

Linear Guideway

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1. Features of HIWIN Linear Guideways

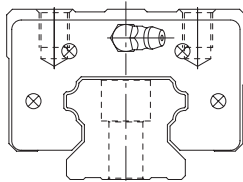
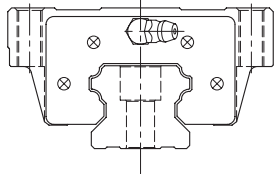
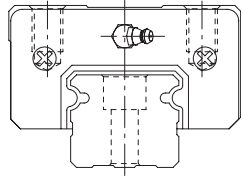
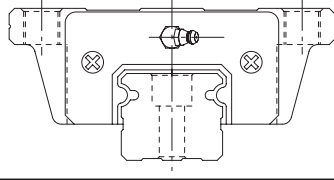
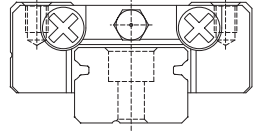
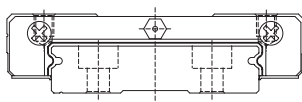
Linear guideway assemblies are designed for high accuracy, large capacity, high reliability and excellent operating characteristics.

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

1-1 Linear Guideways Offer the Following Outstanding Features

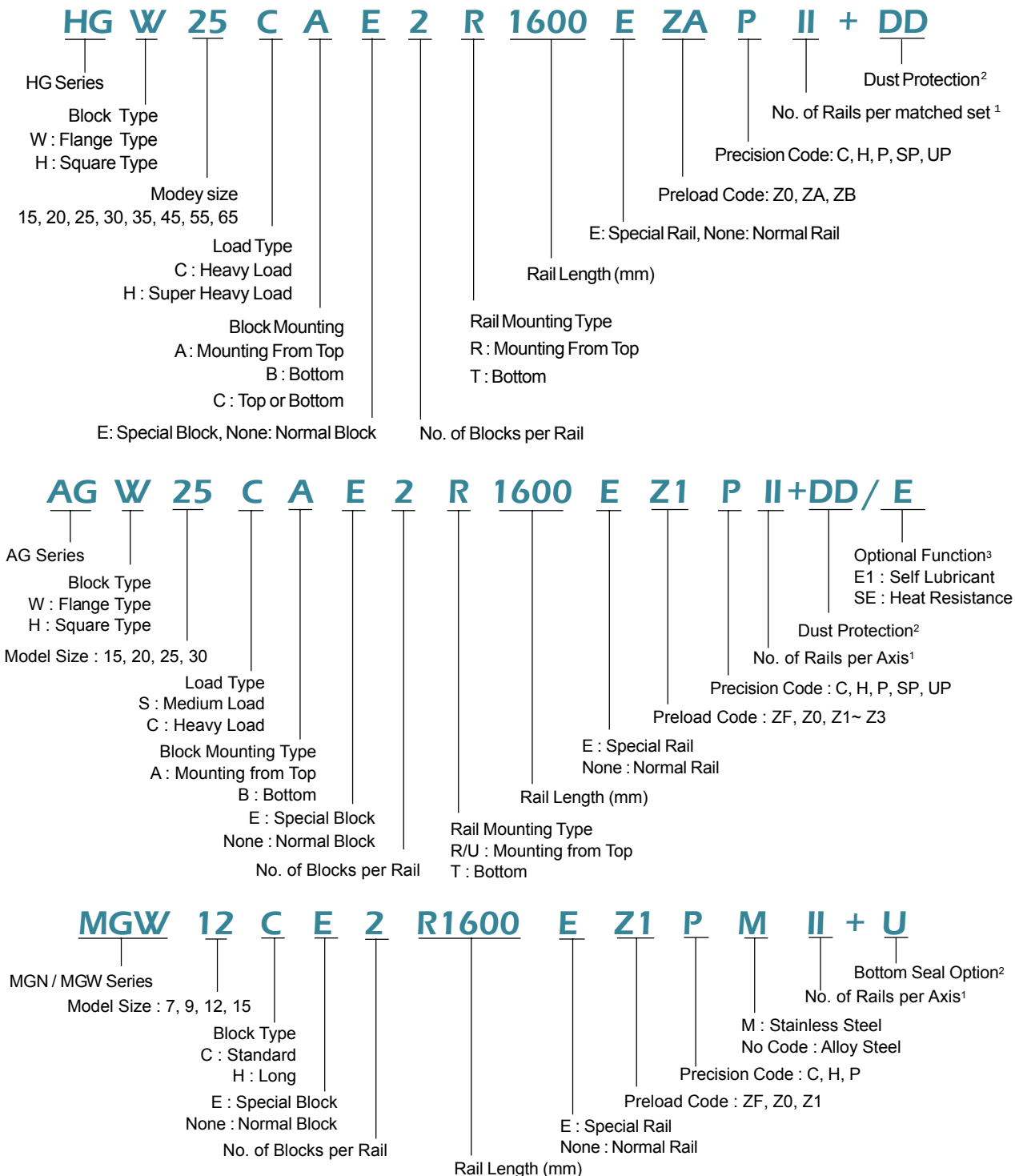
- ▶ High accuracy
- ▶ Large load capacity
- ▶ Low friction
- ▶ High Reliability
- ▶ Sealed carriages
- ▶ Smooth operation
- ▶ Low noise
- ▶ Interchangeability
- ▶ Easy installation
- ▶ Competitive price

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 Center • NC Lathe • Grinding Machine • Precision Machining Machine • Heavy Cutting Machine • Automation Device • Transportation Equipment • Measuring Equipment • Devices Required High Positional Accuracy
	Flange HGW		24 ↓ 90	100 ↓ 4000	
2-row type AG-Series	Square AGH		24 ↓ 42	100 ↓ 4000	• Automatic device • High speed transportation equipment • Precious measuring equipment • Semiconductor equipment • Wood cutting machine
	Flange AGW		24 ↓ 42	100 ↓ 4000	
2-row type MGN/MGW-Series	Narrow MGN		24 ↓ 42	40 ↓ 1200	• Miniature device • Medical equipment • IC manufacturing equipment • Wood cutting machine • X-Y table
	Wide MGW		24 ↓ 42	50 ↓ 1000	

2-1 Model Number of Linear Guideways

2-1-1 Non-interchangeable type



Note: 1. For number of rails per axis, the roman numerals express the number of rails used in one axis. It is shown in no symbol of the single rail.

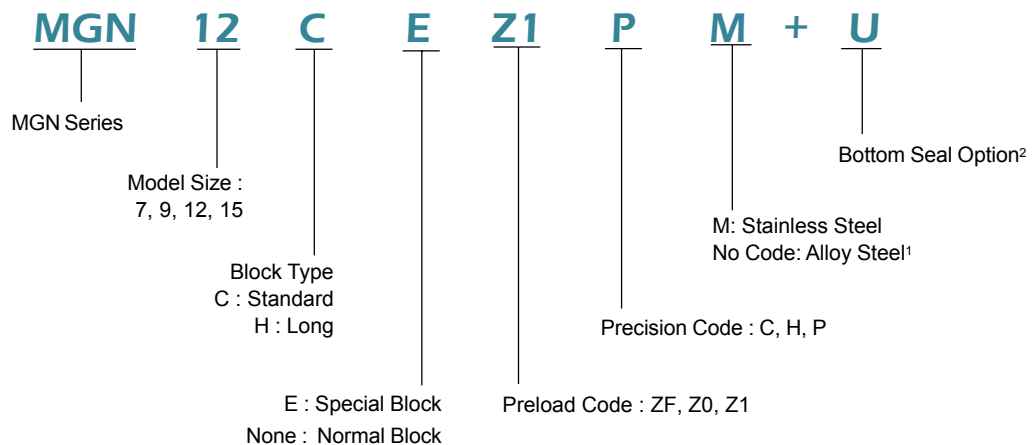
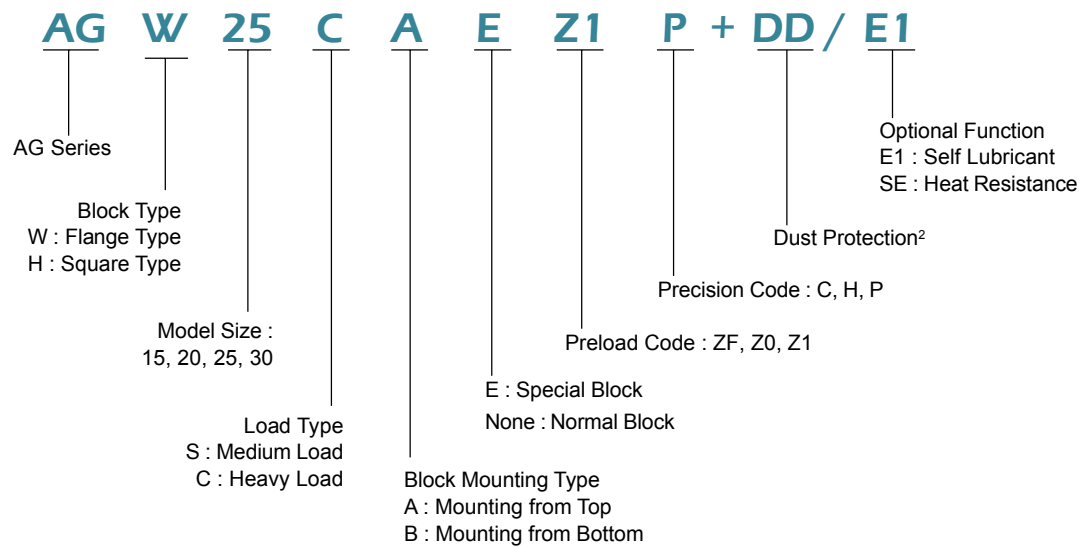
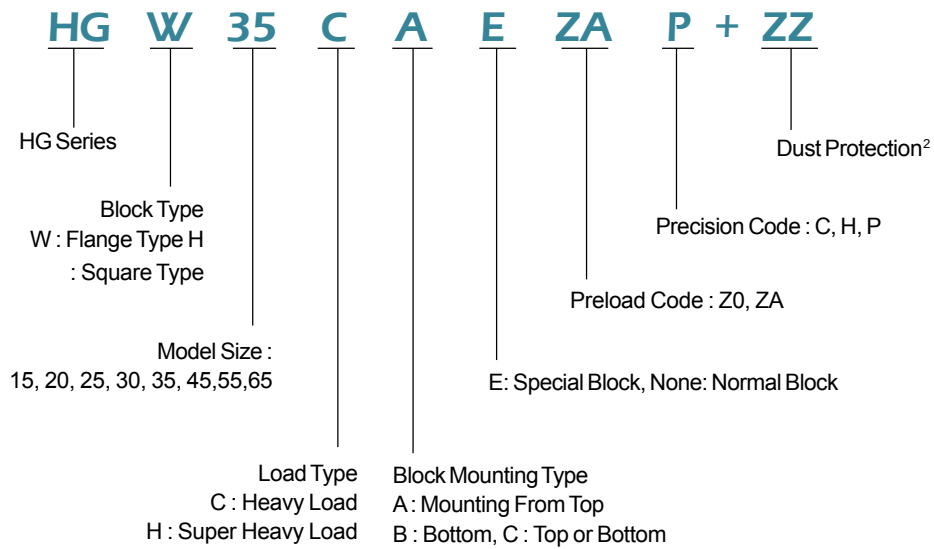
2. For dust protection, It is shown in no symbol if it is standard (end seal and bottom seal).

