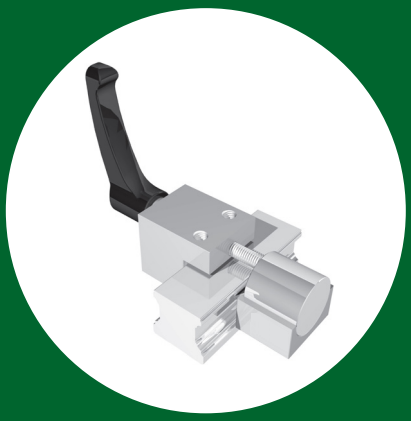

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STOCK CATALOGUE

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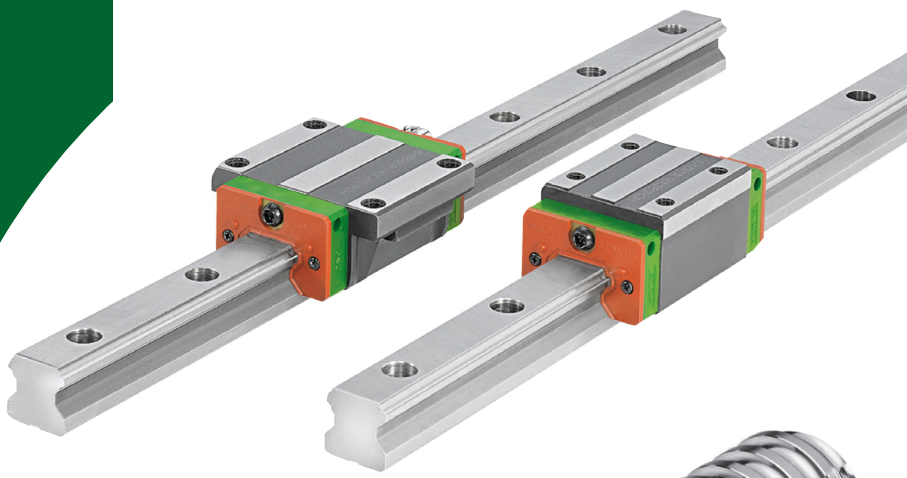

www.wmh-trans.co.uk
sales@wmh-trans.co.uk

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HIWIN ROLLED BALLSCREWS - RB PAGES 05-22
Stock sizes 10mm-80mm (other sizes available to order)
(Ground screws available)

HIWIN INDUSTRY STANDARD LINEAR GUIDES - HG PAGES 23-44
Including HG Compatible components
(PG positioning guideways with display, SE metallic endcaps,
QI quiet linear guideways)
Sizes 15 - 65

HIWIN LOW PROFILE LINEAR GUIDES - EG PAGES 45-50
Sizes 15 - 35

HIWIN WIDE SERIES - WE PAGES 51-56
Four Row Wide Series

HIWIN ROLLER GUIDES - RG PAGES 57-64
High rigidity roller type
Sizes 15 - 65

HIWIN MINATURE LINEAR GUIDES - MG PAGES 65-70
Stainless steel guides & rails

HIWIN SELF LUBRICATION KIT - E2 PAGES 71-72
Extended life of guideways, up to 100,000 km's operating life

ZIMMER CLAMPING ELEMENTS PAGES 73-84
HK - Manual
MINI HK - Manual
MK - Pnuematic

HIWIN ROBOT UNITS - KK PAGES 85-104
sizes 40-130

HIWIN LINEAR BEARINGS -UB & JB PAGES 105-114
UB, UBM, JB, JBM, JBL - Cylindrical body
JBF, JBFL - Round flange
JBK, JBKL - Square flange

HIWIN LINEAR ACTUATOR - LAS PAGES 115-128
Including Controllers & Keypads

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Locknuts – New Range Available

YSF Series - Flank Locknut

Feature :

The YSF Series locknuts employ 30°, 3 point locking. The outstanding design of the brass threads are perfectly matched and prevent any loosening whatsoever. 30° design locking screws also reduce torque on this product.

- Material Composition: SCM440(42CrMo4)
- Hardness: HRC 28° ~ 32°
- Thread Accuracy: ISO 4H
- Manufacturing Method: High Precision Grinding
- Run Out
  M14 ~ 200: 0.002mm
- Manufacturing Method: High Precision Turning
- Run Out
  M14 ~ 200: 0.005mm
  M210 ~ 300: 0.007mm

YSR Series - Radial Locknut

Feature :

The YSR Series locknuts employ 3-way radial locking. Thickness is comparatively thinner than other products. This series is especially applicable for use when locknut space is limited. Aside from where other products are not usable due to space restrictions.

- Material Composition: SCM440(42CrMo4)
- Hardness: HRC 28° ~ 32°
- Thread Accuracy: ISO 4H
- Manufacturing Method: High Precision Grinding
- Run Out
  M6 ~ 200: 0.002mm
- Manufacturing Method: High Precision Turning
- Run Out
  M6 ~ 200: 0.005mm
  M210 ~ 300: 0.007mm

YSA Series - Axial Locknut

Feature :

This locknut employs 3 way axial locking with the same thickness as the YSF series. 3 way axial locking is especially applicable to assembly work within special space constraints.

