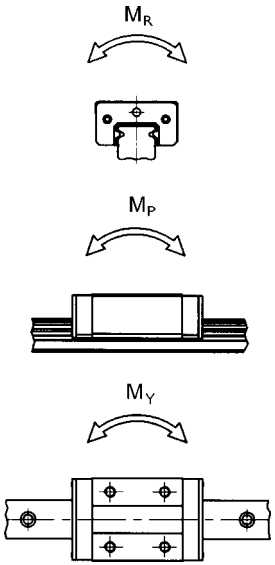
Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)												Dimensions of Rail (mm)							Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kN)	Basic Static Load Rating C_0 (kN)	Static Rated Moment			Weight	
	H	H_1	N	W	B	B_1	C	L_1	L	G	M	T	T_1	T_2	H_2	H_3	W_R	H_R	D	h	d	P	E				M_R (kN-m)	M_P (kN-m)	M_Y (kN-m)	Block (kg)	Rail (kg/m)
HGW 15CC	24	4.3	16	47	38	4.5	30	39.4	61.4	5.3	M5	6	8.9	6.95	4.5	5.5	15	15	7.5	5.3	4.5	60	20	M4x16	11.38	25.31	0.17	0.15	0.15	0.17	1.45
HGW 20CC	30	4.6	21.5	63	53	5	40	50.5	75.6	12	M6	8	10	9.5	6	7	20	17.5	9.5	8.5	6	60	20	M5x16	17.75	37.84	0.38	0.27	0.27	0.40	2.21
HGW 20HC								65.2	90.3																21.18	48.84	0.48	0.47	0.47	0.52	
HGW 25CC	36	5.5	23.5	70	57	6.5	45	58	83	12	M8	8	14	10	6	9	23	22	11	9	7	60	20	M6x20	26.48	56.19	0.64	0.51	0.51	0.59	3.21
HGW 25HC								78.6	103.6																32.75	76.00	0.87	0.88	0.88	0.80	
HGW 30CC	42	6	31	90	72	9	52	70	97.4	12	M10	8.5	16	10	6.5	10.8	28	26	14	12	9	80	20	M8x25	38.74	83.06	1.06	0.85	0.85	1.09	4.47
HGW 30HC								93	120.4																47.27	110.13	1.40	1.47	1.47	1.44	
HGW 35CC	48	7.5	33	100	82	9	62	80	112.4	12	M10	10.1	18	13	9	12.6	34	29	14	12	9	80	20	M8x25	49.52	102.87	1.73	1.20	1.20	1.56	6.30
HGW 35HC								105.8	138.2																60.21	136.31	2.29	2.08	2.08	2.06	
HGW 45CC	60	9.5	37.5	120	100	10	80	97	138	12.9	M12	15.1	22	15	8.5	20.5	45	38	20	17	14	105	22.5	M12x35	77.57	155.93	3.01	2.35	2.35	2.79	10.41
HGW 45HC								128.8	169.8																94.54	207.12	4.00	4.07	4.07	3.69	
HGW 55CC	70	13	43.5	140	116	12	95	117.7	165.7	12.9	M14	17.5	26.5	17	12	19	53	44	23	20	16	120	30	M14x45	114.44	227.81	5.66	4.06	4.06	4.52	15.08
HGW 55HC								155.8	203.8																139.35	301.26	7.49	7.01	7.01	5.96	
HGW 65CC	90	15	53.5	170	142	14	110	144.2	198.2	12.9	M16	25	37.5	23	15	15	63	53	26	22	18	150	35	M16x50	163.63	324.71	10.02	6.44	6.44	9.17	21.18
HGW 65HC								203.6	257.6																208.36	457.15	14.15	11.12	11.12	12.89	

Note : 1 kgf = 9.81 N

3-5 AGH-SA/CA Type



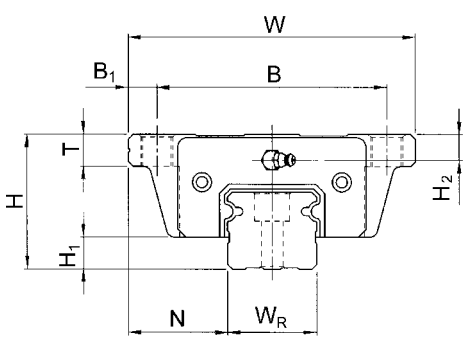


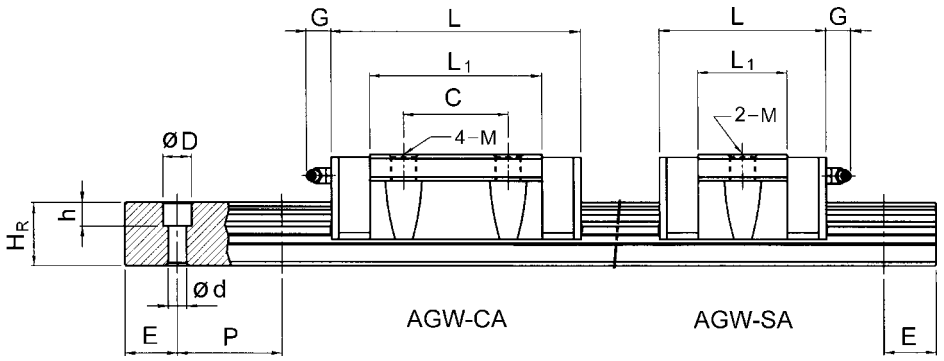


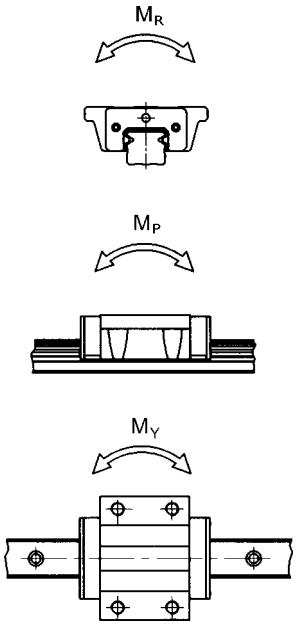
Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)										Dimensions of Rail (mm)							Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kgf)	Basic Static Load Rating C_0 (kgf)	Static Rated Moment			Weight	
	H	H_1	N	W	B	B_1	C	L_1	L	G	M x ℓ	T	H_2	W_R	H_R	D	h	d	P	E				M_R (kgf-m)	M_P (kgf-m)	M_Y (kgf-m)	Block (kg)	Rail (kg/m)
AGH15SA	24	5	9.5	34	26	4	-	22.8	41	5.7	M4X7	6	5.5	15	13.5	6	4.5	3.5	60	20	M3X16	440	590	4.8	2.3	2.3	0.12	1.43
AGH15CA							26	38.7	56.9													640	1,010	8.3	6.3	6.3	0.17	
AGH20SA	28	6	11	42	32	5	-	26.2	48	12	M5X8	7.5	6	20	15.5	9.5	8.5	6	60	20	M5X16	650	920	10.1	4.5	4.5	0.2	2.16
AGH20CA							32	44.1	65.9													970	1,450	15.9	10.4	10.4	0.29	
AGH25SA	33	7	12.5	48	35	6.5	-	34.5	58.7	12	M6X9	8	7	23	18.5	11	9	7	60	20	M6X20	1,080	1,330	16.7	7.8	7.8	0.34	2.95
AGH25CA							35	58.3	82.5													1,550	2,290	28.7	21.1	21.1	0.51	
AGH30SA	42	10	16	60	40	10	-	36.6	66.4	12	M8X12	9	8	28	24	11	9	7	80	20	M6X25	1,550	2,030	30.8	14.0	14.0	0.57	4.76
AGH30CA							40	65.2	95													2,470	3,390	51.3	35.5	35.5	0.88	

Listed dimensions of rail are for AGR-R (bolt hole, mounting from top). For dimension of AGR-U (Large bolt hole, mounting from top) and AGR-T (tapped hole, mounting from bottom) please refer to page 19.