ZZ : End seal, bottom seal and scraper KK: Double seals, bottom seal and scraper

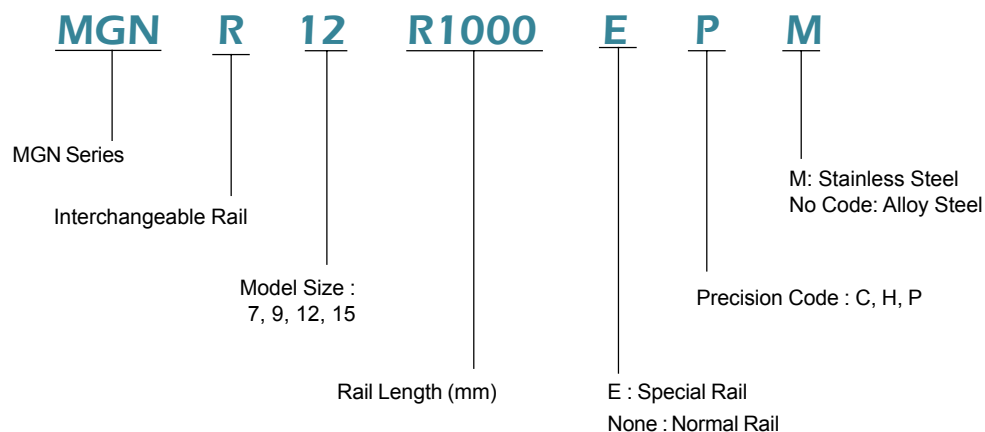
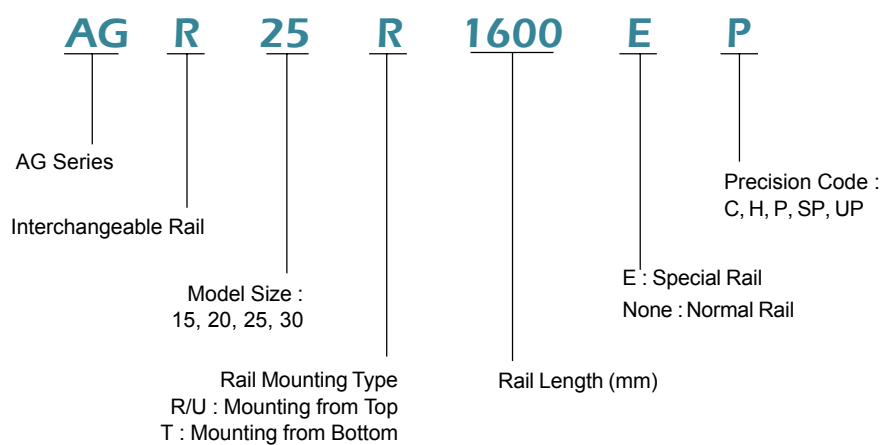
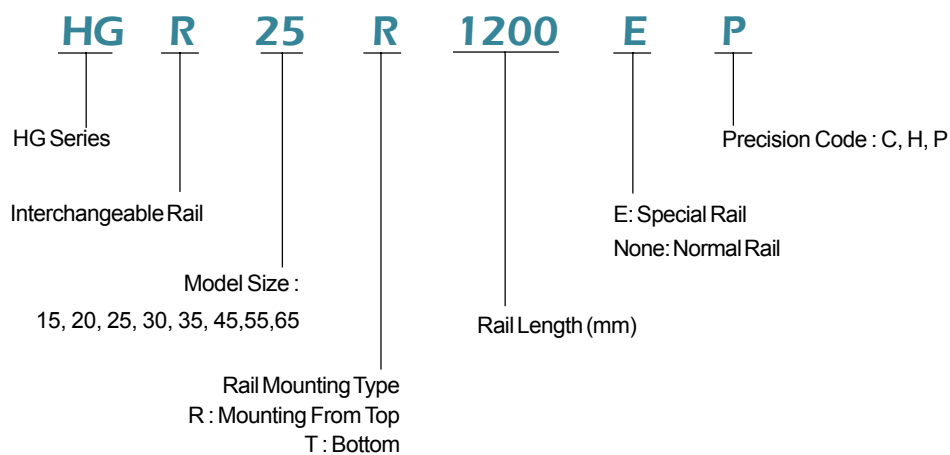
DD: Double seals and bottom seal U: Optional bottom seal for size of MGN/MGW 12, 15.

3. Special option : E1: Self-lubricant linear guideway SE: Heat resistance (steel end cap) linear guideway

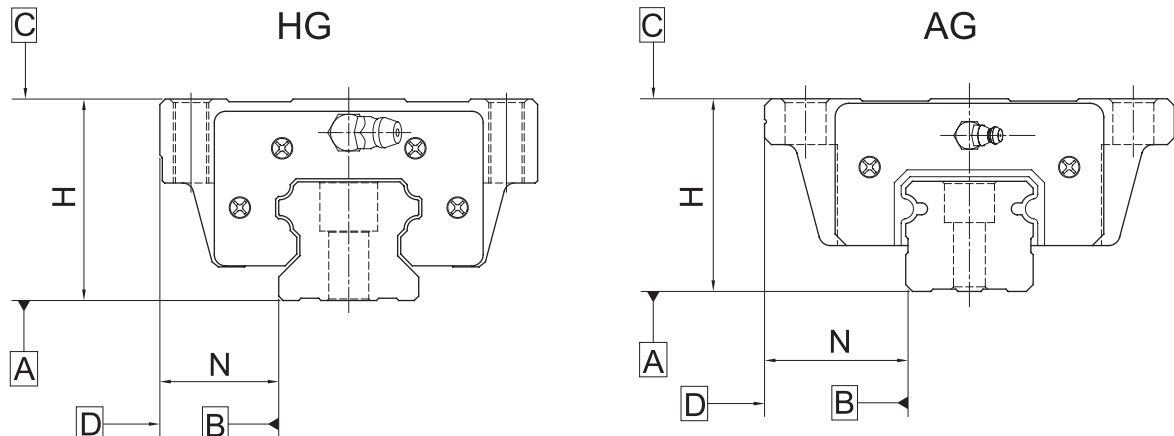
2-1-2 Interchangeable Block



2-1-3 Interchangeable Rail



2-2 Accuracy Standards



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

For example: size 25, 30, 35

Item		Normal (C)	High (H)	Precision (P)	Super Precision (SP)	Ultra Precision (UP)
Dimension tolerance of height H		± 0.1	± 0.04	0 - 0.04	0 - 0.02	0 - 0.01
Dimension 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

For example: size 25, 30, 35

Item		Normal (C)	High (H)	Precision (P)
Dimension tolerance of height H		± 0.1	± 0.04	± 0.02
Dimension 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

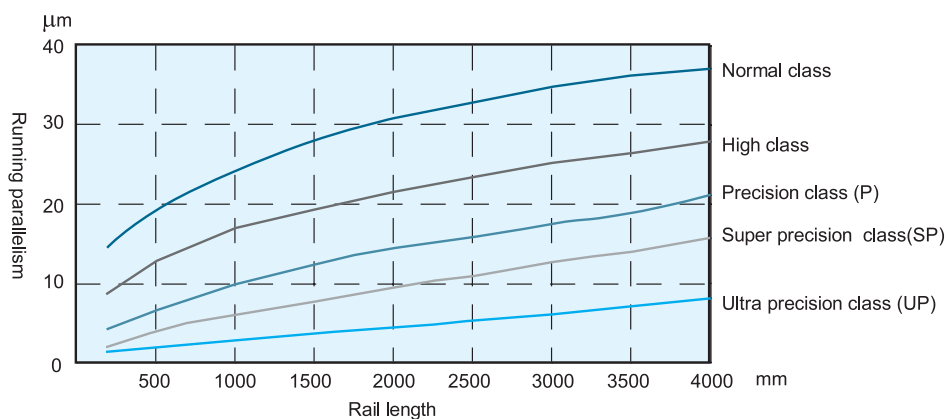
Item	Normal (C)	High (H)	Precision (P)
Dimension tolerance of height H	± 0.04	± 0.02	± 0.01
Dimension tolerance of width N	± 0.04	± 0.025	± 0.015
Pair Variation of height H	0.03	0.015	0.007
Pair Variation of width N (Master Rail)	0.03	0.02	0.01
Running parallelism of block surface C to surface A	According 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)
Dimension tolerance of height H	± 0.04	± 0.02	± 0.01
Dimension tolerance of width N	± 0.04	± 0.025	± 0.015
One Set	Pair Variation of height H	0.03	0.015
	Pair Variation of width N	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	over 0.10C	ZB

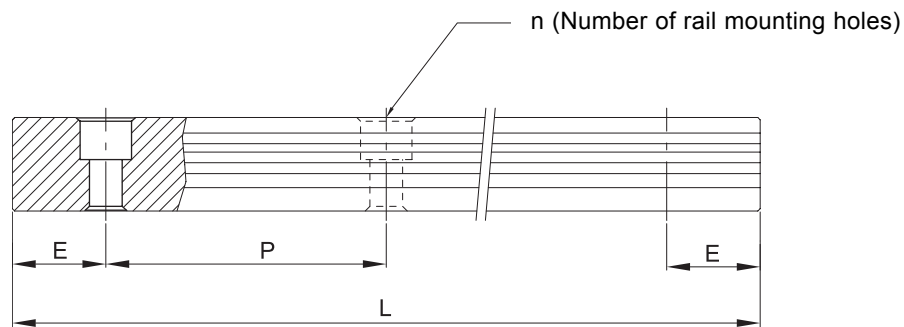
2-3-2 AG/MG Series

Preload		Code	AG series	MGN series	MGW series
Light Clearance	Clearance 4~10 μ m	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

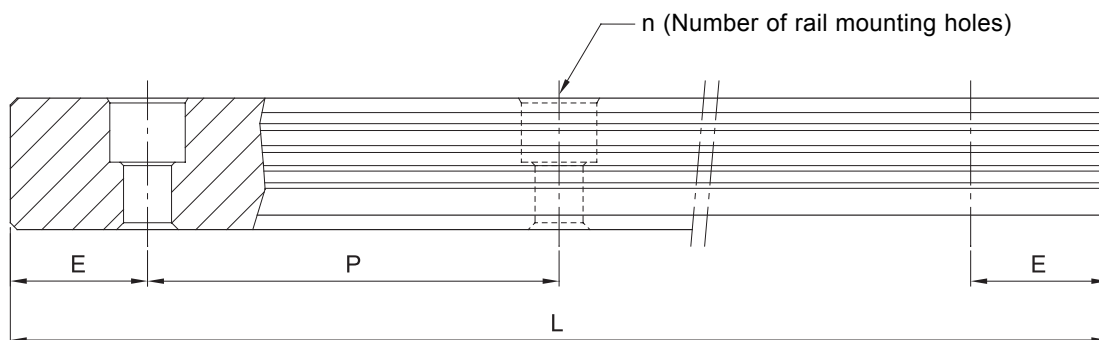


Unit: mm

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)				
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)	3,54(30)	3,520(24)
Max. Length	2,000	4,000	4,000	4,000	4,000	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. rail length with standard E value on both end.
 3. If different E value is needed, please contact with HIWIN.

2-4-2 AG Series

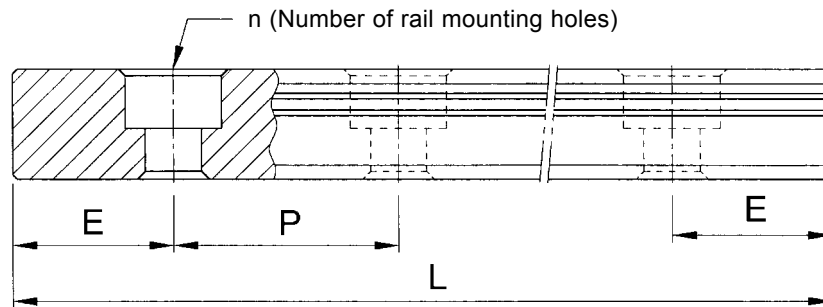


Unit: mm

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)	3,000(38)
Pitch (P)	60	60	60	80
Distance to End (E _s)	20	20	20	20
Max. Standard Length	1960(33)	2980(50)	4,000(67)	3,960(50)
Max. Length	2000	3000	4,000	4000

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. rail length with standard E value on both sides.
 3. If smaller E value is needed, please contact with HIWIN.

2-4-2 MGN/MGW Series



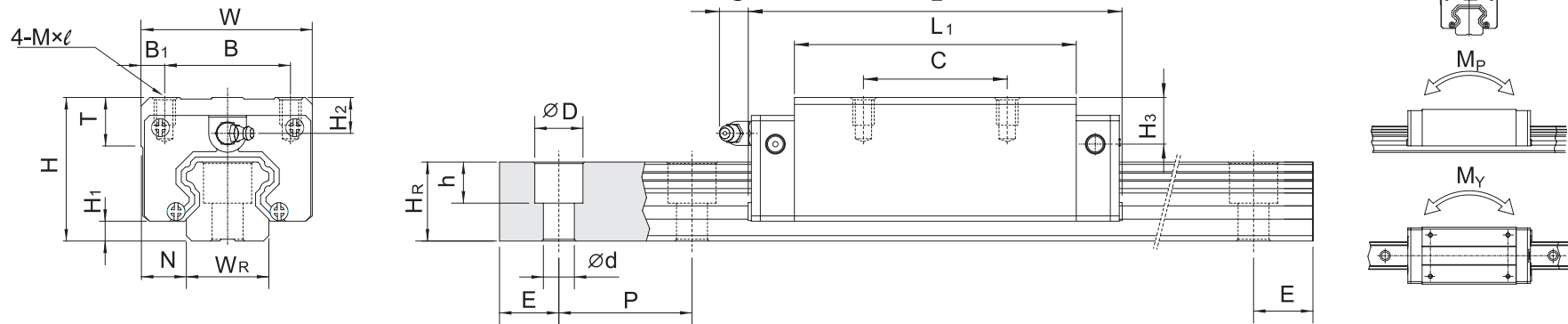
Unit : mm

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)			590(15)	590(15)
			470(19)	550(14)			750(19)	750(19)
			570(23)	670(17)			910(23)	910(23)
				870(22)				
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)	1195(48)	990(25)	590(20)	590(20)	990(25)	990(25)
Max. Length	600	1000	1200	1000	600	600	1000	1000

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 side
3. If smaller E value is needed, please contact with HIWIN.