- Material Composition: SCM440(42CrMo4)
- Hardness: HRC 28° ~ 32°
- Thread Accuracy: ISO 4H
- Manufacturing Method: High Precision Grinding
- Run Out
  M14 ~ 200: 0.002mm
- Manufacturing Method: High Precision Turning
- Run Out
  M14 ~ 200: 0.005mm
  M210 ~ 300: 0.007mm

YSK Series - Precision Clasp Locknut

Feature :

The YSK Series locknuts utilize the elasticity of the steel body itself, axial locking, and forced locking. With locking capabilities more than three times higher compared to traditional locknuts, this series is aimed at harsh working conditions where locknuts are easily loosened.

- Material Composition: SCM440(42CrMo4)
- Hardness: HRC 28° ~ 32°
- Thread Accuracy: ISO 4H
- Manufacturing Method: High Precision Turning
- Run Out
  M16 ~ 200: 0.005mm
  M210 ~ 300: 0.007mm

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RB

General Information

Ballscrew Specification, Nut Type and Styles

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Ballscrew Stock Range

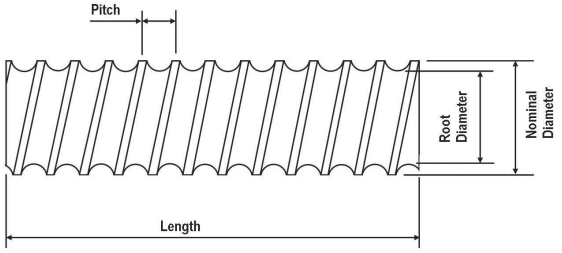
Ballscrew Designation	Diameter x Pitch	Nominal Diameter (mm)	Ball Diameter (mm)	Thread Root Diameter (mm)	Standard Lengths (mm)
R10-4-0500	10 x 4	10	2.381	7.742	500
R10-4-1000	10 x 4	10	2.381	7.742	1000
R12-4-0500	12 x 4	12	2.381	9.792	500
R12-4-1200	12 x 4	12	2.381	9.792	1200
R12-5-0500	12 x 5	12	2.000	9.642	500
R12-5-1000	12 x 5	12	2.000	9.642	1000
R14-5-0500	14 x 5	14	3.175	11.524	500
R14-5-1000	14 x 5	14	3.175	11.524	1000
R14-5-2000	14 x 5	14	3.175	11.524	2000
R16-5-0500	16 x 5	16	3.175	12.899	500
R16-5-1000	16 x 5	16	3.175	12.899	1000
R16-5-2000	16 x 5	16	3.175	12.899	2000
R16-5-3000	16 x 5	16	3.175	12.899	3000
R16-16-0500	16 x 16	16	3.175	13.344	500
R16-16-1000	16 x 16	16	3.175	13.344	1000
R16-16-2000	16 x 16	16	3.175	13.344	2000
R16-16-3000	16 x 16	16	3.175	13.344	3000
R20-5-0500	20 x 5	20	3.175	16.924	500
R20-5-1000	20 x 5	20	3.175	16.924	1000
R20-5-2000	20 x 5	20	3.175	16.924	2000
R20-5-3000	20 x 5	20	3.175	16.924	3000
R20-10-0500	20 x 10	20	3.175	17.300	500
R20-10-1000	20 x 10	20	3.175	17.300	1000
R20-10-2000	20 x 10	20	3.175	17.300	2000
R20-10-3000	20 x 10	20	3.175	17.300	3000
R20-20-0500	20 x 20	20	3.175	17.084	500
R20-20-1000	20 x 20	20	3.175	17.084	1000
R20-20-2000	20 x 20	20	3.175	17.084	2000
R20-20-3000	20 x 20	20	3.175	17.084	3000
R25-5-0500	25 x 5	25	3.175	22.294	500
R25-5-1000	25 x 5	25	3.175	22.294	1000
R25-5-2000	25 x 5	25	3.175	22.294	2000
R25-5-3000	25 x 5	25	3.175	22.294	3000
R25-5-4500	25 x 5	25	3.175	22.294	4500

Ballscrew Designation	Diameter x Pitch	Nominal Diameter (mm)	Ball Diameter (mm)	Thread Root Diameter (mm)	Standard Lengths (mm)
R25-10-0500	25 x10	25	4.763	21.232	500
R25-10-1000	25 x10	25	4.763	21.232	1000
R25-10-2000	25 x10	25	4.763	21.232	2000
R25-10-3000	25 x10	25	4.763	21.232	3000
R25-10-4500	25 x10	25	4.763	21.232	4500
R25-25-0500	25 x 25	25	3.969	21.974	500
R25-25-1000	25 x 25	25	3.969	21.974	1000
R25-25-2000	25 x 25	25	3.969	21.974	2000
R25-25-3000	25 x 25	25	3.969	21.974	3000
R25-25-4000	25 x 25	25	3.969	21.974	4000
R32-5-0500	32 x 5	32	3.175	29.124	500
R32-5-1000	32 x 5	32	3.175	29.124	1000
R32-5-2000	32 x 5	32	3.175	29.124	2000
R32-5-3000	32 x 5	32	3.175	29.124	3000
R32-5-4500	32 x 5	32	3.175	29.124	4500
R32-10-0500	32 x 10	32	6.350	27.770	500
R32-10-1000	32 x 10	32	6.350	27.770	1000
R32-10-2000	32 x 10	32	6.350	27.770	2000
R32-10-3000	32 x 10	32	6.350	27.770	3000
R32-10-4500	32 x 10	32	6.350	27.770	4500
R32-20-1000	32 x 20	32	6.350	27.790	1000
R32-20-2000	32 x 20	32	6.350	27.790	2000
R32-20-3000	32 x 20	32	6.350	27.790	3000
R32-20-4000	32 x 20	32	6.350	27.790	4000
R32-32-1000	32 x 32	32	4.763	28.392	1000
R32-32-2000	32 x 32	32	4.763	28.392	2000
R32-32-3000	32 x 32	32	4.763	28.392	3000
R32-32-4500	32 x 32	32	4.763	28.392	4500
R38-40-1000	38 x 40	38	6.350	32.910	1000
R38-40-2000	38 x 40	38	6.350	32.910	2000
R38-40-3000	38 x 40	38	6.350	32.910	3000
R38-40-4500	38 x 40	38	6.350	32.910	4500