3-6 AGW-SA/CA Type



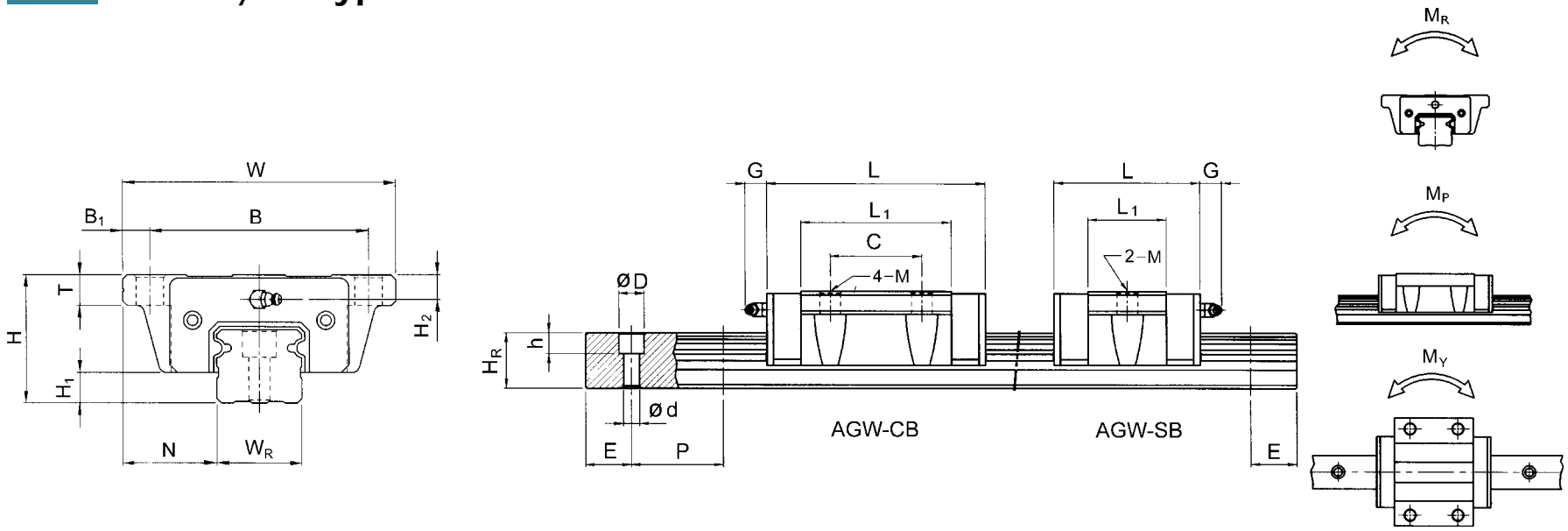




Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)										Dimensions of Rail (mm)							Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kgf)	Basic Static Load Rating C_0 (kgf)	Static Rated Moment			Weight	
	H	H_1	N	W	B	B_1	C	L_1	L	G	M	T	H_2	W_R	H_R	D	h	d	P	E				M_R (kgf-m)	M_P (kgf-m)	M_Y (kgf-m)	Block (kg)	Rail (kg/m)
AGW15SA	24	5	18.5	52	41	5.5	-	22.8	41	5.7	M5	7	5.5	15	13.5	6	4.5	3.5	60	20	M3X16	440	590	4.8	2.3	2.3	0.15	1.43
AGW15CA							26	38.7	56.9													640	1,010	8.3	6.3	6.3	0.23	
AGW20SA	28	6	19.5	59	49	5	-	26.2	48	12	M6	9	6	20	15.5	9.5	8.5	6	60	20	M5X16	650	920	10.1	4.5	4.5	0.24	2.16
AGW20CA							32	44.1	65.9													970	1,450	15.9	10.4	10.4	0.36	
AGW25SA	33	7	25	73	60	6.5	-	34.5	58.7	12	M8	10	7	23	18.5	11	9	7	60	20	M6X20	1,080	1,330	16.7	7.8	7.8	0.44	2.95
AGW25CA							35	58.3	82.5													1,550	2,290	28.7	21.1	21.1	0.68	
AGW30SA	42	10	31	90	72	9	-	36.6	66.4	12	M10	10	8	28	24	11	9	7	80	20	M6X25	1,550	2,030	30.8	14.0	14.0	0.72	4.76
AGW30CA							40	65.2	95													2,470	3,390	51.3	35.5	35.5	1.16	

Listed dimensions of rail are for AGR-R (bolt hole, mounting from top). For dimension of AGR-U (Large bolt hole, mounting from top) and AGR-T (tapped hole, mounting from bottom) please refer to page 19.

3-7 AGH-SB/CB Type

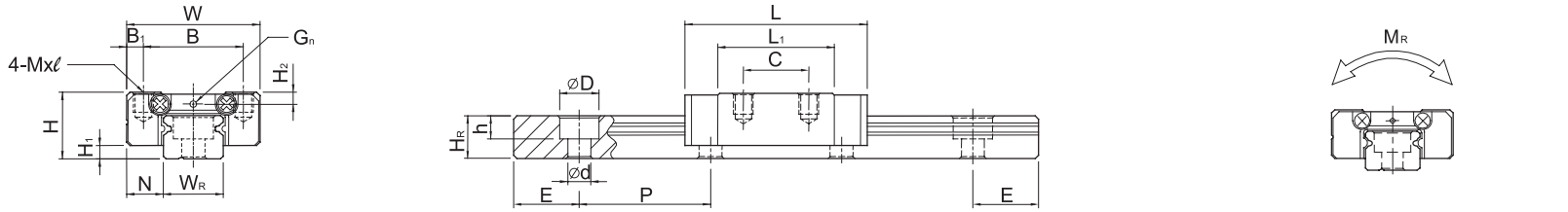


Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)										Dimensions of Rail (mm)							Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kgf)	Basic Static Load Rating C_0 (kgf)	Static Rated Moment			Weight	
	H	H_1	N	W	B	B_1	C	L_1	L	G	M	T	H_2	W_R	H_R	D	h	d	P	E				M_R (kgf-m)	M_P (kgf-m)	M_Y (kgf-m)	Block (kg)	Rail (kg/m)
AGW15SB	24	5	18.5	52	41	5.5	-	22.8	41	5.7	ø4.5	7	5.5	15	13.5	6	4.5	3.5	60	20	M3X16	440	590	4.8	2.3	2.3	0.15	1.43
AGW15CB							26	38.7	56.9													640	1,010	8.3	6.3	6.3	0.23	
AGW20SB	28	6	19.5	59	49	5	-	26.2	48	12	ø5.5	9	6	20	15.5	9.5	8.5	6	60	20	M5X16	650	920	10.1	4.5	4.5	0.24	2.16
AGW20CB							32	44.1	65.9													970	1,450	15.9	10.4	10.4	0.36	
AGW25SB	33	7	25	73	60	6.5	-	34.5	58.7	12	ø7	10	7	23	18.5	11	9	7	60	20	M6X20	1,080	1,330	16.7	7.8	7.8	0.44	2.95
AGW25CB							35	58.3	82.5													1,550	2,290	28.7	21.1	21.1	0.68	
AGW30SB	42	10	31	90	72	9	-	36.6	66.4	12	ø9	10	8	28	24	11	9	7	80	20	M6X25	1,550	2,030	30.8	14.0	14.0	0.72	4.76
AGW30CB							40	65.2	95													2,470	3,390	51.3	35.5	35.5	1.16	