3. Specifications

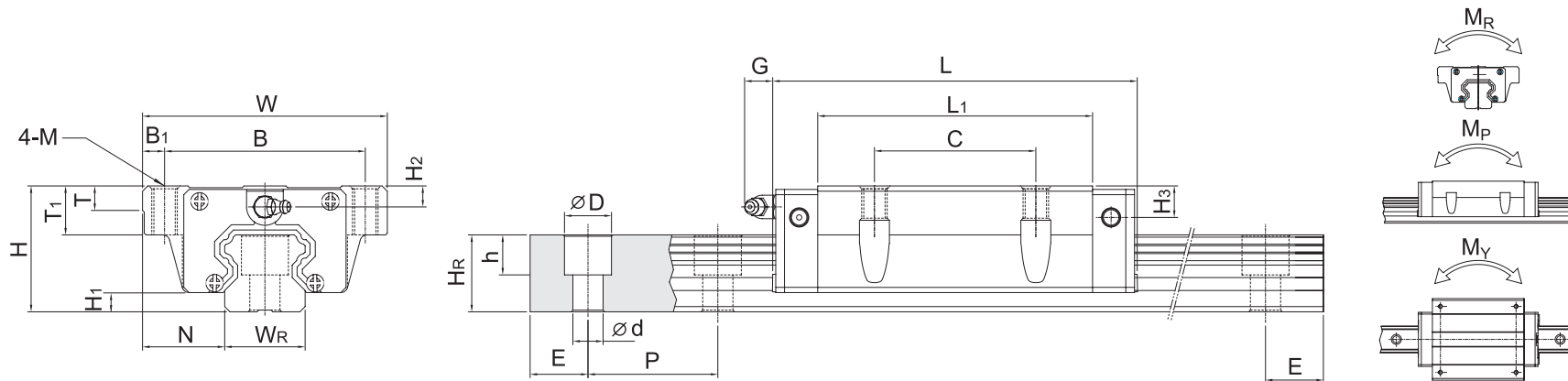
3-1 HGH-CA/HGH-HA Type



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	
																										M _R (kN-m)	M _p (kN-m)	M _V (kN-m)	Block (kg)	Rail (kg/m)
	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									
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

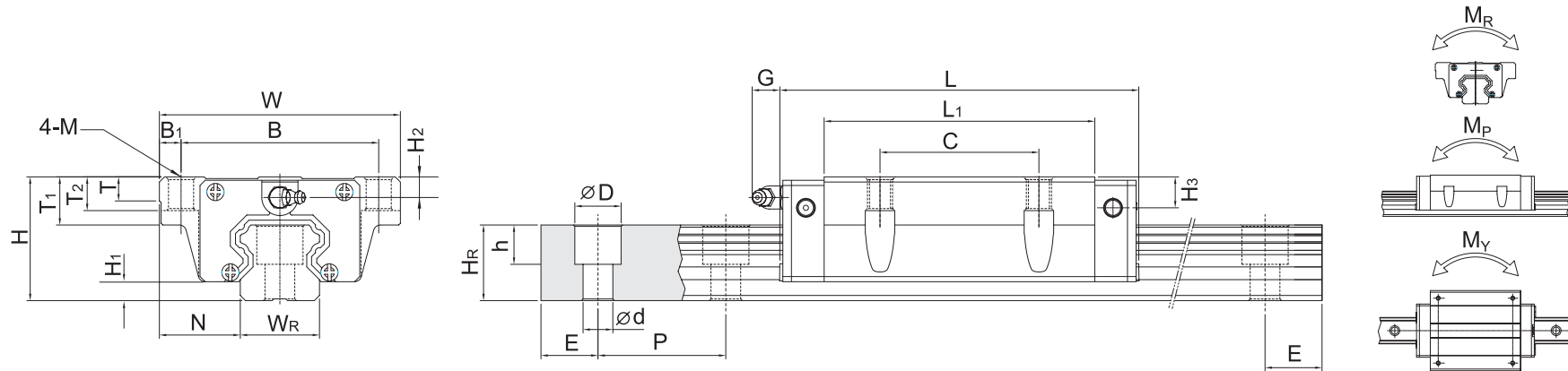
3-2 HGW-CA/HGW-HA Type



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	
																												M _R (kN-m)	M _P (kN-m)	M _V (kN-m)	Block (kg)	Rail (kg/m)
	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 _V (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

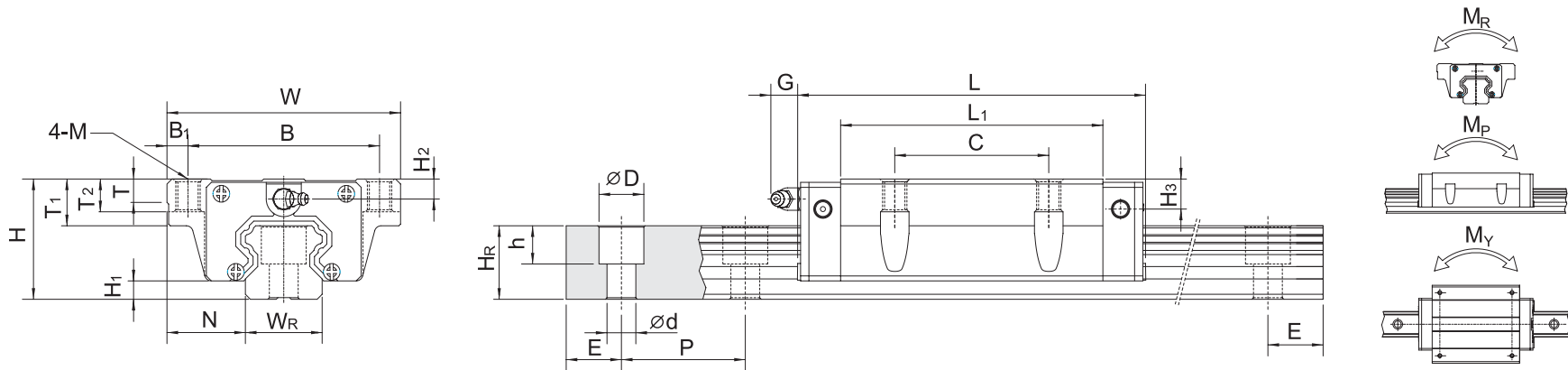
3-3 HGW-CB/HGW-HB Type



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	
																													M _R (kN-m)	M _P (kN-m)	M _Y (kN-m)	Block (kg)	Rail (kg/m)
	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										
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

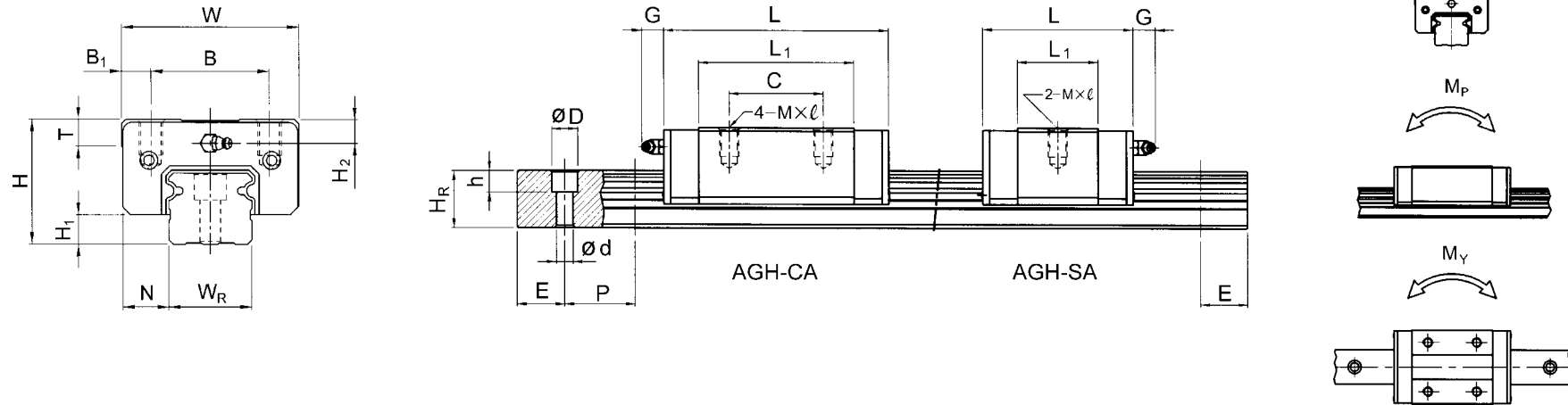
3-4 HGW-CC/HGW-HC Type



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																						
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																						
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																						
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																						
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																						
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																						
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																						

Note : 1 kgf = 9.81 N

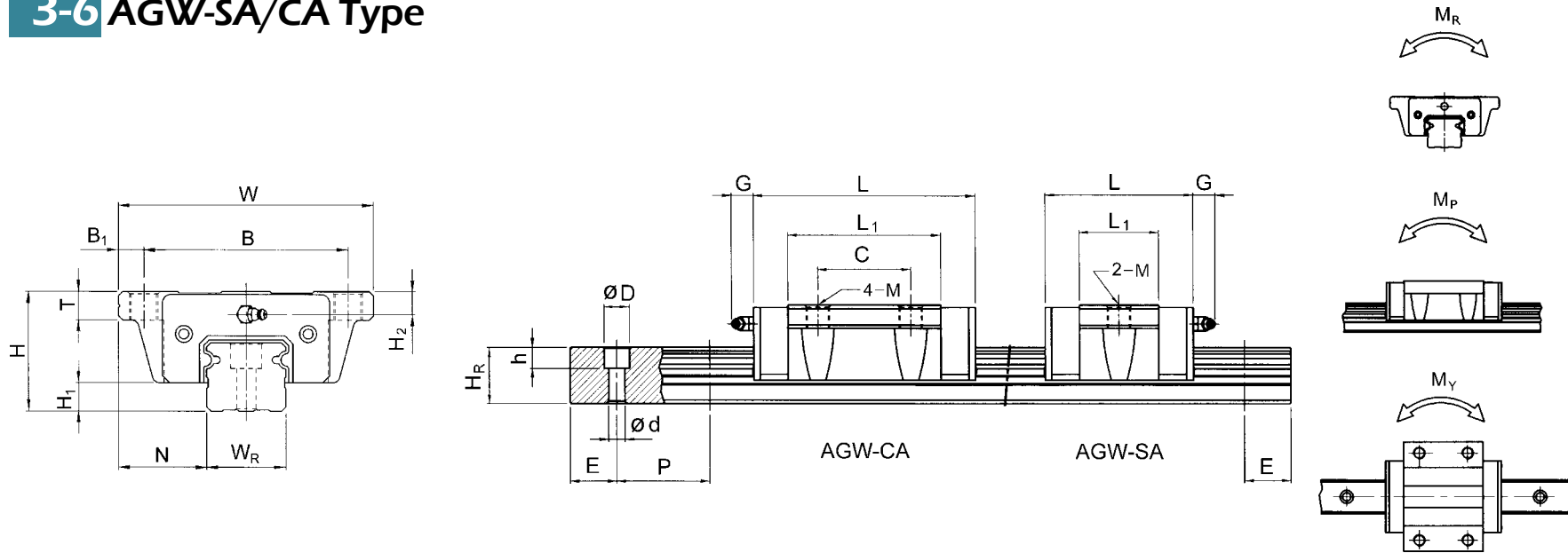
3-5 AGH-SA/CA Type



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	
																											M _R (kgf-m)	M _P (kgf-m)	M _Y (kgf-m)	Block (kg)	Rail (kg/m)
	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 AGH15CA	24	5	9.5	34	26	4	- 26	22.8 38.7	41 56.9	5.7	M4X7	6	5.5	15	13.5	6	4.5	3.5	60	20	M3X16	440 640	590 1,010	4.8 8.3	2.3 6.3	2.3 6.3	0.12 0.17	1.43			
AGH20SA AGH20CA	28	6	11	42	32	5	- 32	26.2 44.1	48 65.9	12	M5X8	7.5	6	20	15.5	9.5	8.5	6	60	20	M5X16	650 970	920 1,450	10.1 15.9	4.5 10.4	4.5 10.4	0.2 0.29	2.16			
AGH25SA AGH25CA	33	7	12.5	48	35	6.5	- 35	34.5 58.3	58.7 82.5	12	M6X9	8	7	23	18.5	11	9	7	60	20	M6X20	1,080 1,550	1,330 2,290	16.7 28.7	7.8 21.1	7.8 21.1	0.34 0.51	2.95			
AGH30SA AGH30CA	42	10	16	60	40	10	- 40	36.6 65.2	66.4 95	12	M8X12	9	8	28	24	11	9	7	80	20	M6X25	1,550 2,470	2,030 3,390	30.8 51.3	14.0 35.5	14.0 35.5	0.57 0.88	4.76			

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.