Ballscrew Stock Range

Ballscrew Designation	Diameter x Pitch	Nominal Diameter (mm)	Ball Diameter (mm)	Thread Root Diameter (mm)	Standard Lengths (mm)
R40-5-1000	40 x 5	40	3.175	36.754	1000
R40-5-2000	40 x 5	40	3.175	36.754	2000
R40-5-3000	40 x 5	40	3.175	36.754	3000
R40-5-4500	40 x 5	40	3.175	36.754	4500
R40-10-1000	40 x 10	40	6.350	35.360	1000
R40-10-2000	40 x 10	40	6.350	35.360	2000
R40-10-3000	40 x 10	40	6.350	35.360	3000
R40-10-4000	40 x 10	40	6.350	35.360	4000
R40-10-5600	40 x 10	40	6.350	35.360	5600
R40-20-1000	40 x 20	40	6.350	32.820	1000
R40-20-2000	40 x 20	40	6.350	32.820	2000
R40-20-3000	40 x 20	40	6.350	32.820	3000
R40-20-4000	40 x 20	40	6.350	32.820	4000
R40-20-5600	40 x 20	40	6.350	32.820	5600
R40-40-1000	40 x 40	40	6.350	35.410	1000
R40-40-2000	40 x 40	40	6.350	35.410	2000
R40-40-3000	40 x 40	40	6.350	35.410	3000
R40-40-4000	40 x 40	40	6.350	35.410	4000
R50-5-1000	50 x 5	50	3.175	46.744	1000
R50-5-2000	50 x 5	50	3.175	46.744	2000
R50-5-3000	50 x 5	50	3.175	46.744	3000
R50-5-4000	50 x 5	50	3.175	46.744	4000
R50-5-5600	50 x 5	50	3.175	46.744	5600
R50-10-1000	50 x 10	50	6.350	45.440	1000
R50-10-2000	50 x 10	50	6.350	45.440	2000
R50-10-3000	50 x 10	50	6.350	45.440	3000
R50-10-4000	50 x 10	50	6.350	45.440	4000
R50-10-5600	50 x 10	50	6.350	45.440	5600
R50-40-1000	50 x 40	50	6.350	45.000	1000
R50-40-2000	50 x 40	50	6.350	45.000	2000
R50-40-3000	50 x 40	50	6.350	45.000	3000
R50-40-4000	50 x 40	50	6.350	45.000	4000
R50-40-5000	50 x 40	50	6.350	45.000	5000

Ballscrew Designation	Diameter x Pitch	Nominal Diameter (mm)	Ball Diameter (mm)	Thread Root Diameter (mm)	Standard Lengths (mm)
R50-50-1000	50 x 50	50	7.938	44.788	1000
R50-50-2000	50 x 50	50	7.938	44.788	2000
R50-50-3000	50 x 50	50	7.938	44.788	3000
R50-50-4000	50 x 50	50	7.938	44.788	4000
R50-50-5600	50 x 50	50	7.938	44.788	5600
R63-10-1000	63 x 10	63	6.350	58.044	1000
R63-10-2000	63 x 10	63	6.350	58.044	2000
R63-10-3000	63 x 10	63	6.350	58.044	3000
R63-10-4000	63 x 10	63	6.350	58.044	4000
R63-10-5600	63 x 10	63	6.350	58.044	5600
R63-20-1000	63 x 20	63	9.525	56.280	1000
R63-20-2000	63 x 20	63	9.525	56.280	2000
R63-20-3000	63 x 20	63	9.525	56.280	3000
R63-20-4000	63 x 20	63	9.525	56.280	4000
R63-20-5600	63 x 20	63	9.525	56.280	5600
R80-10-1000	80 x 10	80	6.350	74.840	1000
R80-10-2000	80 x 10	80	6.350	74.840	2000
R80-10-3000	80 x 10	80	6.350	74.840	3000
R80-10-4000	80 x 10	80	6.350	74.840	4000
R80-10-5600	80 x 10	80	6.350	74.840	5600
R80-20-1000	80 x 20	80	9.525	73.076	1000
R80-20-2000	80 x 20	80	9.525	73.076	2000
R80-20-3000	80 x 20	80	9.525	73.076	3000
R80-20-4000	80 x 20	80	9.525	73.076	4000
R80-20-5600	80 x 20	80	9.525	73.076	5600