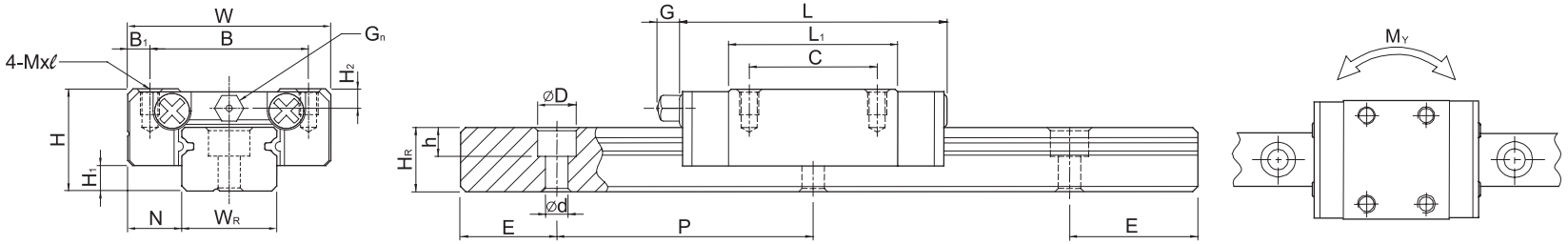
Listed dimensions of rail are for AGR-R (bolt hole, mounting from top). For dimension of AGR-U (Large bolt hole, mounting from top) and AGR-T (tapped hole, mounting from bottom) please refer to page 19.

3-8 MGN-C/H Type

▸ MGN 7, MGN 9, MGN 12



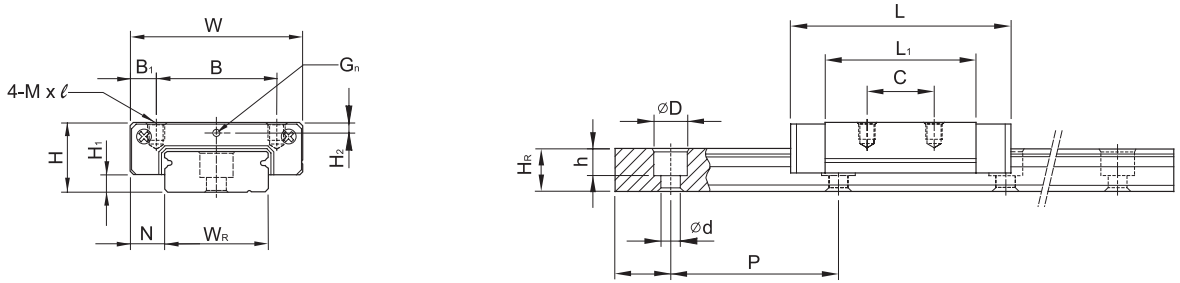
▸ MGN 15

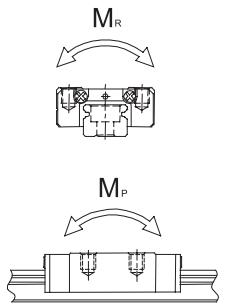


Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)										Dimensions of Rail (mm)							Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kgf)	Basic Static Load Rating C_0 (kgf)	Static Rated Moment			Weight	
	H	H_1	N	W	B	B_1	C	L_1	L	G	G_n	M x ℓ	H_2	W_R	H_R	D	h	d	P	E				M_R (kgf-m)	M_P (kgf-m)	M_Y (kgf-m)	Block (g)	Rail (kg/m)
MGN 7C	8	1.5	5	17	12	2.5	8	13.5	22.5	-	ø0.8	M2 x 2.5	1.5	7	4.8	4.2	2.3	2.4	15	5	M2x6	100	127	0.48	0.29	0.29	10	0.22
MGN 7H							13	21.8	30.8													140	200	0.78	0.49	0.49	15	
MGN 9C	10	2	5.5	20	15	2.5	10	18.9	28.9	-	ø0.8	M3 x 3	1.8	9	6.5	6	3.5	3.5	20	7.5	M3x8	190	260	1.2	0.75	0.75	16	0.38
MGN 9H							16	29.9	39.9													260	410	2	1.9	1.9	26	
MGN 12C	13	3	7.5	27	20	3.5	15	21.7	34.7	-	ø0.8	M3 x 3.5	2.5	12	8	6	4.5	3.5	25	10	M3x8	290	400	2.6	1.4	1.4	34	0.65
MGN 12H							20	32.4	45.4													380	600	3.9	3.7	3.7	54	
MGN 15C	16	4	8.5	32	25	3.5	20	26.7	42.1	4.5	GN3S	M3 x 4	3	15	10	6	4.5	3.5	40	15	M3x10	470	570	4.6	2.2	2.2	59	1.06
MGN 15H							25	43.4	58.8													650	930	7.5	5.9	5.9	92	