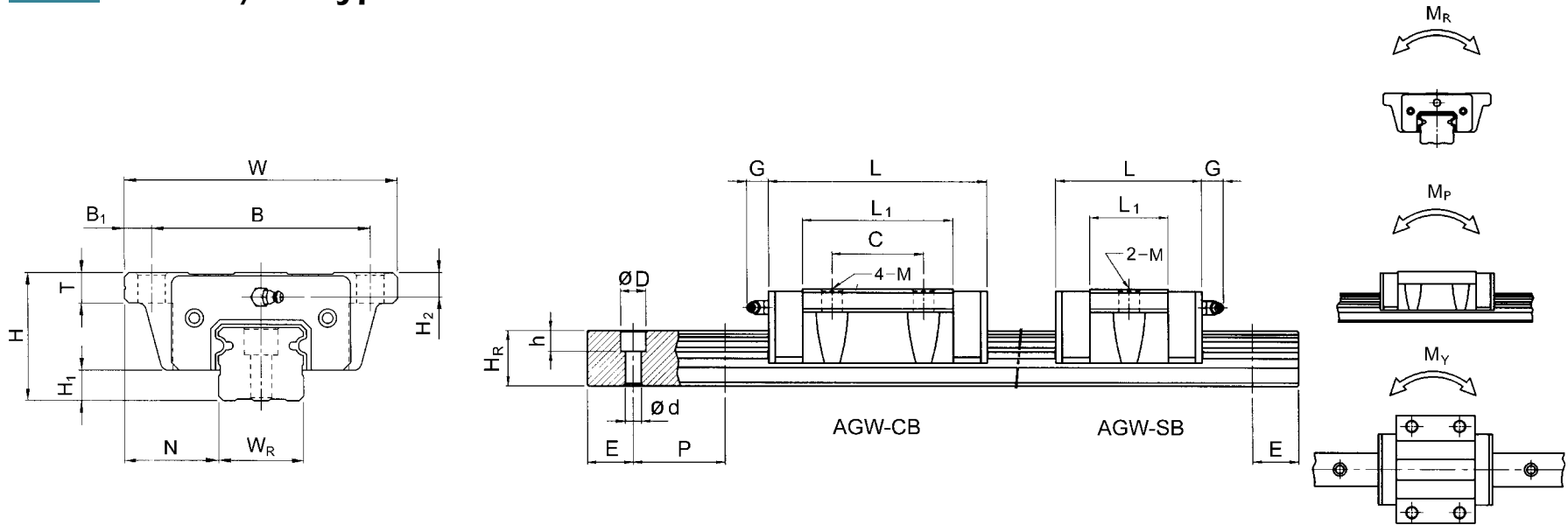
3-6 AGW-SA/CA Type



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	
																									M _R (kgf-m)	M _P (kgf-m)	M _Y (kgf-m)	Block (kg)	Rail (kg/m)
	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									
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																				
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																				
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																				
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																				

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

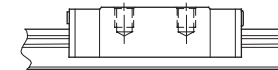
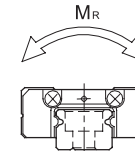
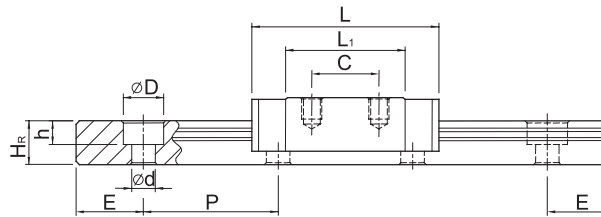
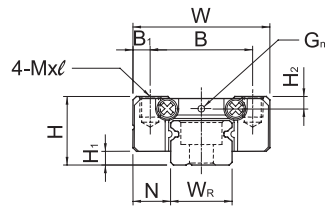


Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)										Dimensions of Rail (mm)								Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kgf)	Basic Static Load Rating C ₀ (kgf)	Static Rated Moment			Weight	
																									M _R (kgf-m)	M _P (kgf-m)	M _Y (kgf-m)	Block (kg)	Rail (kg/m)
	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				M _P	M _Y	Block	Rail	
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			

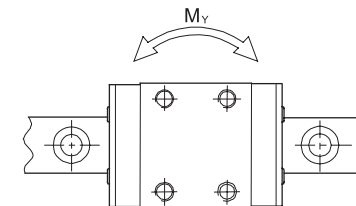
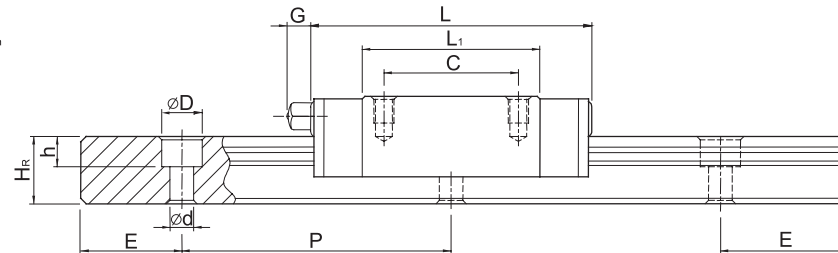
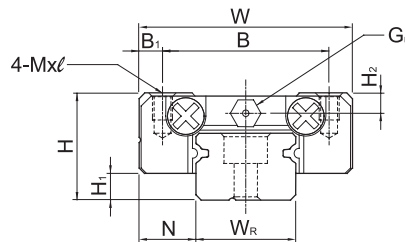
Listed dimensions of rail are for AGR-R (bolt hole, mounting from top). For dimension of AGR-U (Large bolt hole, mounting from top) and AGR-T (tapped hole, mounting from bottom) please refer to page 19.

3-8 MGN-C/H Type

► MGN 7, MGN 9, MGN 12



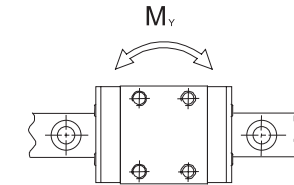
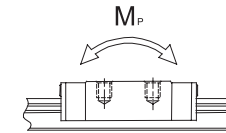
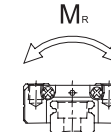
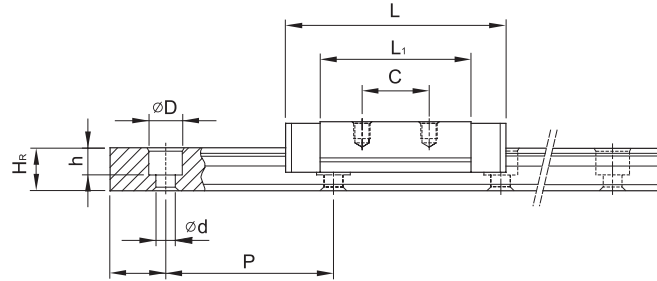
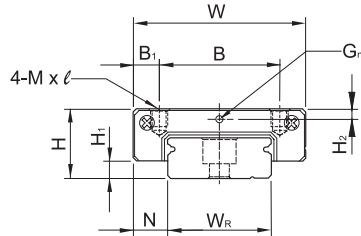
► MGN 15



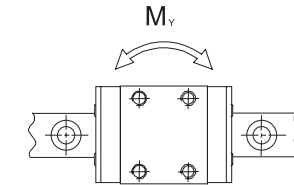
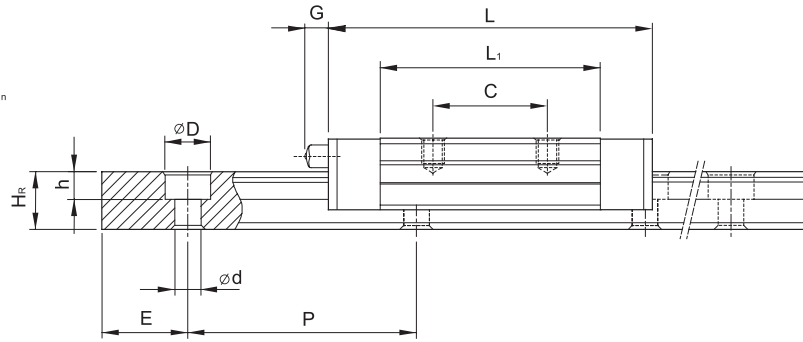
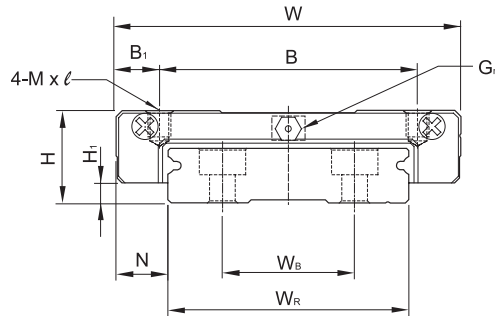
Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)										Dimensions of Rail (mm)								Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kgf)	Basic Static Load Rating C ₀ (kgf)	Static Rated Moment			Weight	
																									M _R (kgf-m)	M _P (kgf-m)	M _Y (kgf-m)	Block (g)	Rail (kg/m)
	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 MGN 7H	8	1.5	5	17	12	2.5	8 13	13.5 21.8	22.5 30.8	-	ø0.8	M2 x 2.5	1.5	7	4.8	4.2	2.3	2.4	15	5	M2x6	100 140	127 200	0.48 0.78	0.29 0.49	0.29 0.49	10 15	0.22	
MGN 9C MGN 9H	10	2	5.5	20	15	2.5	10 16	18.9 29.9	28.9 39.9	-	ø0.8	M3 x 3	1.8	9	6.5	6	3.5	3.5	20	7.5	M3x8	190 260	260 410	1.2 2	0.75 1.9	0.75 1.9	16 26	0.38	
MGN 12C MGN 12H	13	3	7.5	27	20	3.5	15 20	21.7 32.4	34.7 45.4	-	ø0.8	M3 x 3.5	2.5	12	8	6	4.5	3.5	25	10	M3x8	290 380	400 600	2.6 3.9	1.4 3.7	1.4 3.7	34 54	0.65	
MGN 15C MGN 15H	16	4	8.5	32	25	3.5	20 25	26.7 43.4	42.1 58.8	4.5	GN3S	M3 x 4	3	15	10	6	4.5	3.5	40	15	M3x10	470 650	570 930	4.6 7.5	2.2 5.9	2.2 5.9	59 92	1.06	

3-9 MGW-C/H Type

► MGW 7, MGW 9, MGW 12

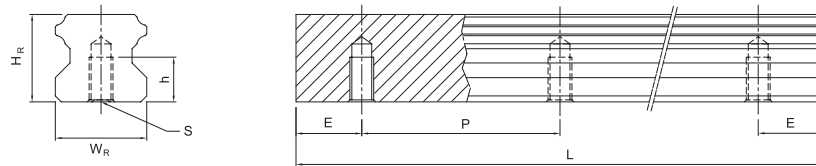


► MGW 15



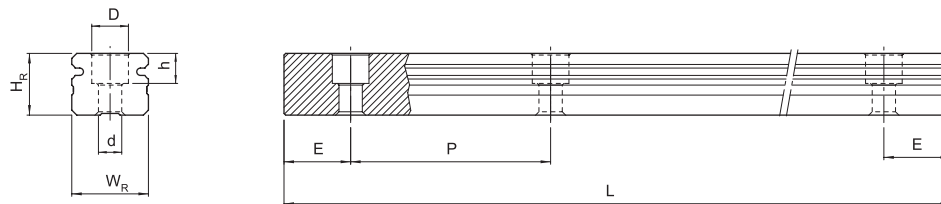
Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)										Dimensions of Rail (mm)										Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kgf)	Basic Static Load Rating C ₀ (kgf)	Static Rated Moment			Weight	
																											M _R (kgf-m)	M _P (kgf-m)	M _Y (kgf-m)	Block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

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



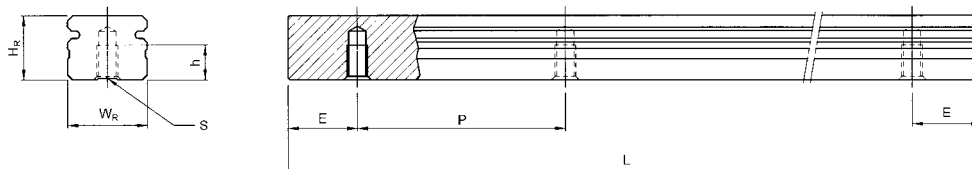
Model No.	Dimensions of Rail (mm)						Weight (kg/m)
	W_R	H_R	S	h	P	E	
HGR15T	15	15	M5 x 0.8P	8	60	20	1.48
HGR20T	20	17.5	M6 x 1P	10	60	20	2.29
HGR25T	23	22	M6 x 1P	12	60	20	3.35
HGR30T	28	26	M8 x 1.25P	15	80	20	4.67
HGR35T	34	29	M8x1.25P	17	80	20	6.51
HGR45T	45	38	M12 x 1.75P	24	105	22.5	10.87
HGR55T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

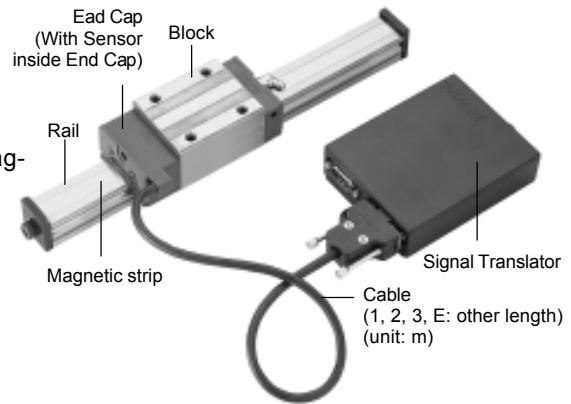


Model No.	Dimensions of Rail (mm)						Weight (kg/m)
	W_R	H_R	S	h	P	E	
AGR15T	15	13.5	M5x0.8P	7	60	20	1.44
AGR20T	20	15.5	M6x1P	9	60	20	2.23
AGR25T	23	18.5	M6x1P	10	60	20	3.06
AGR30T	28	24	M8x1.25P	14	80	20	4.83

4. Intelligent Linear Guideway (IG Type)

4-1 HIWIN IG Structure

IG is a Linear Guideway module integrating of magnetic encoder with position measurement function.