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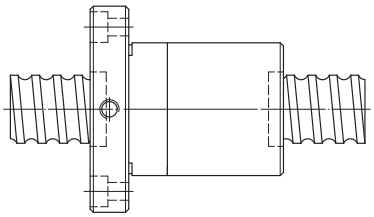
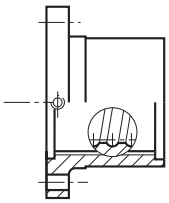
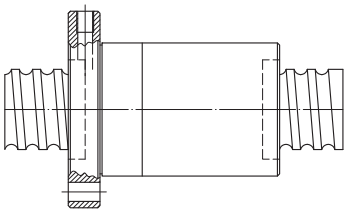
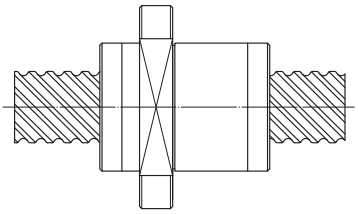
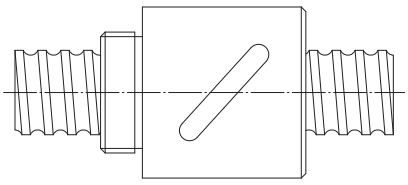
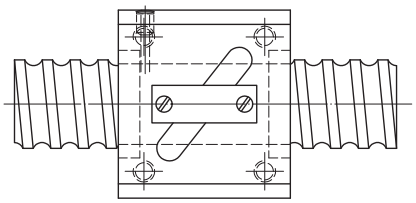
Ballscrew Nut Type

NUT TYPE		PAGE	DESCRIPTION
FSI		8	Flanged end Single nut Internal recirculation cap
FSR		9	Round Flanged end Single Nut Internal recirculation cap
FSC		10	Flanged end Single nut Super S Series
FSH		11	Flanged end Single nut End Cap
RSB		12	Round Single nut Internal recirculation cap
SSV		13	Square Single nut Tubes above nut body

Stock Nut Styles

WMH stock 6 standard nut styles as listed below and detailed on the following pages.
Ballscrews shafts are stocked in maximum stock lengths as listed below.

THREAD DETAILS		NUT TYPE						MAX STOCK LENGTH
DIA mm	PITCH mm	FSI	FSR	FSC	FSH	SSV	RSB	mm
10	4						■	1000
12	4						■	1200
12	5		■					1000
14	5					■		2000
16	5	■	■			■	■	3000
16	16				■			3000
20	5	■	■			■	■	3000
20	10			■				3000
20	20				■			3000
25	5	■	■			■	■	4500
25	10	■	■			■		4500
25	25				■			4000
32	5	■	■				■	4500
32	10	■	■			■	■	4500
32	20			■				4000
32	32				■			4500
38	40			■				4500
40	5	■	■					5600
40	10	■	■				■	5600
40	20	■					■	5600
40	40			■	■			4000
50	5	■						5600
50	10	■	■				■	5600
50	40			■				5000
50	50				■			5600
63	10	■	■	■			■	5600
63	20	■		■				5600
80	10	■	■	■				5600
80	20	■		■				5600

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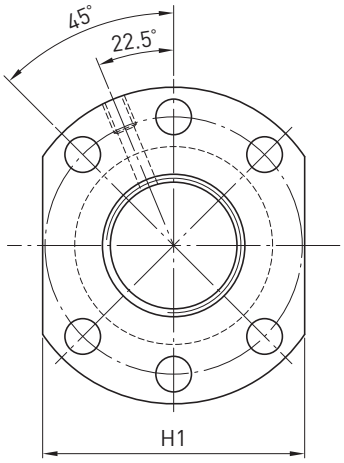
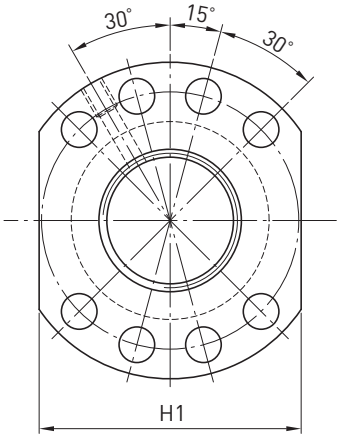
FSI DIN69051 part 5 form B