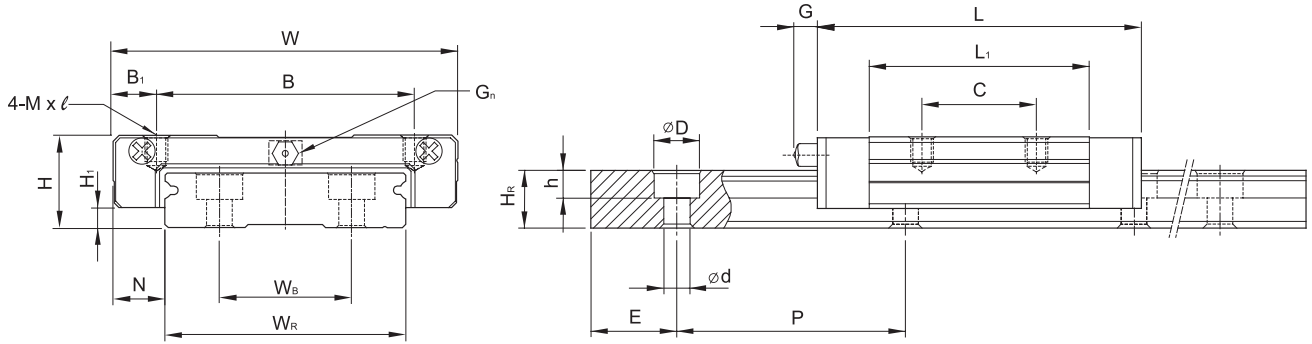
3-9 MGW-C/H Type

▸ MGW 7, MGW 9, MGW 12



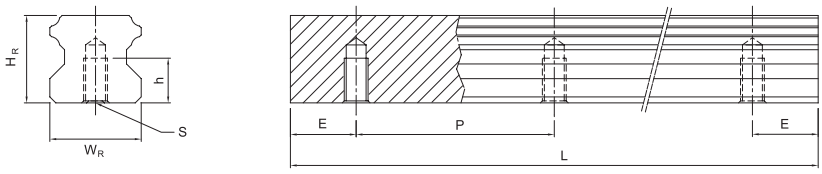


▸ MGW 15



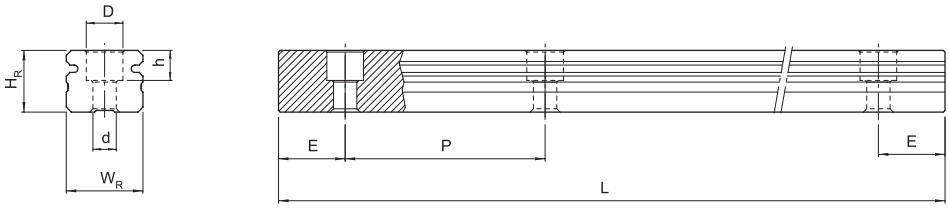
Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)										Dimensions of Rail (mm)								Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kgf)	Basic Static Load Rating C_0 (kgf)	Static Rated Moment			Weight	
	H	H_1	N	W	B	B_1	C	L_1	L	G	G_n	M x ℓ	H_2	W_R	W_B	H_R	D	h	d	P	E				M_R (kgf-m)	M_P (kgf-m)	M_Y (kgf-m)	Block (g)	Rail (kg/m)
MGW 7C	9	1.9	5.5	25	19	3	10	21	31.2	-	ø0.9	M3x3	1.85	14	-	5.2	6	3.2	3.5	30	10	M3x6	140	210	1.6	0.73	0.73	20	0.51
MGW 7H							19	30.8	41														180	320	2.39	1.58	1.58	29	
MGW 9C	12	2.9	6	30	21	4.5	12	27.5	39.3	-	ø1.0	M3x3	2.4	18	-	7	6	4.5	3.5	30	10	M3x8	280	420	4.09	1.93	1.93	40	0.91
MGW 9H					23	3.5	24	38.5	50.7														350	600	5.56	3.47	3.47	57	
MGW 12C	14	3.4	8	40	28	6	15	31.3	46.1	-	ø1.8	M3x3.6	2.8	24	-	8.5	8	4.5	4.5	40	15	M4x8	400	570	7.17	2.83	2.83	71	1.49
MGW 12H							28	45.6	60.4														520	840	10.47	5.85	5.85	103	
MGW 15C	16	3.4	9	60	45	7.5	20	38	54.8	5.2	GN3S	M4x4.2	3.2	42	23	9.5	8	4.5	4.5	40	15	M4x10	690	940	20.32	5.78	5.78	143	2.86
MGW 15H							35	57	73.8														910	1410	30.48	12.5	12.5	215	

3-10 HGR-T Type (Tapped hole, mounting from bottom)



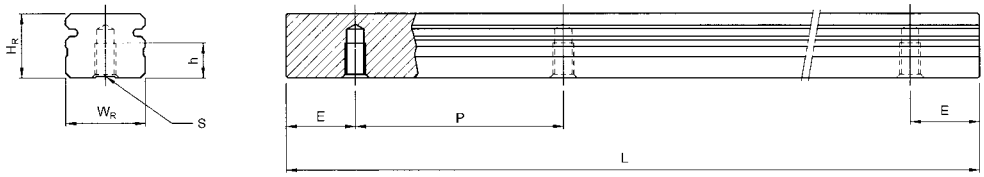
Model No.	Dimensions of Rail (mm)						Weight (kg/m)
	W_R	H_R	S	h	P	E	
HGR15T	15	15	M5 x 0.8P	8	60	20	1.48
HGR20T	20	17.5	M6 x 1P	10	60	20	2.29
HGR25T	23	22	M6 x 1P	12	60	20	3.35
HGR30T	28	26	M8 x 1.25P	15	80	20	4.67
HGR35T	34	29	M8x1.25P	17	80	20	6.51
HGR45T	45	38	M12 x 1.75P	24	105	22.5	10.87
HGR55T	53	44	M14 x 2P	24	120	30	15.67
HGR65T	63	53	M20 x 2.5P	30	150	35	21.73

3-11 AGR-U Type (Large bolt hole, mounting from top)



Model No.	Mounting Bolt for Rail (mm)	Dimensions of Rail (mm)							Weight (kg/m)
		W_R	H_R	D	h	d	P	E	
AGR15U	M4x16	15	13.5	7.5	5.3	4.5	60	20	1.41
AGR30U	M8x25	28	24	14	12	9	80	20	4.65

3-12 AGR-T Type (Tapped hole, mounting from bottom)

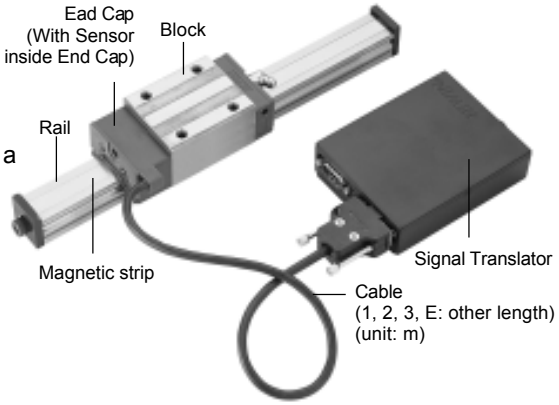


Model No.	Dimensions of Rail (mm)						Weight (kg/m)
	W_R	H_R	S	h	P	E	
AGR15T	15	13.5	M5x0.8P	7	60	20	1.44
AGR20T	20	15.5	M6x1P	9	60	20	2.23
AGR25T	23	18.5	M6x1P	10	60	20	3.06
AGR30T	28	24	M8x1.25P	14	80	20	4.83

4. Intelligent Linear Guideway (IG Type)

4-1 HIWIN IG Structure

IG is a Linear Guideway assembly integrated with a position measurement magnetic encoder.



4-2 HIWIN IG Features

1. The additional components are completely internal, thus saving installation space.
2. Maintains high rigidity as well as high accuracy.
3. Both sensor and magnetic strip are protected from harmful external extremities such as dust, iron chips, etc.
4. Non-contact measuring sensor can achieve longer life.
5. Can measure distances up to 32 m.
6. Can withstand humid, and high-temperature environments in oily, dusty, and high vibration applications.
7. High resolution
8. Easy to install

4-3 Model Number of IG

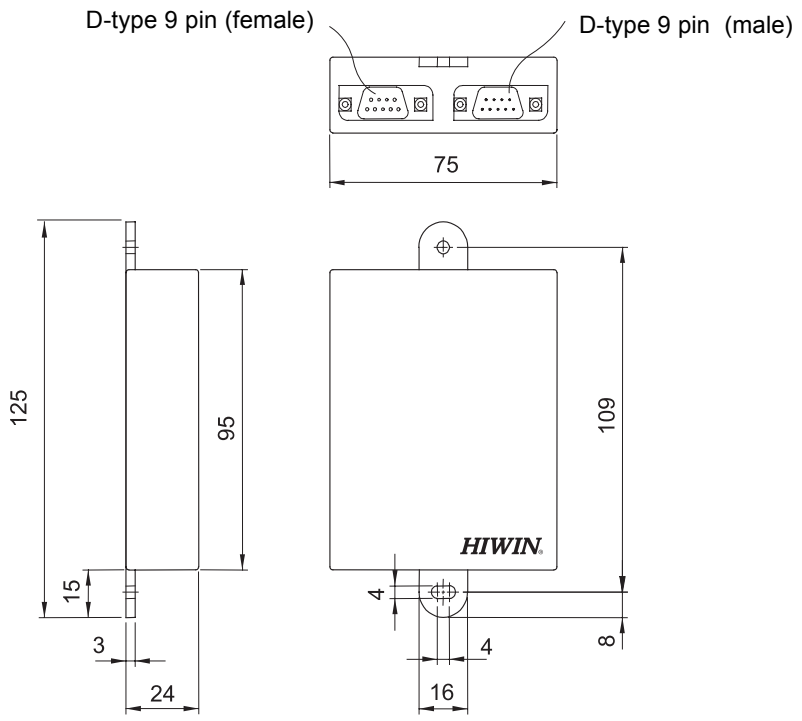
IGH W 25 C A E 1/2 T 1600 E ZA P I/II/E1+KK+03+□□

- Intelligent Guideway Series : IGA, IGH
- Block Type : W : Flange Type, H : Square Type
- Model Size : 20, 25, 30, 35, 45, 55
- Load Type : S : Medium Load, C : Heavy Load, H : Super Heavy Load
- Block Mounting Type : A : From Top, B : From Bottom, C : Top or Bottom
- E : Special Block, None : Standard Block
- Total No. of Blocks with Sensor for all Axis
- No. of Blocks per Axis
- Rail Mounting Type : R : From Top, T : From Bottom
- Rail Length (mm)
- E : Special Rail, None : Standard Rail
- Preload Code : IGA : ZF, Z0, Z1~Z3, IGH : Z0, ZA, ZB
- Precision Code : C, H, P
- No. of Rails with Magnetic Strip
- No. of Rails per Axis
- E1 : Self Lubricant Block, Blank: Standard Block
- Dustproof : DD, ZZ, KK
- Cable Length : 01=1m; 02=2m; 03=3m; 10=10m
- Resolution: 1=5μ, 2=10μ
- Output Signal Type: 1:5V input, TTL output; 2:24V input, O.C. output
- D P = Display (Option)
- 1 2 = Signal Translator