4-2 HIWIN IG Features

1. Integrating the Linear Guideway with magnetic encoder; save the installation space greatly.
2. Possessing the characteristics of high rigidity and high accuracy concurrently from Linear Guideway and magnetic encoder.
3. Sensor and magnetic strip hidden; without damage caused by external material.
4. Non-contact position measurement sensor can achieve longevity life performance.
5. Long distance measurement (magnetic strip up to 32 m)
6. Works reliably in the worse conditions such as humid, oily, dusty, and even in the vibration and high temperature environment.
7. High resolution
8. Easy to install

4-3 Model Number of IG

IGL W 25 C A E 1/2 T 1600 E Z1 P I/II/E1+KK+M10-0-3+MD

Intelligent Guideway
Series : IGL, 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 : Normal 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 : Normal Rail

Preload Code :
IGL/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: General Block

Dustproof : DD, ZZ, KK

Sensor Type :
5, 10, 50, 100, 500, 1000 (μm)m

Power Input/Output Signal :
0:5V Power Input, TTL Output
1:24V Power Input, O.C. Output

Cable Length
0.5, 1, 2, 3, 5, 10m

Display
(Option)

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, $\bar{A}$, $\bar{B}$ 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

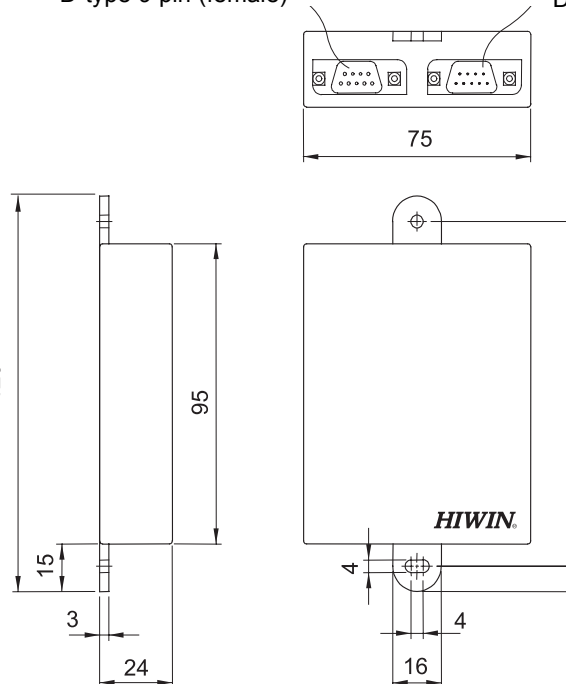
Pin4 = channel B

Pin7 = channel $\bar{B}$

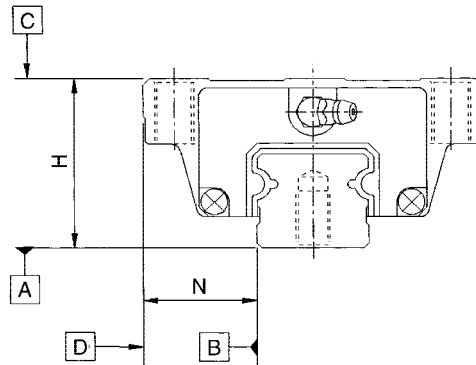
Pin8 = channel $\bar{A}$

D-type 9 pin (female)

D-type 9 pin (male)



4-5 Accuracy Classes



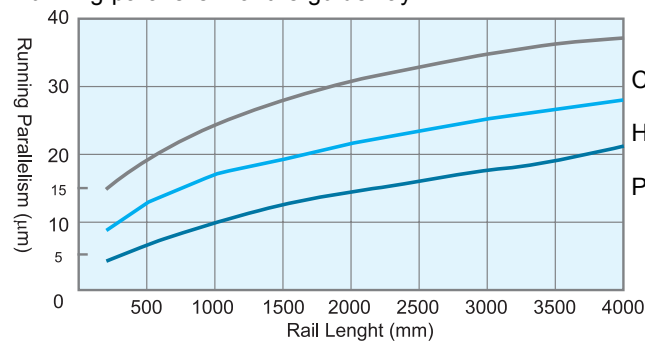
For example: IGL/IGA 25, 30, 35

Unit: mm

Item	Normal (C)	High (H)	Precision (P)
Dimension tolerance of height H	± 0.1	± 0.04	0 -0.04
Dimension 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



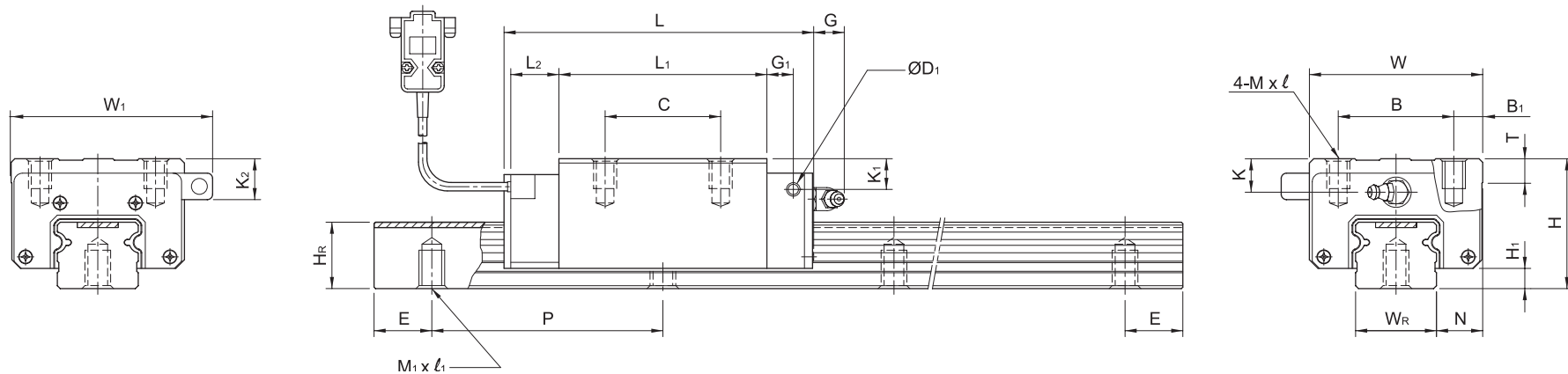
4-6 Preload

For example: IGL/IGA (For preload of IGH, please refer to page 6)

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

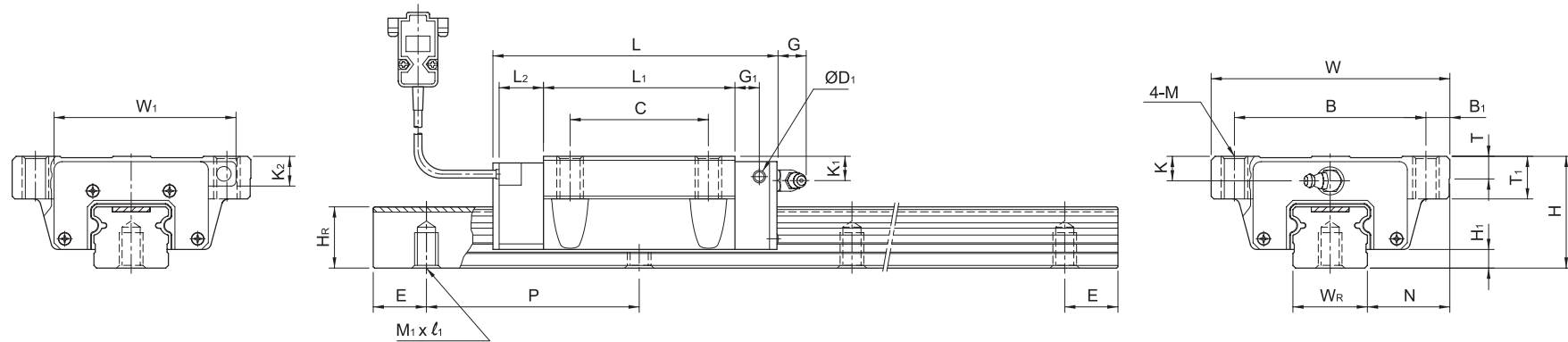
Note: "C" in column preload means basic dynamic load rating.

4-7 IGLH CA / HA type



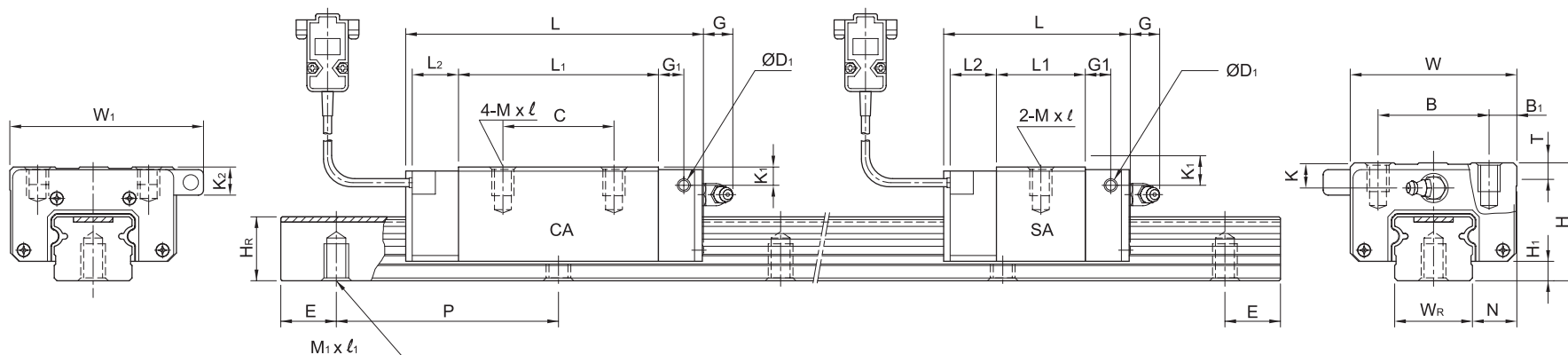
Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)																Dimensions of Rail (mm)					Basic Dynamic Load Rating C (kgf)	Basic Static Load Rating C ₀ (kgf)	Weight	
																											Block (g)	Rail (kg/m)
	H	H ₁	N	W	W ₁	L	B	B ₁	C	L ₁	L ₂	G	K	D ₁	G ₁	K ₁	K ₂	Mxℓ	T	W _R	H _R	M ₁ xℓ ₁	P	E				
IGLH 20CA IGLH 20HA	30	5	12	44	51.5	88.3 102.6	32	6	36 50	52.7 67	20.5	12	7.1	5	5.3	7.1	11	M5x6	8	20	15	M6x8	60	20	1,650 2,100	2,670 3,400	0.37 0.46	2.08
IGLH 25CA IGLH 25HA	40	6.5	12.5	48	56.5	95.1 114.1	35	6.5	35 50	57.6 76.6	20.5	12	11.2	5	6.8	11	15	M6x8	8	23	20	M6x12	60	20	2,410 3,210	3,880 5,180	0.59 0.78	3.15
IGLH 30CA IGLH 30HA	45	7	16	60	68	111.9 132.9	40	10	40 60	72 93	20.5	12	10.5	5	7.8	10.5	14	M8x10	8	28	23	M8x15	80	20	3,380 4,400	5,460 7,100	1.04 1.33	4.41
IGLH 35CA IGLH 35HA	55	8	18	70	77.5	123.9 147.7	50	10	50 72	82 105.8	20.5	12	15	5	8.8	16	17	M8x12	10	34	25	M8x16	80	20	4,180 5,430	6,740 8,770	1.72 2.24	5.93
IGLH 45CA IGLH 45HA	70	10	20.5	86	92.3	143.7 177.1	60	13	60 80	99.6 133	20.5	12.9	21	8.5	10	21	22	M10x17	15	45	32	M12x20	105	22.5	6,020 8,430	9,710 13,600	3.16 4.28	10.01
IGLH 55CA IGLH 55HA	80	13	23.5	100	107	166.3 205.2	75	12.5	75 95	115.8 154.7	20.5	12.9	22	8.5	11	22	22	M12x18	17	53	40	M14x24	120	30	9,740 11,810	13,220 18,510	5.30 6.40	14.82

4-8 IGLW CA / HA type



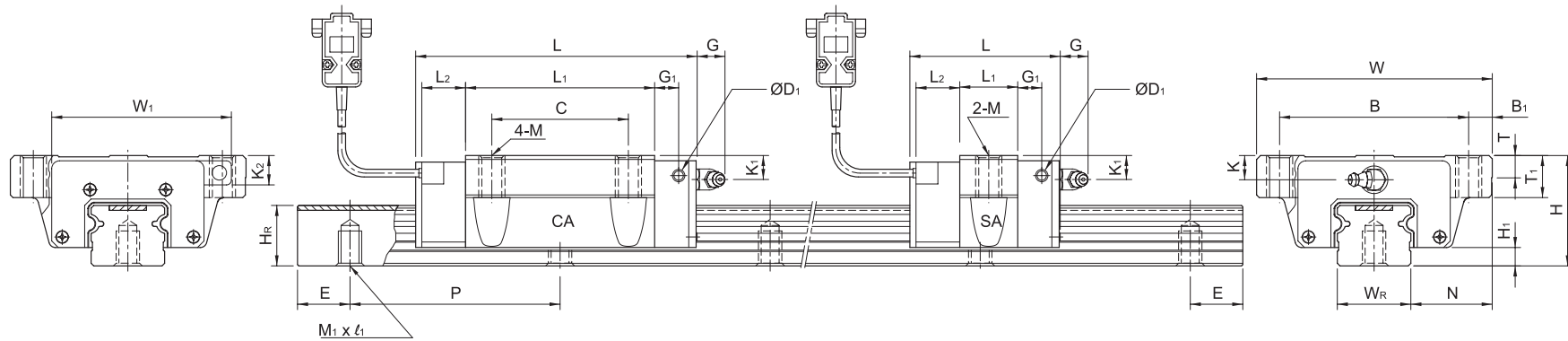
Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)																	Dimensions of Rail (mm)					Basic Dynamic Load Rating C (kgf)	Basic Static Load Rating C ₀ (kgf)	Weight	
	H	H ₁	N	W	W ₁	L	B	B ₁	C	L ₁	L ₂	G	K	M	D ₁	G ₁	K ₁	K ₂	T	T ₁	W _R	H _R	M ₁ x l ₁	P	E			Block (g)	Rail (kg/m)
IGLW 20CA IGLW 20HA	30	5	21.5	63	50	88.3 102.6	53	5	40	52.7 67	20.5	12	7.1	M6	5	5.3	7.1	11	8	10	20	15	M6x8	60	20	1,650 2,100	2,670 3,400	0.46 0.58	2.08
IGLW 25CA IGLW 25HA	36	6.5	23.5	70	56	95.1 114.1	57	6.5	45	57.6 76.6	20.5	12	7.2	M8	5	6.8	7	11	8	14	23	20	M6x12	60	20	2,410 3,210	3,880 5,180	0.64 0.86	3.15
IGLW 30CA IGLW 30HA	42	7	31	90	67	111.9 132.9	72	9	52	72 93	20.5	12	7.5	M10	5	7.8	7.5	11	8	16	28	23	M8x15	80	20	3,380 4,400	5,460 7,100	1.20 1.56	4.41
IGLW 35CA IGLW 35HA	48	8	33	100	76	123.9 147.7	82	9	62	82 105.8	20.5	12	8	M10	5	8.8	9	10	10	18	34	25	M8x16	80	20	4,180 5,430	6,740 8,770	1.78 2.34	5.93
IGLW 45CA IGLW 45HA	60	10	37.5	120	89.5	143.7 177.1	100	10	80	99.6 133	20.5	12.9	11	M12	8.5	10	11	12	15	22	45	32	M12x20	105	22.5	6,020 8,430	9,710 13,600	3.13 4.27	10.01
IGLW 55CA IGLW 55HA	70	13	43.5	140	105	166.3 205.2	116	12	95	115.8 154.7	20.5	12.9	12	M14	8.5	11	12	12	17	26	53	40	M14x24	120	30	9,740 11,810	13,220 18,510	5.50 6.70	14.82