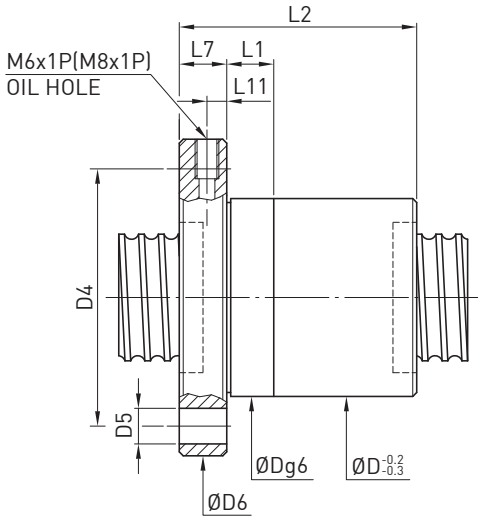
Rolled Ballscrews

UP TO 30mmØ
TYPE 1



40mmØ & Above
TYPE 2





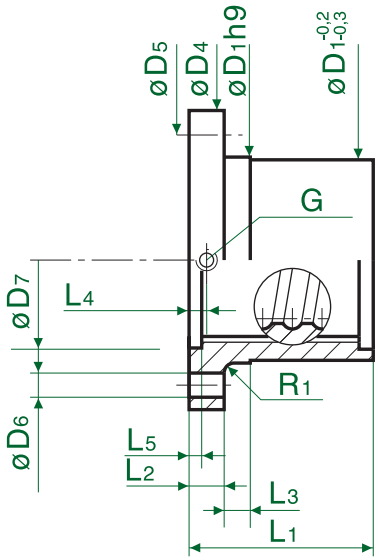
Model	Size		Ball Dia.	Circuits	Dynamic Load 1x106 revs C (kgf)	Static Load Co (kgf)	D	D4	Flange Hole No.	D5	D6	H1	L1	L2	L7	L11	M-Oil Hole
	Nominal Dia.	Lead															
R16-1T4-FSI	16	1	0.8	4	123	411	22	31	4	5.5	40	26	10	23	6	-	-
R16-2.5T4-FSI	16	2.5	2	4	409	873	25	35	4	5.5	44	29	10	44	10	5	M6X1
R16-5T3-FSI	16	5	3.175	3	664	1195	28	38	6	5.5	48	40	10	40	10	5	M6x1P
R16-10T3-FSI	16	10	3.175	3	621	1101	28	38	6	5.5	48	40	10	60	10	5	M6X1
R20-5T4-FSI	20	5	3.175	4	938	1993	36	47	6	6.6	58	44	10	52	10	5	M6x1P
R25-5T4-FSI	25	5	3.175	4	1127	2776	40	51	6	6.6	62	48	12	52	10	5	M6x1P
R25-10T3-FSI		10	4.763	3	1430	2913	40	51	6	6.6	62	48	16	65	10	5	M6x1P
R32-5T6-FSI	32	5	3.175	6	1829	5544	50	65	6	9	80	62	10	66	12	6	M6x1P
R32-10T4-FSI		10	6.350	4	2899	6404	50	65	6	9	80	62	16	85	12	6	M6x1P
R40-5T6-FSI	40	5	3.175	6	2003	6931	63	78	8	9	93	70	10	66	14	7	M8x1P
R40-10T4-FSI		10	6.350	4	3396	8488	63	78	8	9	93	70	16	87	14	7	M8x1P
R40-20T2-FSI		20	6.350	2	1870	4244	63	78	8	9	93	70	20	88	14	7	M8 X1P
R50-5T6-FSI	50	5	3.175	6	2213	8909	75	93	8	11	110	85	10	70	16	8	M8x1P
R50-10T6-FSI		10	6.350	6	5526	16668	75	93	8	11	110	85	16	112	16	8	M8x1P
R50-20T4-FSI	50	20	9.525	4	8306	21608	78	93	8	11	110	85	16	150	16	8	M8X1
R63-10T6-FSI	63	10	6.350	6	6192	21409	90	108	8	11	125	95	16	114	18	9	M8 X 1P
R63-20T5-FSI	63	20	9.525	5	11536	35194	90	108	8	11	125	95	16	160	20	10	M8 X 1P
R80-10T6-FSI	80	10	6.350	6	7093	28508	105	125	8	13.5	145	110	20	114	20	10	M8 X 1P
R80-20T5-FSI		20	9.525	5	13449	47447	125	145	8	13.5	165	130	25	175	25	12	M8 X 1P

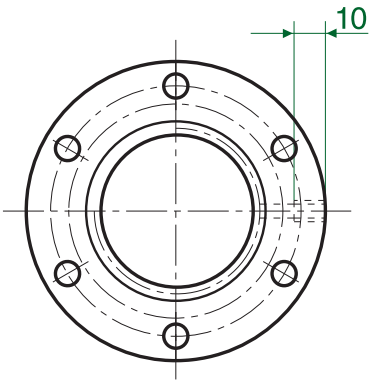
HIWIN®
LinearMotion

RB

FSR

Rolled Ballscrews





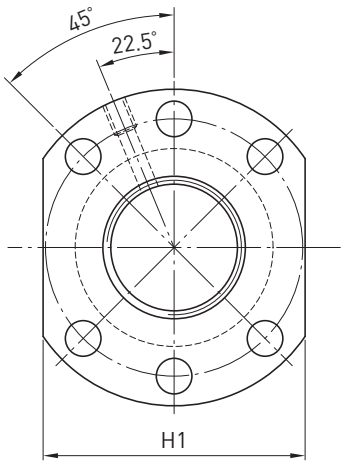
Model	Size		Circuits	Dynamic Load C(kgf)	Static Load Co(kgf)	D1	D4	PCD D5	D6	D7	L1	L2	L3	L4	L5	G
	Nominal Dia.	Lead														
R12-5T3-FSR	12	5	3	265	461	20	40	32	5.0	18	36	10	12	6.0	3	M6
R16-5T3-FSR	16			664	1195	28	48	38	5.5	22	44	12	10	6.0	3	M6x1
R20-5T3-FSR	20			733	1495	32	55	45	7.0	26	44	12	8	6.0	3	M6x1
R25-5T3-FSR	25			879	2082	38	62	50	6.6	31	46	14	8	7.0	3	M6x1
R25-10T3-FSR		10		1430	2913	45	72	57	6.6	31	65	10	15	5.0	3	M6x1
R32-5T3-FSR	32	5		1008	2772	45	70	58	7.0	38	59	16	10	8.0	3	M6x1
R32-10T3-FSR		10		2264	4803	53	80	68	7.0	38	73	16	10	8.0	3	M6x1
R40-5T4-FSR	40	5	4	1414	4621	53	80	68	7.0	46	59	16	10	8.0	3	M8x1
R40-10T4-FSR		10		3396	8488	63	95	78	9.0	52	73	15	10	7.5	5	M8x1
R50-10T3-FSR	50		3	3045	8334	72	110	90	11.0	62	97	18	16	9.0	5	M8x1
R63-10T5-FSR	63		5	5293	17841	85	125	105	11.0	74	99	20	10	10.0	5	M8x1
R80-10T5-FSR	80			6063	23757	105	145	125	14.0	93	101	20	10	10.0	5	M8x1