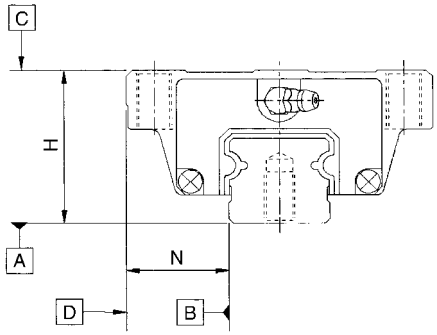
4-4 Technical Data of IG Type

Item	Specifications
Resolution (μm)	5, 10, 50, 100, 500, 1000
Accuracy (μm)	± (80 + 15 x L), L: Strip Length (m)
Max. Speed (m/min)	80 (for 5μm resolution)
Power Supply (V)	5, 24V ± 10%
Power Consumption	2 Watt
Output Signals (Pulse)	A, B, $\overline{A}$, $\overline{B}$ Phase Difference 90° ± 10%; Output : 5V TTL or O.C. 40 mA / 30VDC
Working Temperature	Magnetic Strip: 0~50°C, Sensor: 0~70°C, Translator: 0~50°C
Storage Temperature	-5°C ~ 50°C
Max. Rail Length	4m (Max. 32m for Butt-joint Rail)
Recommended Magnetic Strip Length	Stroke of Rail + 25mm Each Side
Expansion Coefficient of Strip	$16x10^{-6}$ (mm/°C)
Protection Class	Magnetic Strip: IP 66, Sensor: IP 66, Translator: IP 43

D-type 9 pin layout:
Pin1 = 0V
Pin2 = 5V/DC
Pin3 = channel A
Pin4 = channel B
Pin7 = channel $\overline{B}$
Pin8 = channel $\overline{A}$



4-5 Accuracy Classes



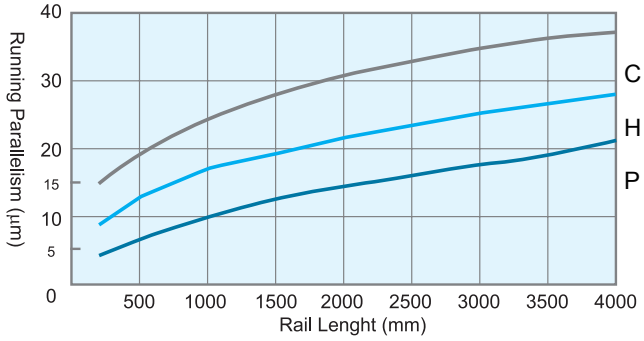
For example: IGA 25, 30, 35

Unit: mm

Item	Normal (C)	High (H)	Precision (P)
Dimensional tolerance of height H	± 0.1	± 0.04	0 -0.04
Dimensional tolerance of width N	± 0.1	± 0.04	0 -0.04
Pair Variation of height H	0.02	0.015	0.007
Pair Variation of width N (Master Rail)	0.03	0.015	0.007
Running parallelism of block surface C to surface A	See chart below		
Running parallelism of block surface D to surface B	See chart below		

Note: If more detail information is needed, please refer to HIWIN linear guideway technical information.

Running parallelism of the guideway



4-6 Preload

IGH-series

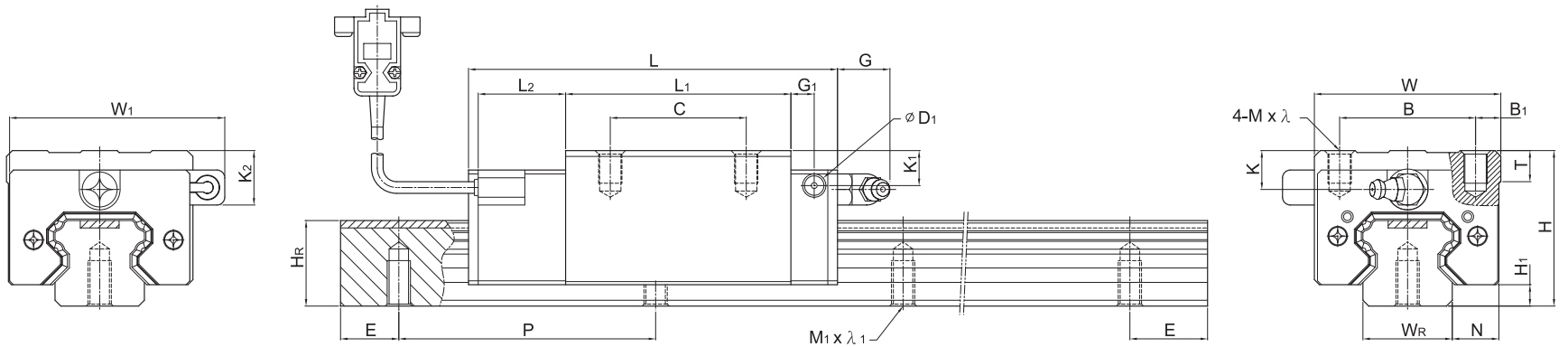
Class	Preload	Remark
Light Preload	0 ~ 0.02C	Z0
Medium Preload	0.05C ~ 0.07C	ZA
Heavy Preload	0.10C ~ 0.12C	ZB

Note: “C” in column preload means basic dynamic load rating.

IGA-series

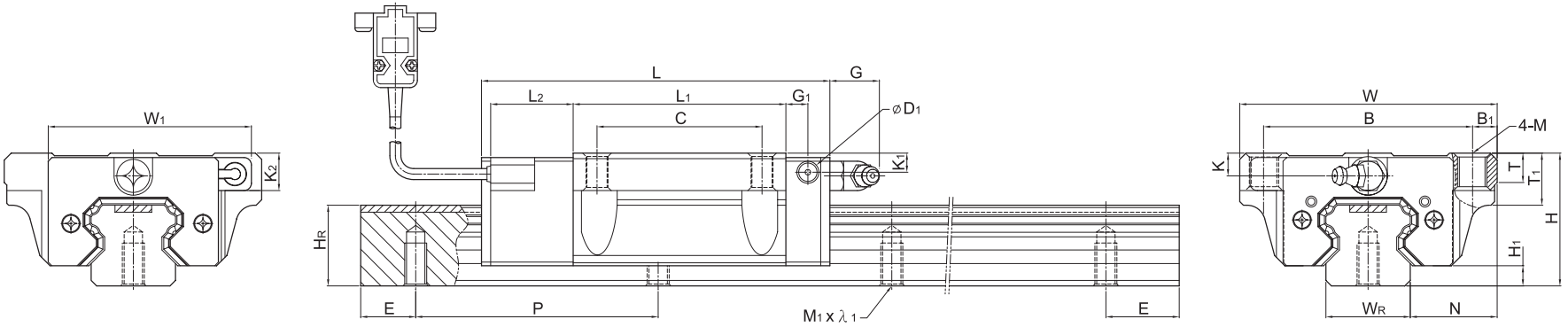
Class	Preload	Remark
Light Clearance	Clearance 4~10μm	ZF
Very Light Preload	0	Z0
Light Preload	0.02C	Z1
Medium Preload	0.05C	Z2
Heavy Preload	0.07C	Z3