4-9 IGAH SA / CA type



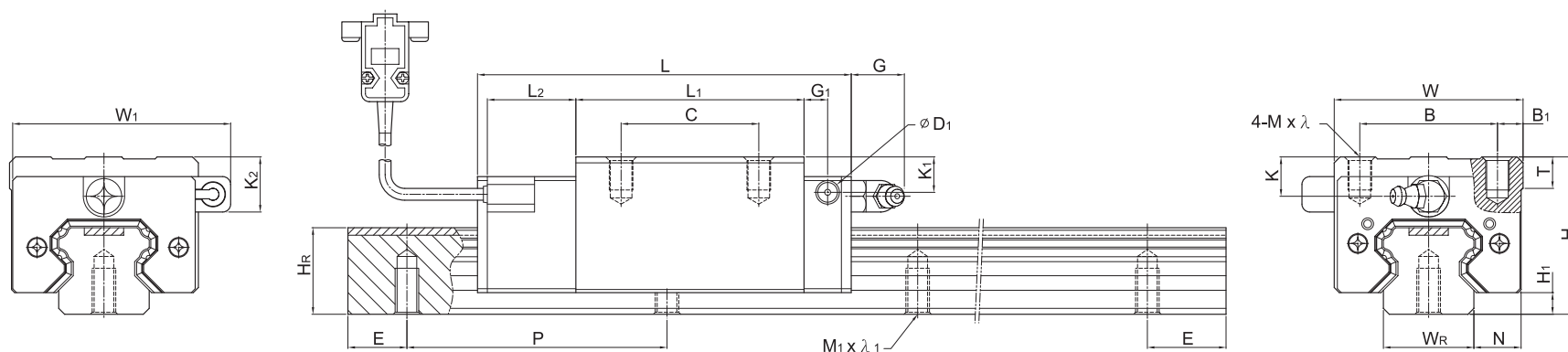
Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)																Dimensions of Rail (mm)					Basic Dynamic Load Rating C (kgf)	Basic Static Load Rating C ₀ (kgf)	Weight	
	H	H ₁	N	W	W ₁	L	B	B ₁	C	L ₁	L ₂	G	K	D ₁	G ₁	K ₁	K ₂	M x l	T ₁	W _R	H _R	M ₁ x l ₁	P	E			Block (g)	Rail (kg/m)
IGAH 20SA IGAH 20CA	28	6	11	42	50	60.2 78.1	32	5	- 32	26.2 44.1	20.5	12	6	5	4.1	6	10	M5 x 8	7.5	20	15	M5 x 16	60	20	650 970	920 1,450	0.2 0.29	2.16
IGAH 25SA IGAH 25CA	33	7	12.5	48	56	70.1 93.9	35	6.5	- 35	34.5 58.3	20.5	12	7	5	4.5	7	10	M6 x 9	8	23	18.5	M6 x 20	60	20	1,080 1,550	1,330 2,290	0.34 0.51	2.95
IGAH 30SA IGAH 30CA	42	10	16	60	68	75.2 103.8	40	10	- 40	36.6 65.2	20.5	12	8	5	5.8	8	10	M8 x 12	9	28	24	M6 x 25	80	20	1,550 2,470	2,030 3,390	0.57 0.88	4.76

4-10 IGAW SA / CA type



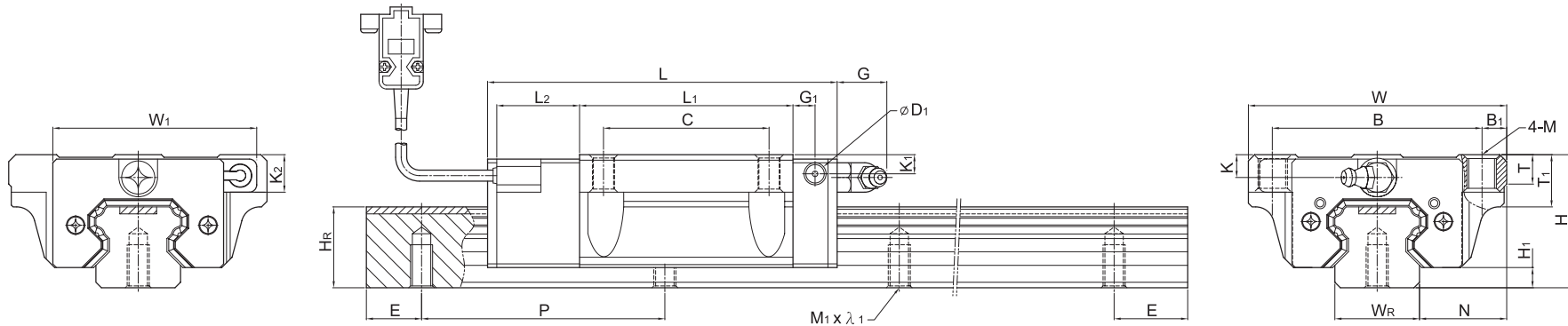
Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)																	Dimensions of Rail (mm)					Basic Dynamic Load Rating C (kgf)	Basic Static Load Rating C ₀ (kgf)	Weight	
																												Block (g)	Rail (kg/m)
	H	H _i	N	W	W _i	L	B	B _i	C	L ₁	L ₂	G	K	D _i	G _i	K ₁	K ₂	Mxℓ	T _i	W _R	H _R	M _i xℓ _i	P	E					
IGAW 20SA IGAW 20CA	28	6	19.5	59	50	60.2 78.1	49	5	- 32	26.2 44.1	20.5	12	6	5	4.1	6	10	M6	9	20	15.5	M5x16	60	20	650 970	920 1,450	0.24 0.36	2.16	
IGAW 25SA IGAW 25CA	33	7	25	73	56	70.1 93.9	60	6.5	- 35	34.5 58.3	20.5	12	7	5	4.5	7	10	M8	10	23	18.5	M6x20	60	20	1,080 1,550	1,330 2,290	0.44 0.68	2.95	
IGAW 30SA IGAW 30CA	42	10	31	90	68	75.2 103.8	72	9	- 40	36.6 65.2	20.5	12	8	5	5.8	8	10	M10	10	28	24	M6x25	80	20	1,550 2,470	2,030 3,390	0.72 1.16	4.76	

4-11 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 (g)	Rail (kg/m)
IGHH20CA IGHH20HA	30	4.6	12	44	52	90.5 105	32	6	36 50	50.5 65.2	25	12	6	5	6	7	11	M5x6	8	20	17.5	M6x10	60	20	17.75 21.18	37.84 48.84	0.38 0.39	2.21
IGHH25CA IGHH25HA	40	5.5	12.5	48	55.4	95 116	35	6.5	35 50	58 78.6	22.5	12	10	5	6	13	18	M6x8	8	23	22	M6x12	60	20	26.48 32.75	56.19 76.00	0.67 0.69	3.21
IGHH30CA IGHH30HA	45	6	16	60	67	110 133	40	10	40 60	70 93	23	12	9.5	5	6	13.8	19	M8x10	8.5	28	26	M8x15	80	20	38.74 47.27	83.06 110.13	1.14 1.16	4.47
IGHH35CA IGHH35HA	55	7.5	18	70	77	123 149	50	10	50 72	80 106	23.4	12	16	5	7	19.6	23.5	M8x12	10.2	34	29	M8x17	80	20	49.52 60.21	102.87 136.31	1.88 1.92	6.30
IGHH45CA IGHH45HA	70	9.5	20.5	86	91	148 180	60	13	60 80	97 129	26	12.9	18.5	8.5	10	30.5	30.5	M10x17	16	45	38	M12x24	105	22.5	77.57 94.54	155.93 207.12	3.54 3.61	10.41
IGHH55CA IGHH55HA	80	13	23.5	100	106	173 198	75	12.5	75 95	118 143	26	12.9	22	8.5	11	29	28.5	M12x18	17.5	53	44	M14x25	120	30	114.44 139.35	227.81 310.26	5.38 5.49	15.08

4-12 IGHW CA / HA Type

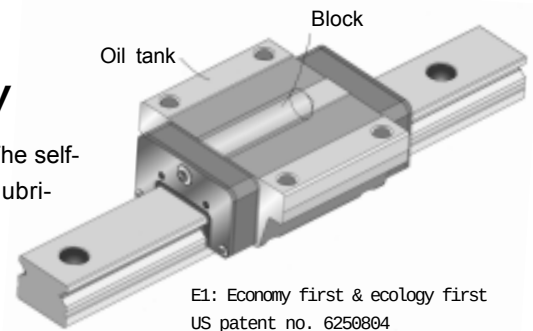


Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)																	Dimensions of Rail (mm)					Basic Dynamic Load Rating C (kN)	Basic Static Load Rating C ₀ (kN)	Weight	
	H	H ₁	N	W	W ₁	L	B	B ₁	C	L ₁	L ₂	G	K	M	D ₁	G ₁	K ₁	K ₂	T	T ₁	W _R	H _R	M ₁ x λ ₁	P	E			Block (g)	Rail (kg/m)
IGHW20CA IGHW20HA	30	4.6	21.5	63	52	90.5 105	53	5	40	50.5 65.2	25	12	6	M6	5	6	7	11	8	10	20	17.5	M6x10	60	20	17.75 21.18	37.84 48.84	0.40 0.52	2.21
IGHW25CA IGHW25HA	36	5.5	23.5	70	55.4	95 116	57	6.5	45	58 78.6	22.5	12	6	M8	5	6	9	14	8	14	23	22	M6x12	60	20	26.48 32.75	56.19 76.00	0.78 0.80	3.21
IGHW30CA IGHW30HA	42	6	31	90	67	110 133	72	9	52	70 93	23	12	6.5	M10	5	6	10.8	16	8.5	16	28	26	M8x15	80	20	38.74 47.27	83.06 110.13	1.42 1.44	4.47
IGHW35CA IGHW35HA	48	7.5	33	100	77	123 149	82	9	62	80 106	23.4	12	9	M10	5	7	12.6	16.5	10.1	18	34	29	M8x17	80	20	49.52 60.21	102.87 136.31	2.03 2.06	6.30
IGHW45CA IGHW45HA	60	9.5	37.5	120	91	148 180	100	10	80	97 129	26	12.9	8.5	M12	8.5	10	20	20	15.1	22	45	38	M12x24	105	22.5	77.57 94.54	155.93 207.12	3.54 3.69	10.41
IGHW55CA IGHW55HA	70	13	43.5	140	106	173 198	116	12	95	118 143	26	12.9	12	M14	8.5	11	19	18.5	17.5	26.5	53	44	M14x25	120	30	114.44 139.35	227.81 301.26	5.38 5.96	15.08

5. E1-Self-lubricant Linear Guideway

5-1 Structure of E1 Linear Guideway

The construction of E1 Linear Guideway is shown beside. The self-lubricant apparatus(oil tank) is designed inside of block. The lubricant will be fed directly on the running ball by capillarity.



5-2 Feature of E1 Linear Guideway

(1) Cost reduction: Saving cost from lubricant device inside and less oil purchase.

► Example LG35C

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 environmental friendly : No worry about the pollution caused by oil leakage. Therefore, it is a best choice when very clean working environment is required.

(3) Maintenance free for long period usage : Self-lubricant block is maintenance free in most application. The lubricant will be fed directly on the rolling balls, so it can be used lastingly without wear.

(4) Save installation space : Same length, accuracy, preload, rated static load, and rated dynamic load with general type, so it's no need to increase the driven power.

(5) Used in special environment : The outstanding lubricating performance can be achieved by working alone with grease, so it is suitable for dusty, worse weather, and watery environment.

5-3 Application

(1) Machine tool

(2) Manufacture machine : Plastic injection, printing, paper making, textile machine, food processing machine, wood working machine etc.

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

(4) Others : Medical care equipment, transportation equipment, household device.