HIWIN®
LinearMotion

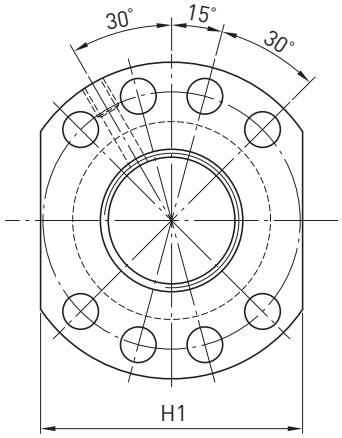
FSC

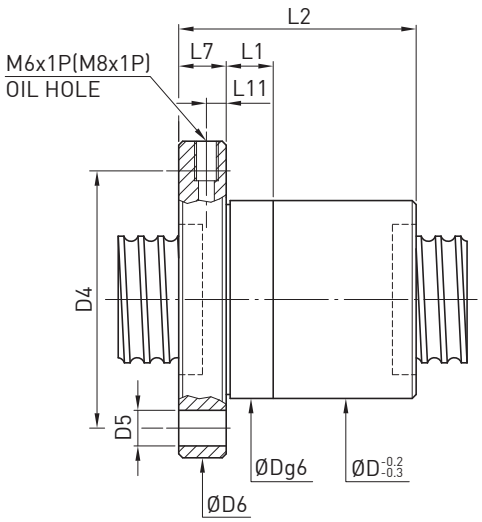
Rolled Ballscrews

UP TO 32mmØ
TYPE 1

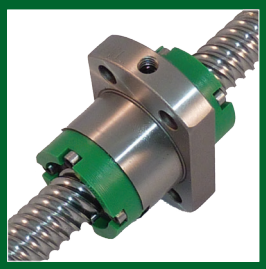


40mmØ & Above
TYPE 2





Model	Size		Ball Dia.	Circuits	Dynamic Load 1x106 revs C (kgf)	Static Load Co (kgf)	D	D4	Flange Hole No.	D5	D6	H1	L1	L2	L7	L11	M-Oil Hole
	Nominal Dia.	Lead															
R16-10K3-FSC	16	10	3.184	3	900	1860	34	45	6	6	57	43	10	44	10	5	M6x1
R20-10K3-FSC	20	10	3.174	3	991	2268	36	47	6	6.6	58	44	16	48	12	6	M6x1
R20-20K2-FSC	20	20	3.174	2	690	1560	36	47	6	6.6	58	44	10	57	10	5	M6X1
R32-20K3-FSC	32	20	6.35	3	3260	7998	62	77	6	9	92	74	20	87	12	6	M6X1
R40-10K4-FSC	40	10	6.35	4	4660	13120	70	85	8	9	100	75	20	73	14	7	M8X1
R40-40K2-FSC	40	40	6.35	2	2344	5953	70	85	8	9	100	75	25	102	14	7	M8X1
R50-16K6-FSC	50	16	6.35	6	7430	25270	75	93	8	11	110	85	25	128	18	9	M8X1
R50-40K3-FSC	50	40	6.35	3	3950	12370	82	100	8	11	118	92	25	145	16	8	M8X1
R80-20K5-FSC	80	20	9.525	5	13620	51080	145	165	8	13.5	185	150	25	142	25	12.5	M8X1