4-7 IGHH CA / HA type



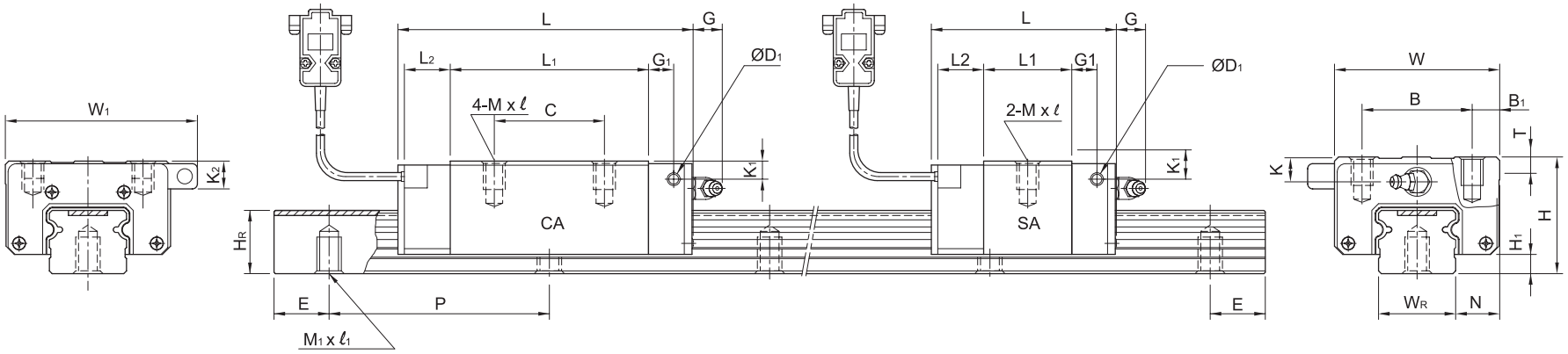
Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)																Dimensions of Rail (mm)					Basic Dynamic Load Rating C (kN)	Basic Static Load Rating C_0 (kN)	Weight	
	H	H_1	N	W	W_1	L	B	B_1	C	L_1	L_2	G	K	D_1	G_1	K_1	K_2	M x ℓ	T	W_R	H_R	M_1 x ℓ_1	P	E			Block (kg)	Rail (kg/m)
IGHH20CA	30	4.6	12	44	52	90.5	32	6	36	50.5	25	12	6	5	6	7	11	M5x6	8	20	17.5	M6x10	60	20	17.75	37.84	0.38	2.21
IGHH20HA						105			50	65.2															21.18	48.84	0.39	
IGHH25CA	40	5.5	12.5	48	55.4	95	35	6.5	35	58	22.5	12	10	5	6	13	18	M6x8	8	23	22	M6x12	60	20	26.48	56.19	0.51	3.21
IGHH25HA						116			50	78.6															32.75	76.00	0.69	
IGHH30CA	45	6	16	60	67	110	40	10	40	70	23	12	9.5	5	6	13.8	19	M8x10	8.5	28	26	M8x15	80	20	38.74	83.06	0.88	4.47
IGHH30HA						133			60	93															47.27	110.13	1.16	
IGHH35CA	55	7.5	18	70	77	123	50	10	50	80	23.4	12	16	5	7	19.6	23.5	M8x12	10.2	34	29	M8x17	80	20	49.52	102.87	1.45	6.30
IGHH35HA						149			72	106															60.21	136.31	1.92	
IGHH45CA	70	9.5	20.5	86	91	148	60	13	60	97	26	12.9	18.5	8.5	10	30.5	30.5	M10x17	16	45	38	M12x24	105	22.5	77.57	155.93	2.73	10.41
IGHH45HA						180			80	129															94.54	207.12	3.61	
IGHH55CA	80	13	23.5	100	106	173	75	12.5	75	118	26	12.9	22	8.5	11	29	28.5	M12x18	17.5	53	44	M14x25	120	30	114.44	227.81	4.17	15.08
IGHH55HA						198			95	143															139.35	310.26	5.49	

4-8 IGHW CA / HA type



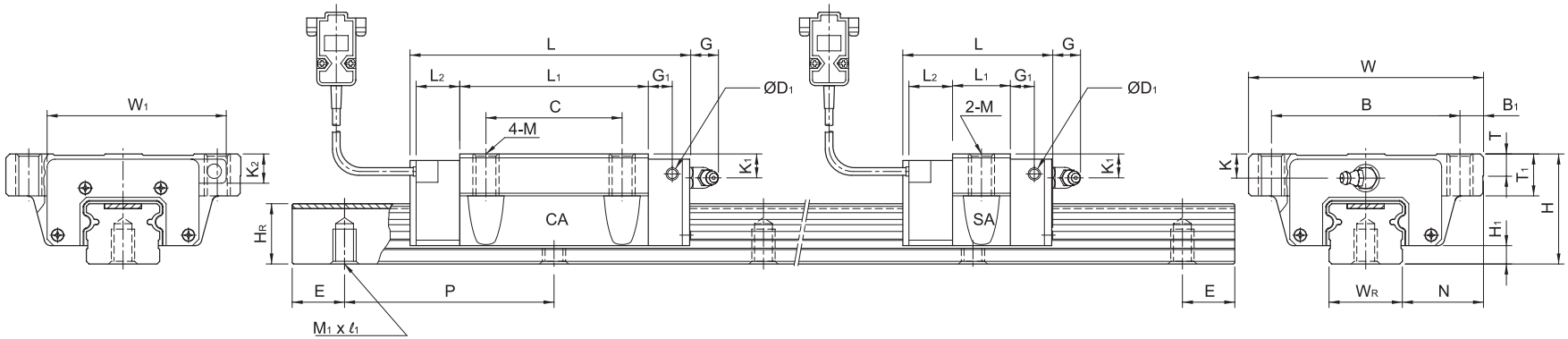
Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)																		Dimensions of Rail (mm)					Basic Dynamic Load Rating C (kN)	Basic Static Load Rating C_0 (kN)	Weight	
	H	H_1	N	W	W_1	L	B	B_1	C	L_1	L_2	G	K	M	D_1	G_1	K_1	K_2	T	T_1	W_R	H_R	$M_1 \times \ell_1$	P	E			Block (kg)	Rail (kg/m)
IGHW20CA	30	4.6	21.5	63	52	90.5	53	5	40	50.5	25	12	6	M6	5	6	7	11	8	10	20	17.5	M6x10	60	20	17.75	37.84	0.40	2.21
IGHW20HA						105				65.2																21.18	48.84	0.52	
IGHW25CA	36	5.5	23.5	70	55.4	95	57	6.5	45	58	22.5	12	6	M8	5	6	9	14	8	14	23	22	M6x12	60	20	26.48	56.19	0.59	3.21
IGHW25HA						116				78.6																32.75	76.00	0.80	
IGHW30CA	42	6	31	90	67	110	72	9	52	70	23	12	6.5	M10	5	6	10.8	16	8.5	16	28	26	M8x15	80	20	38.74	83.06	1.09	4.47
IGHW30HA						133				93																47.27	110.13	1.44	
IGHW35CA	48	7.5	33	100	77	123	82	9	62	80	23.4	12	9	M10	5	7	12.6	16.5	10.1	18	34	29	M8x17	80	20	49.52	102.87	1.56	6.30
IGHW35HA						149				106																60.21	136.31	2.06	
IGHW45CA	60	9.5	37.5	120	91	148	100	10	80	97	26	12.9	8.5	M12	8.5	10	20	20	15.1	22	45	38	M12x24	105	22.5	77.57	155.93	2.79	10.41
IGHW45HA						180				129																94.54	207.12	3.69	
IGHW55CA	70	13	43.5	140	106	173	116	12	95	118	26	12.9	12	M14	8.5	11	19	18.5	17.5	26.5	53	44	M14x25	120	30	114.44	227.81	4.52	15.08
IGHW55HA						198				143																139.35	301.26	5.96	