5-4 Specification

(1) Add “/ E1” after the specification of linear guideway

Ex. LGW25CCE2R1600EZ1PII + ZZ / E1

Ex. AGW30CAE2R1600EZ1PII + ZZ / E1

Applicable Specification

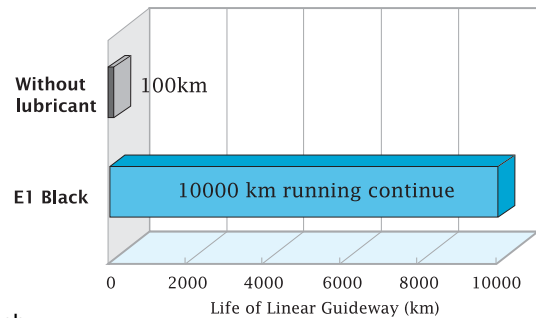
Series	Load type	Square type	Flange type		
		Tap hole	Tap hole	Drilled hole	Combination
LG	Heavy Load	LGH - CA	-	-	LGW - CC
	Super Heavy Load	LGH - HA	-	-	LGW - HC
AG	Medium Load	AGH - SA	AGW - SA	-	-
	Heavy Load	AGH - CA	AGW - CA	-	-

5-5 Lubrication Capability of E1 Linear Guideway

(1) Life testing with light load

Test condition :

Model No.	LGW35CC
Speed	80m / min
Stroke	1500mm
Load	500kgf



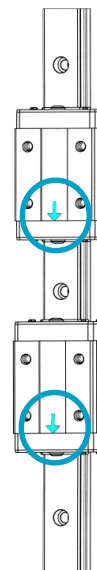
Note: the test was carried out without combining the use of grease.

(2) Characteristic of lubricant

1. Synthetic base oil with stable characteristic.
2. Temperature range of oil operation is -15~240°C, which cover most working conditions for linear guideway.
3. Reduce friction and antiabrasion
4. Against corrosion and rust.
5. Non-toxic

5-6 Installation

The arrow mark on block must toward the ground when using in vertical axis. If the block direction is inverse, the lubricant can not be released and damage will occur soon.



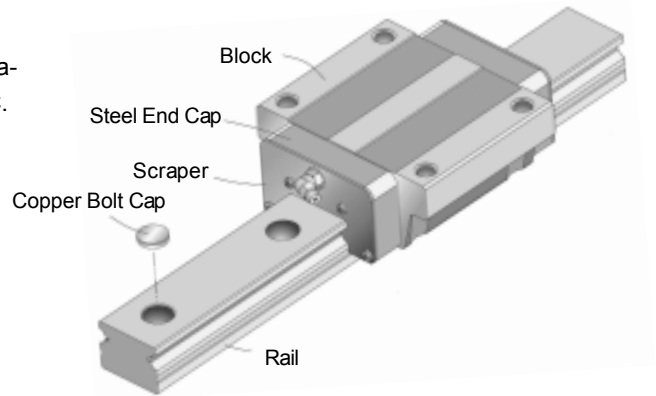
6. Heat Resistance Steel End Cap And Copper Bolt Cap

(1) Feature

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

(2) Application

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



6-1 Applicable series

Series	Model No.
LG	15, 20, 25, 30, 35, 45, 55
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 : LGW25CA2R1000Z0P11/SE

Ex : AGW25CA2R1000Z0P11/SE

Ex : MGN15C2R1000Z0P11/SE

6-3 Copper bolt cap dimension

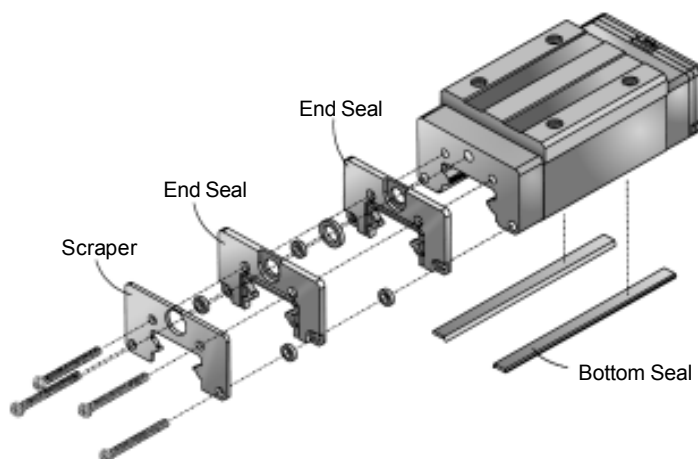
Cap code	Bolt Size	Cap Diameter mm	Cap Thickness mm	Model No. of Linear Guideway
C3	M3	6.15	1.2	AGR15R MGN12/15R
C4	M4	7.65	1.2	LGR15R
C5	M5	9.65	2.8	LGR20R AGR20R
C6	M6	11.15	2.8	LGR25R AGR25/30R
C8	M8	14.15	3.5	LGR30/35R
C12	M12	20.15	4	LGR45R
C14	M14	23.15	4	LGR55R

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

7. Dust Proof Accessories

7-1 Feature

For worse environment , selecting suitable dustproof accessories can prevent the life and accuracy reduction resulting from the groove surface damaged by iron chips or dust entering the block. Table below presents the several types of 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

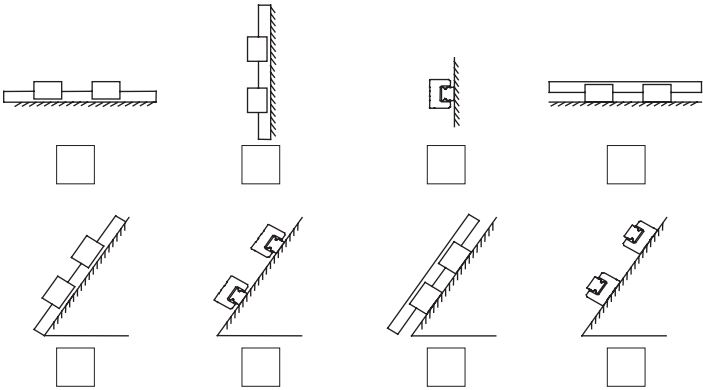
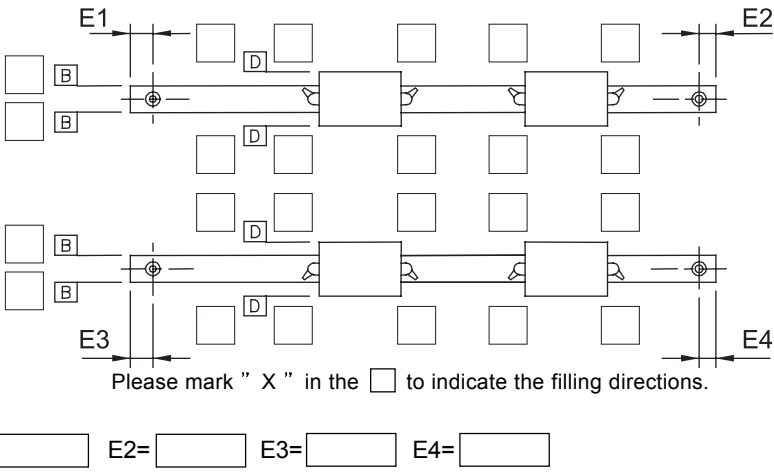
7-2 Specification Number

It is no symbol for standard otherwise add the mark"+DD/KK/ZZ" after the specification number.

Ex : HGW25CA2R1000Z0P11 + DD

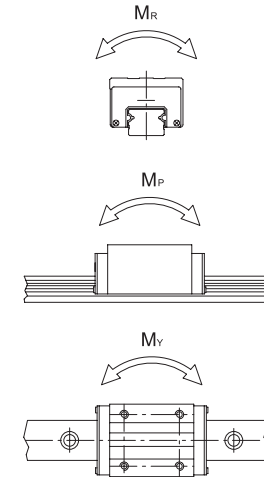
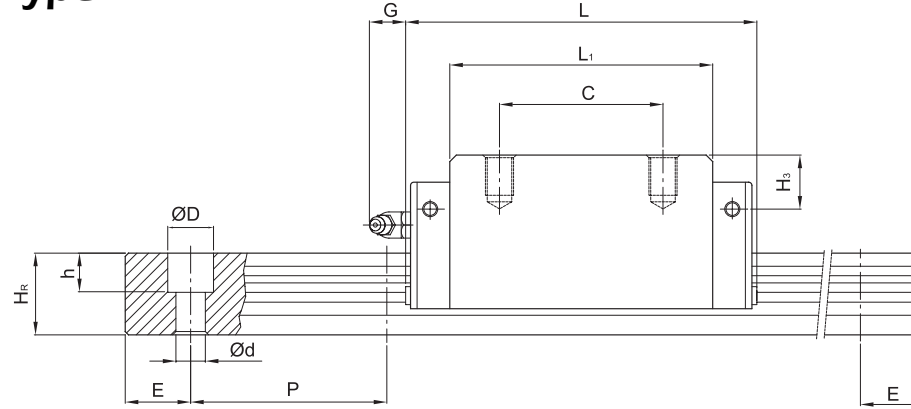
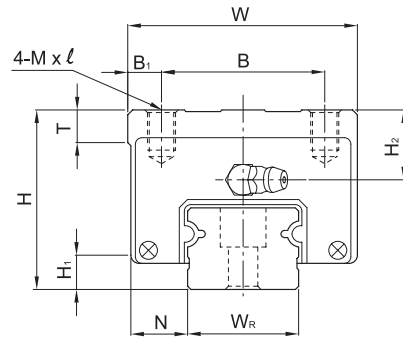
Ex : AGW25CA2R1000Z0P11 + DD