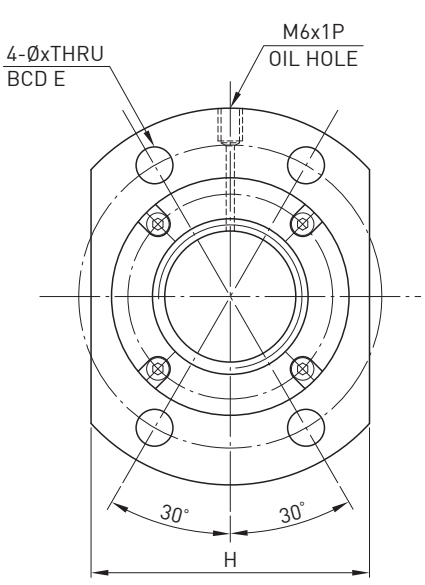


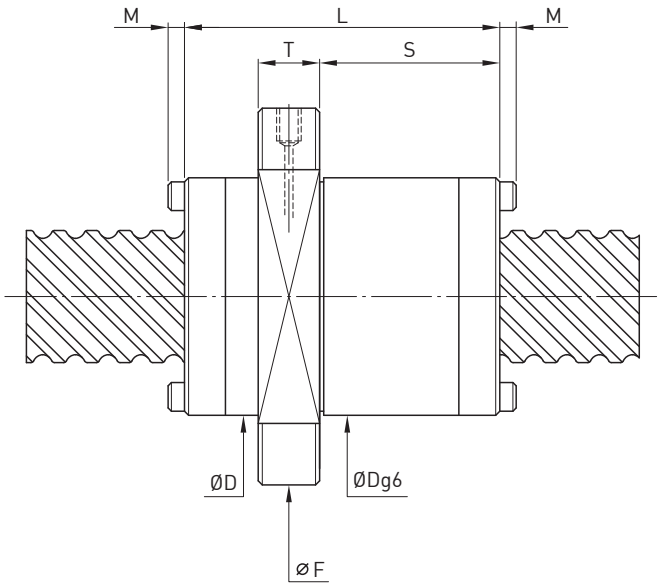
HIWIN®
LinearMotion

RB

FSH

Rolled Ballscrews





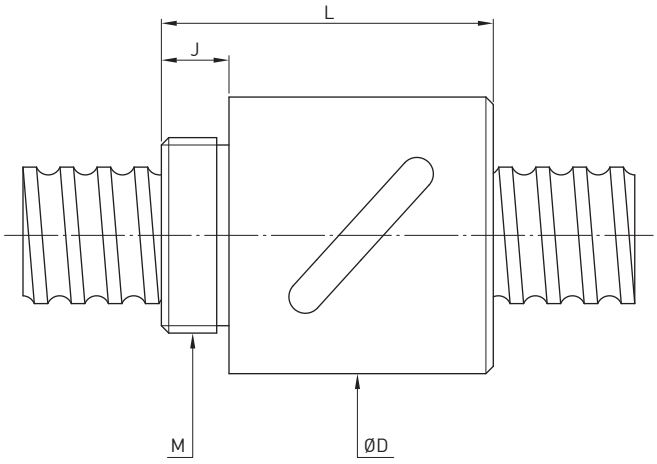
Model	Size		Ball Dia.	Circuits	Dynamic Load 1x106 revs C (kgf)	Static Load Co (kgf)	Nut		Flange				Bolt	Fit	
	Nominal Dia.	Lead					D	L	F	T	BCD-E	H	X	S	M
R16-16S2-FSH-S	16	16	3.175	1.8x2	780	1830	32	48	53	10	42	38	4.5	26	0
R16-16S2-FSH				1.8x2	780	1830	33	48	58	10	45	38	6.6	26	0
R20-20S2-FSH	20	20		1.8x2	870	2290	38	58	62	10	50	46	5.5	32.5	3
R25-25S2-FSH	25	25	3.969	1.8x4	1300	3600	47	67	74	12	60	56	6.6	39.5	3
R32-32S2-FSH	32	32	4.763	1.8x2	1840	5450	58	85	92	15	74	68	9	48	0
R40-40S2-FSH	40	40	6.350	1.8x2	3030	9220	72	102	114	17	93	84	11	60	0
R50-50S4-FSH	50	50	7.938	1.8x2	7587	22410	90	125	135	20	112	104	14	83.5	0
R63-63S4-FSH	63	63	9.525	1.8x4	12000	45700	110	146	153	24	132	-	13	87	0

DFSH-R1 ROTATING TYPE BALLNUTS ALSO FROM STOCK IN TAMWORTH, AVAILABLE IN ALL SHAFT DIAMETERS AND LEADS AS SHOWN ABOVE
CHECK www.wmh-trans.co.uk FOR NUT DIMENSIONS

HIWIN®
LinearMotion

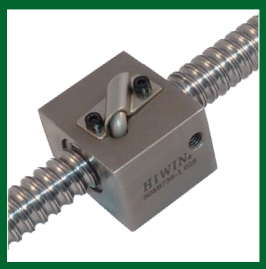
RSB

Rolled Ballscrews



Model	Size		Ball Dia.	Circuits	Dynamic Load 1x106 revs C (kgf)	Static Load Co (kgf)	Nut		Mounting Thread	Mounting Thread Length
	Nominal Dia.	Lead					L	D	M	J
R12-4B1-RSB	12	4	2.381	2.5x1	344	574	34	28	M25x1.5P	10
R16-5B1-RSB	16	5	3.175	2.5x1	679	1226	42	32.5	M26x1.5P	12
R20-5C1-RSB	20			3.5x1	1001	2149	54	40	M36x1.5P	14
R25-5B2-RSB	25			2.5x2	1534	3975	69	46	M42x1.5P	19
R32-5B2-RSB	32	5		2.5x2	1702	5098	69	54	M50x2P	19
R32-10B2-RSB		10	6.350	2.5x2	4379	10345	105	68	M62x2P	19
R40-5B2-RSB	40	5	3.175	2.5x2	1859	6354	69	76	M62x2P	19
R40-10B2-RSB		10	6.350	2.5x2	4812	12732	110	76	M70x2P	24
R50-10C2-RSB	50			3.5x2	7146	22477	135	88	M82x2P	29
R63-10C2-RSB	63			3.5x2	7869	28290	135	104	M95x2P	29

Note: 1. Rigidity without preload: The axial load is calculated by 30% of dynamic load.
2. Circuits less than K5 also available.