4-9 IGAH SA / CA type



Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)															Dimensions of Rail (mm)					Basic Dynamic Load Rating C (kgf)	Basic Static Load Rating C_0 (kgf)	Weight	
	H	H_1	N	W	W_1	L	B	B_1	C	L_1	L_2	G	K	D_1	G_1	K_1	K_2	M x ℓ	T_1	W_R	H_R	$M_1 x \ell_1$	P	E			Block (kg)	Rail (kg/m)
IGAH 20SA	28	6	11	42	50	60.2	32	5	-	26.2	20.5	12	6	5	4.1	6	10	M5 x 8	7.5	20	15	M5 x 16	60	20	650	920	0.2	2.16
IGAH 20CA						78.1			32	44.1															970	1,450	0.29	
IGAH 25SA	33	7	12.5	48	56	70.1	35	6.5	-	34.5	20.5	12	7	5	4.5	7	10	M6 x 9	8	23	18.5	M6 x 20	60	20	1,080	1,330	0.34	2.95
IGAH 25CA						93.9			35	58.3															1,550	2,290	0.51	
IGAH 30SA	42	10	16	60	68	75.2	40	10	-	36.6	20.5	12	8	5	5.8	8	10	M8 x 12	9	28	24	M6 x 25	80	20	1,550	2,030	0.57	4.76
IGAH 30CA						103.8			40	65.2															2,470	3,390	0.88	

4-10 IGAW SA / CA type



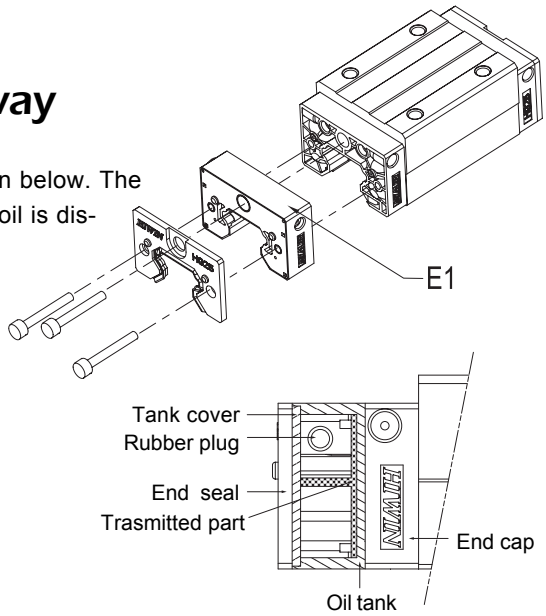
Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)															Dimensions of Rail (mm)					Basic Dynamic Load Rating C (kgf)	Basic Static Load Rating C_0 (kgf)	Weight	
	H	H_1	N	W	W_1	L	B	B_1	C	L_1	L_2	G	K	D_1	G_1	K_1	K_2	M x ℓ	T_1	W_R	H_R	M_1 x ℓ_1	P	E			Block (kg)	Rail (kg/m)
IGAW 20SA	28	6	19.5	59	50	60.2	49	5	-	26.2	20.5	12	6	5	4.1	6	10	M6	9	20	15.5	M5x16	60	20	650	920	0.24	2.16
IGAW 20CA						78.1			32	44.1															970	1,450	0.36	
IGAW 25SA	33	7	25	73	56	70.1	60	6.5	-	34.5	20.5	12	7	5	4.5	7	10	M8	10	23	18.5	M6x20	60	20	1,080	1,330	0.44	2.95
IGAW 25CA						93.9			35	58.3															1,550	2,290	0.68	
IGAW 30SA	42	10	31	90	68	75.2	72	9	-	36.6	20.5	12	8	5	5.8	8	10	M10	10	28	24	M6x25	80	20	1,550	2,030	0.72	4.76
IGAW 30CA						103.8			40	65.2															2,470	3,390	1.16	

5. E1-Self-lubricant Linear Guideway

5-1 Structure of E1 Linear Guideway

- The configuration of HG E1 Linear guideway is shown below. The self-lubricant apparatus contains a filled oil tank. The oil is dispensed on the rail to form a lubricating oil film.
- The self-lubricating blocks work in all block mounting configurations.
- Configuration of the self-lubricant apparatus
  1. Oil tank
  2. Tank cover
  3. Transmitted part
  4. Lubricant part
  5. Rubber plug
  6. Oil

E1: Economy first & ecology first
PATENT PENDING



5-2 Feature of E1 Linear Guideway

(1) Cost reduction: Saving cost by reducing oil usage and maintenance.

Item	Force lubricant	E1 (Self-lubricant) Block
Lubricant device	$XXX	-
Design and installation of lubricant device	$XXX	-
Cost of oil purchase	0.3cc / hr x 8hrs / day x 280days / year x 5year = 3360 cc x cost / cc = $ XXX	17 cc(5 years10000km) x cost/cc = $ XX
Cost of change oil	3~5hrs / time x 3~5times / year x 5year x cost / time= $ XXX	-
Waste oil disposal	3~5 times / year x 5year x cost / time = $ XXX	-

(2) Clean and environmentally friendly : Optimized oil usage prevents leaking, making it the ideal solution for clean working environments.

(3) Long last and low maintenance : Self-lubricating block is maintenance free in most applications.

(4) No installation limitations: Available in all block-mounting configurations.

(5) Easy refillable tank : The oil is easily refillable with the new plug design.

5-3 Applications

(1) Machine tools

(2) Manufacturing Machines: Plastic injection, paper making, textile machines, food processing machines, wood working machines etc.

(3) Electronic Machinery : Semiconductor equipment, robotics, X-Y table, measuring and inspecting equipment.

(4) Others : Medical equipment, transporting equipment.

5-4 Specification

(1) Add "/ E1" after the specification of linear guideway
Ex. HGW25CCE2R1600EZ1PII + ZZ / E1

5-5 Lubrication Capability

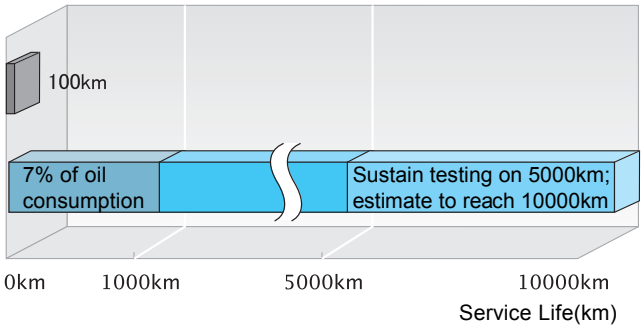
(1) Life testing with light load

Test condition :

Model No.	HGW25CC
Speed	60m / min
Stroke	1500mm
Load	500kgf

Standard

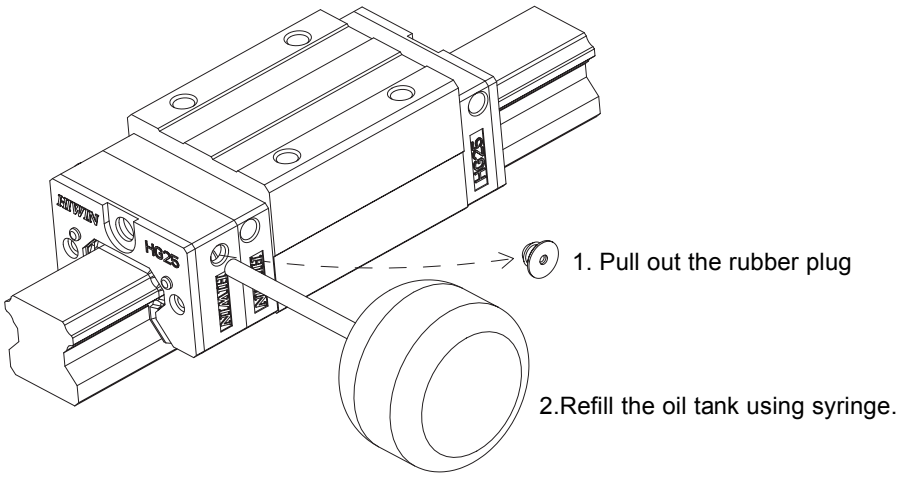
Self lubricant



(2) Characteristic of lubricant

1. Synthetic oils with stable characteristics.
2. Temperature range of oil operation is -15°C~240°C, covering most working conditions for linear guideways.
3. Reduces friction.
4. Anti-corrosion.
5. Non-toxic