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	
	

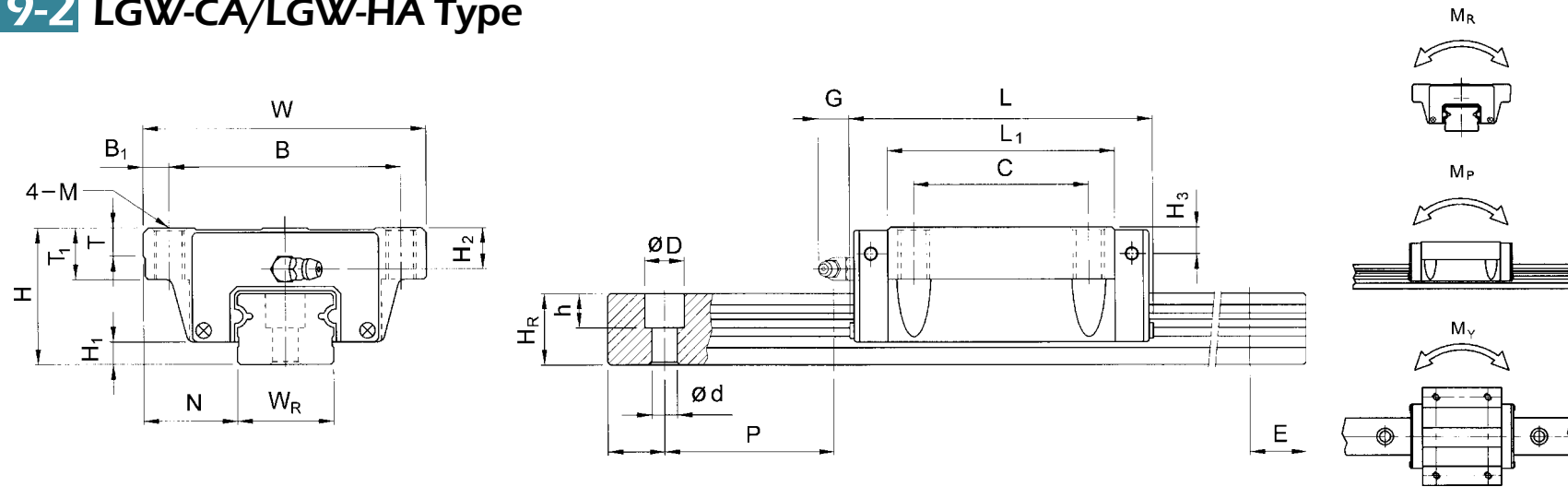
9. Specifications

9-1 LGH-CA/LGH-HA Type



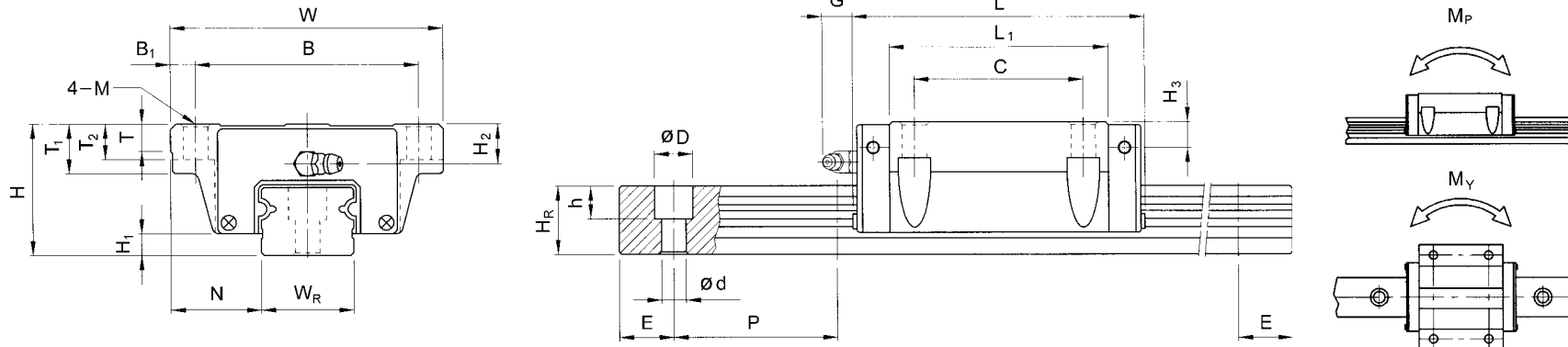
Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)											Dimensions of Rail (mm)							Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kgf)	Basic Static Load Rating C ₀ (kgf)	Static Rated Moment			Weight	
	H	H ₁	N	W	B	B ₁	C	L ₁	L	G	M x l	T	H ₂	H ₃	W _R	H _R	D	h	d	P	E				M _R (kgf-m)	M _P (kgf-m)	M _Y (kgf-m)	Block (kg)	Rail (kg/m)
LGH 15CA	28	4.5	9.5	34	26	4	26	39.6	60.6	5.3	M4 x 5	6	8.5	7.6	15	14	7.5	5.3	4.5	60	20	M4 x 16	1,040	1,680	13.5	11.0	11.0	0.21	1.47
LGH 20CA	30	5	12	44	32	6	36	52.7	77.3	12	M5 x 6	8	7.1	7.1	20	15	9.5	8.5	6	60	20	M5 x 16	1,650	2,670	28.1	22.8	22.8	0.37	2.08
LGH 20HA							50	67	91.6														2,100	3,400	35.7	35.9	35.9	0.46	
LGH 25CA	40	6.5	12.5	48	35	6.5	35	57.6	85.6	12	M6 x 8	8	11.2	11	23	20	11	9	7	60	20	M6 x 20	2,410	3,880	46.6	37.2	37.2	0.59	3.15
LGH 25HA							50	76.6	104.6														3,210	5,180	62.2	63.6	63.6	0.78	
LGH 30CA	45	7	16	60	40	10	40	72	104.4	12	M8 x 10	8	10.5	10.5	28	23	14	12	9	80	20	M8 x 25	3,380	5,460	79.3	61.2	61.2	1.04	4.41
LGH 30HA							60	93	125.4														4,400	7,100	103.0	100.4	100.4	1.33	
LGH 35CA	55	8	18	70	50	10	50	82	118.4	12	M8 x 12	10	15	16	34	25	14	12	9	80	20	M8 x 25	4,180	6,740	118.1	84.4	84.4	1.72	5.93
LGH 35HA							72	105.8	142.2														5,430	8,770	153.5	138.4	138.4	2.24	
LGH 45CA	70	10	20.5	86	60	13	60	99.6	139.2	12.9	M10 x 17	15	21	21	45	32	20	17	14	105	22.5	M12 x 35	6,020	9,710	223.5	141.3	141.3	3.16	10.01
LGH 45HA							80	133	172.6														8,430	13,600	312.8	259.2	259.2	4.28	
LGH 55CA	80	13	23.5	100	75	12.5	75	115.8	164.8	12.9	M12 x 18	17	22	22	53	40	23	20	16	120	30	M14 x 45	9,740	13,220	384.9	280.9	280.9	5.30	14.82
LGH 55HA							95	154.7	203.7														11,810	18,510	489.8	442.7	442.7	6.40	
LGH 65CA	90	19	31.5	126	76	25	70	138.6	197.6	12.9	M16 x 20	25	20	20	63	48	26	22	18	150	35	M16 x 50	14,940	20,990	738.8	579.0	579.0	7.30	21.26
LGH 65HA							120	187.6	246.6														18,290	27,290	1007.5	1040.8	1040.8	9.30	

9-2 LGW-CA/LGW-HA Type



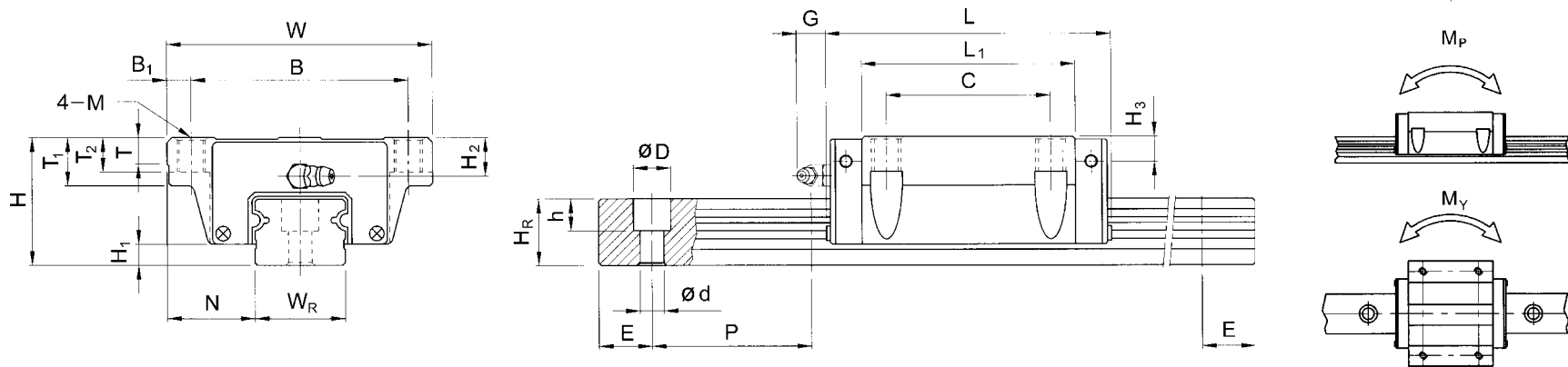
Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)													Dimensions of Rail (mm)								Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C (kgf)	Basic Static Load Rating C ₀ (kgf)	Static Rated Moment			Weight	
																												M _R (kgf-m)	M _P (kgf-m)	M _V (kgf-m)	Block (kg)	Rail (kg/m)
	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	M4x16	1,040				1,680	13.5	11.0	11.0	0.20
LGW 15CA	24	4.5	16	47	38	4.5	30	39.6	60.6	5.3	M5	6	9	4.5	3.6	15	14	7.5	5.3	4.5	60	20	M4x16	1,040	1,680	13.5	11.0	11.0	0.20	1.47		
LGW 20CA	30	5	21.5	63	53	5	40	52.7	77.3	12	M6	8	10	8.4	7.1	20	15	9.5	8.5	6	60	20	M5x16	1,650	2,670	28.1	22.8	22.8	0.46	2.08		
LGW 20HA								67	91.6															2,100	3,400	35.7	35.9	35.9	0.58			
LGW 25CA	36	6.5	23.5	70	57	6.5	45	57.6	85.6	12	M8	8	14	8.8	7	23	20	11	9	7	60	20	M6x20	2,410	3,880	46.6	37.2	37.2	0.64	3.15		
LGW 25HA								76.6	104.6															3,210	5,180	62.2	63.6	63.6	0.86			
LGW 30CA	42	7	31	90	72	9	52	72	104.4	12	M10	8	16	11	7.5	28	23	14	12	9	80	20	M8x25	3,380	5,460	79.3	61.2	61.2	1.20	4.41		
LGW 30HA								93	125.5															4,400	7,100	103.0	100.4	100.4	1.56			
LGW 35CA	48	8	33	100	82	9	62	82	118.4	12	M10	10	18	14.4	9	34	25	14	12	9	80	20	M8x25	4,180	6,740	118.1	84.4	84.4	1.78	5.93		
LGW 35HA								105.8	142.2															5,430	8,770	153.5	138.4	138.4	2.34			
LGW 45CA	60	10	37.5	120	100	10	80	99.6	139.2	12.9	M12	15	22	18.2	11	45	32	20	17	14	105	22.5	M12x35	6,020	9,710	223.5	141.3	141.3	3.13	10.01		
LGW 45HA								133	172.6															8,430	13,600	312.8	259.2	259.2	4.27			
LGW 55CA	70	13	43.5	140	116	12	95	115.8	164.8	12.9	M14	17	26	12	12	53	40	23	20	16	120	30	M14x45	9,740	13,220	384.9	280.9	280.9	5.50	14.82		
LGW 55HA								154.7	203.7															11,810	18,510	489.8	442.7	442.7	6.70			
LGW 65CA	90	19	53.5	170	142	14	110	138.6	197.6	12.9	M16	23	37	20	20	63	48	26	22	18	150	35	M16x50	14,940	20,990	738.8	579.0	579.0	8.50	21.26		
LGW 65HA								187.6	246.6															18,290	27,290	1007.5	1040.8	1040.8	10.70			

9-3 LGW-CB/LGW-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 (kgf)	Basic Static Load Rating C ₀ (kgf)	Static Rated Moment			Weight	
																													M _R (kgf-m)	M _P (kgf-m)	M _Y (kgf-m)	Block (kg)	Rail (kg/m)
	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										
LGW 15CB	24	4.5	16	47	38	4.5	30	39.6	60.6	5.3	ø4.5	6	9	7	4.5	3.6	15	14	7.5	5.3	4.5	60	20	M4x16	1,040	1,680	13.5	11.0	11.0	0.20	1.47		
LGW 20CB	30	5	21.5	63	53	5	40	52.7	77.3	12	ø6	8	10	10	7.1	7.1	20	15	9.5	8.5	6	60	20	M5x16	1,650	2,670	28.1	22.8	22.8	0.46	2.08		
LGW 20HB								67	91.6																2,100	3,400	35.7	35.9	35.9	0.58			
LGW 25CB	36	6.5	23.5	70	57	6.5	45	57.6	85.6	12	ø7	8	14	10	7.2	7	23	20	11	9	7	60	20	M6x20	2,410	3,880	46.6	37.2	37.2	0.64	3.15		
LGW 25HB								76.6	104.6																3,210	5,180	62.2	63.6	63.6	0.86			
LGW 30CB	42	7	31	90	72	9	52	72	104.4	12	ø9	8	16	10	7.5	7.5	28	23	14	12	9	80	20	M8x25	3,380	5,460	79.3	61.2	61.2	1.20	4.41		
LGW 30HB								93	125.5																4,400	7,100	103.0	100.4	100.4	1.56			
LGW 35CB	48	8	33	100	82	9	62	82	118.4	12	ø9	10	18	13	8	9	34	25	14	12	9	80	20	M8x25	4,180	6,740	118.1	84.4	84.4	1.78	5.93		
LGW 35HB								105.8	142.2																5,430	8,770	153.5	138.4	138.4	2.34			
LGW 45CB	60	10	37.5	120	100	10	80	99.6	139.2	12.9	ø11	15	22	15	11	11	45	32	20	17	14	105	22.5	M12x35	6,020	9,710	223.5	141.3	141.3	3.13	10.01		
LGW 45HB								133	172.6																8,430	13,600	312.8	259.2	259.2	4.27			
LGW 55CB	70	13	43.5	140	116	12	95	115.8	164.8	12.9	ø14	17	26	17	12	12	53	40	23	20	16	120	30	M14x45	9,740	13,220	384.9	280.9	280.9	5.50	14.82		
LGW 55HB								154.7	203.7																11,810	18,510	489.8	442.7	442.7	6.70			
LGW 65CB	90	19	53.5	170	142	14	110	138.6	197.6	12.9	ø16	23	37	23	20	20	63	48	26	22	18	150	35	M16x50	14,940	20,990	738.8	579.0	579.0	8.50	21.26		
LGW 65HB								187.6	246.6																18,290	27,290	1007.5	1040.8	1040.8	10.70			

9-4 LGW-CC/LGW-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 (kgf)	Basic Static Load Rating C ₀ (kgf)	Static Rated Moment			Weight	
																													M _R (kgf-m)	M _P (kgf-m)	M _Y (kgf-m)	Block (kg)	Rail (kg/m)
	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										
LGW 15CC	24	4.5	16	47	38	4.5	30	39.6	60.6	5.3	M5	6	9	7	4.5	3.6	15	14	7.5	5.3	4.5	60	20	M4x16	1,040	1,680	13.5	11.0	11.0	0.20	1.47		
LGW 25CC	36	6.5	23.5	70	57	6.5	45	57.6	85.6	12	M8	8	14	10	7.2	7	23	20	11	9	7	60	20	M6x20	2,410	3,880	46.6	37.2	37.2	0.64	3.15		
LGW 25HC								76.6	104.6																3,210	5,180	62.2	63.6	63.6	0.86			
LGW 30CC	42	7	31	90	72	9	52	72	104.4	12	M10	8	16	10	7.5	7.5	28	23	14	12	9	80	20	M8x25	3,380	5,460	79.3	61.2	61.2	1.20	4.41		
LGW 30HC								93	125.5																4,400	7,100	103.0	100.4	100.4	1.56			
LGW 35CC	48	8	33	100	82	9	62	82	118.4	12	M10	10	18	13	8	9	34	25	14	12	9	80	20	M8x25	4,180	6,740	118.1	84.4	84.4	1.78	5.93		
LGW 35HC								105.8	142.2																5,430	8,770	153.5	138.4	138.4	2.34			
LGW 45CC	60	10	37.5	120	100	10	80	99.6	139.2	12.9	M12	15	22	15	11	11	45	32	20	17	14	105	22.5	M12x35	6,020	9,710	223.5	141.3	141.3	3.13	10.01		
LGW 45HC								133	172.6																8,430	13,600	312.8	259.2	259.2	4.27			
LGW 55CC	70	13	43.5	140	116	12	95	115.8	164.8	12.9	M14	17	26	18	12	12	53	40	23	20	16	120	30	M14x45	9,740	13,220	384.9	280.9	280.9	5.50	14.82		
LGW 55HC								154.7	203.7																11,810	18,510	489.8	442.7	442.7	6.70			
LGW 65CC	90	19	53.5	170	142	14	110	138.6	197.6	12.9	M16	23	37	23	20	20	63	48	26	22	18	150	35	M16x50	14,940	20,990	738.8	579.0	579.0	8.50	21.26		
LGW 65HC								187.6	246.6																18,290	27,290	1007.5	1040.8	1040.8	10.70			