5-6 Demonstration of Oil Replacement



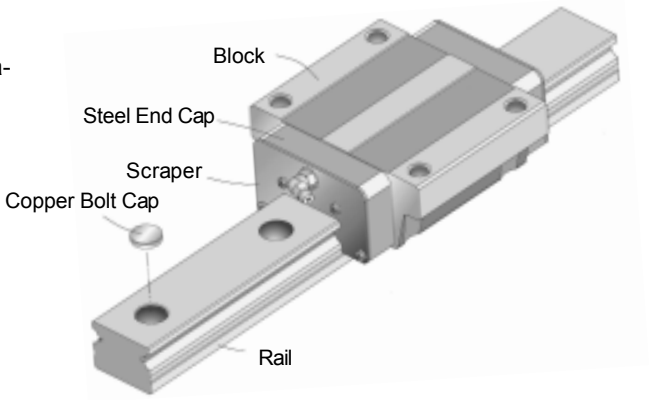
6. Heat Resistance Steel End Cap And Copper Bolt Cap

(1) Feature

Well temperature resistant ability; service temperature under 150°C; peak temperature up to 200°C.

(2) Application

Heat treatment equipment, welding equipment, glass manufacturing equipment and applications using vacuums (no vapor dispersion from plastic or rubber at high temperature)



6-1 Applicable series

Series	Model No.
AG	15, 20, 25, 30
MGN	9, 12, 15

6-2 Specification number

Add the mark "/SE" after the specification number for steel end cap and copper bolt cap.
Ex : AGW25CA2R1000Z0PII/SE
Ex : MGN15C2R1000Z0PII/SE

6-3 Copper bolt cap dimension

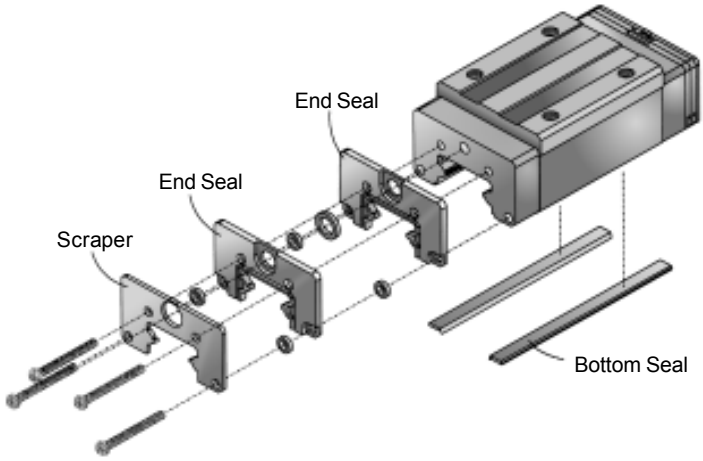
Cap code	Bolt Size	Cap Diameter mm	Cap Thickness mm
C3	M3	6.15	1.2
C4	M4	7.65	1.2
C5	M5	9.65	2.8
C6	M6	11.15	2.8
C8	M8	14.15	3.5
C12	M12	20.15	4
C14	M14	23.15	4

Note: The specifications in this catalogue are subject to change without notification.

7. Dust Proof Accessories

7-1 Feature

Selecting suitable dustpoof accessories can prevent the loss in life and accuracy resulting from damage caused by iron chips or dust entering the block. The table below lists the components of HIWIN's dust proof accessories.



Mark (HG/AG Series)	Dust Proof	Condition
U(Standard)	End Seal + Bottom Seal	Normal Chips
DD	Double End Seal + Bottom Seal	Heavy Dust or Chips
KK	Double End Seal + Scraper + Bottom Sea	Heavy Dust, Heavy Chips, Heat Chips, Work Spark
ZZ	End Seal + Scraper + Bottom Seal	Heat Chips or Work Spark

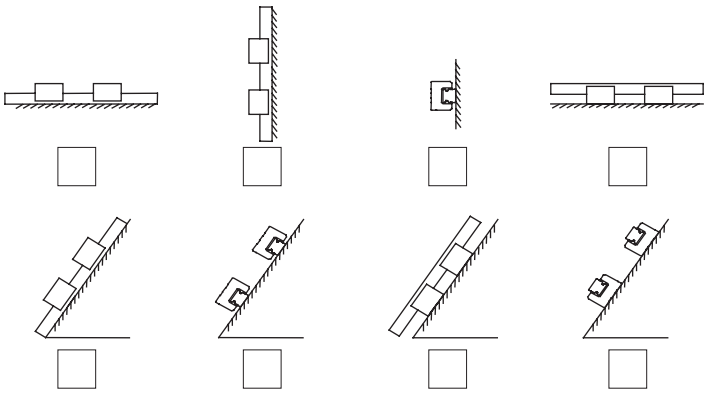
7-2 Specification Number

No symbol required for standard dust proof. Please add "DD/KK/ZZ" for additional dust protection accessories.

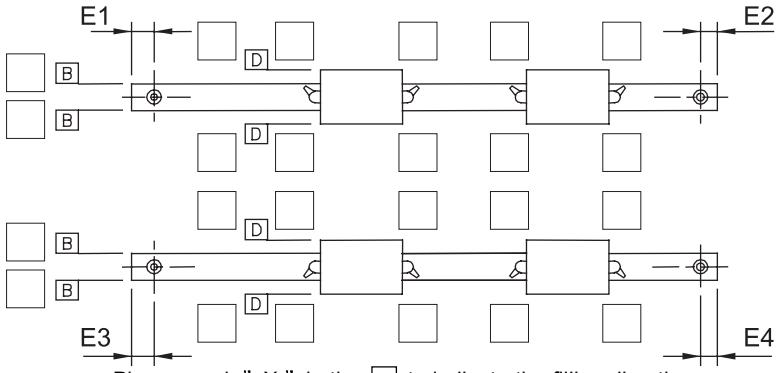
Ex : HGW25CA2R1000Z0PII + DD

Ex : AGW25CA2R1000Z0PII + DD

8. HIWIN Linear Guideway Inquiry Form

Customer		
Tel.	Fax.	Confirm by
Machine Type		Drawing No.
Axis	☐ X ☐ Y ☐ Z ☐ Other ( )	
Install Position		
Model No.		
Rail Mounting	☐ R (from top) ☐ T (from bottom) ☐ U (from top with bolt hole enlarged)	
Dust Protection	☐ Double end seal + Bottom seal (DD) ☐ Double end seal + Scraper + Bottom seal (KK) ☐ End seal + Scraper + Bottom seal (ZZ) ☐ End seal + Bottom seal (U)	
Special Option	☐ Steel end cap (SE) ☐ Self Lubrication (E1)	
Lubrication	☐ Grease nipple (Grease) ☐ Piping joint (Oil) ☐ Other	
Butt-joint	☐ No ☐ Yes	
No. of Rail Per Axis	☐ I (1) ☐ II (2) ☐ III (3) ☐ Other	

Reference Surface and Injection Direction



Please mark ” X ” in the ☐ to indicate the filling directions.

E1= ☐ E2= ☐ E3= ☐ E4= ☐