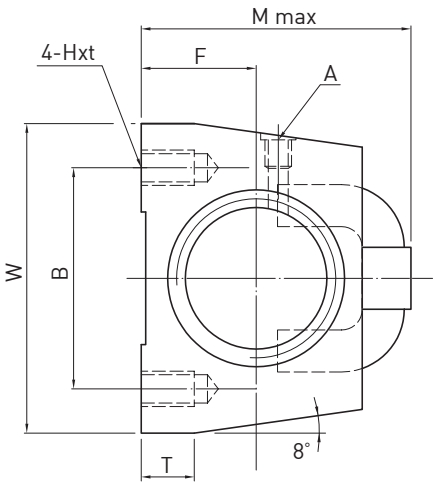


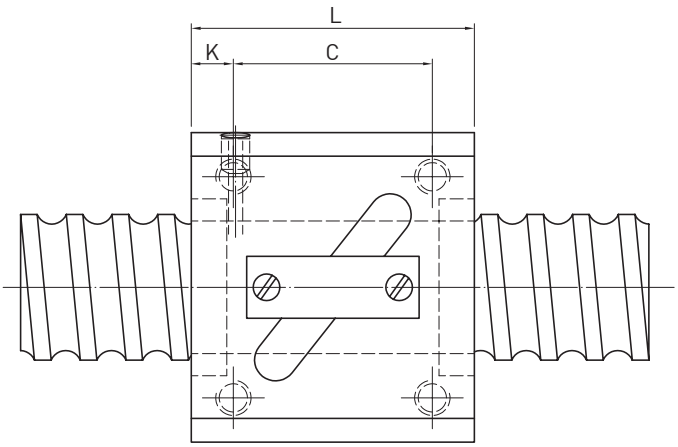
HIWIN®
LinearMotion

RB

SSV

Rolled Ballscrews



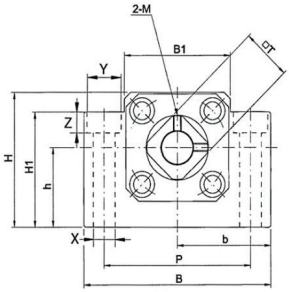


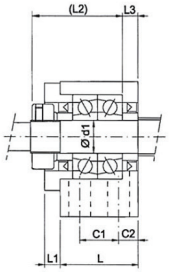
Model	Size		Ball Dia.	Circuits	Dynamic Load C(kgf)	Static Load Co(kgf)	W	F	H x t	L	B	C	K	T	A	M (max)
	Nominal Dia.	Lead														
R14-5B1-SSV	14	5	3.175	2.5x1	636	1095	34	13	M4x7	35	26	22	6.5	6	M6	31
R14-4C1-SSV	14	4	2.381	3.5X1	498	943	34	13	M4X7	35	26	22	6	6	M6	30
R16-5B1-SSV	16	5	3.175	2.5x1	679	1226	42	16	M5x8	36	32	22	6	21.5	M6	32.5
R20-5B1-SSV	20			2.5x1	745	1526	48	17	M6x10	35	35	22	5	9	M6	39
R25-5B1-SSV	25			2.5x1	845	1987	60	20	M8x12	35	40	22	7	9.5	M6	45
R25-10B2-SSV		10	4.763	2.5x2	2649	5966	60	23	M8x12	94	40	60	10	10	M6	54
R32-5B1-SSV	32	5	6.350	2.5x2	960	2047	70	26	M8x1.25	94	50	60	10	12	M6	62
R32-10B2-SSV		10		2.5x2	4379	10345	70	26	M8x12	94	50	60	10	12	M6	67

Support Units

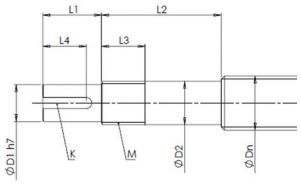
BK
Fixed Ballscrew Support Units

Contains bearing housing, bearing set, cover, spacer, seal, locknut and setscrew



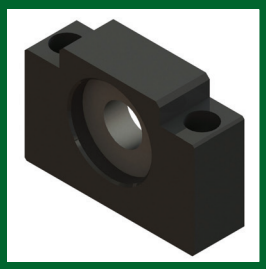


Model	Dimensions (mm)																		
	ØD1	L	L1	L2	L3	C1	C2	B	H	b	h	B1	H1	T	P	M	X	Y	Z
BK10	10	25	5	30	5	13	6	60	39	30	22	34	32.5	16	46	3	6.6	10.8	5
BK12	12	25	5	30	5	13	6	60	43	30	25	34	32.5	19	46	4	6.6	10.8	1.5
BK15	15	27	6	32	6	15	6	70	48	35	28	40	38	22	54	4	6.6	11	6.5
BK17	17	35	9	42	7	19	8	86	64	43	39	50	55	24	68	4	9	14	8.5
BK20	20	35	8	45	8	19	8	88	60	44	34	52	50	30	70	4	9	14	8.5
BK25	25	42	12	54	9	22	10	106	80	53	48	64	70	35	85	5	11	17	11
BK30	20	45	14	61	9	23	11	128	89	64	51	76	78	40	102	6	14	20	13
BK35	35	50	14	68	12	26	12	140	96	70	52	88	79	50	114	8	14	20	13
BK40	40	61	18	76	15	33	14	160	110	80	60	100	90	50	130	8	18	26	17.5



ØD2 Tolerance	
BK10 ~ BK12	-0.004/-0.012
BK15 ~ BK25	-0.005/-0.012
BK30 ~ BK40	-0.005/-0.014

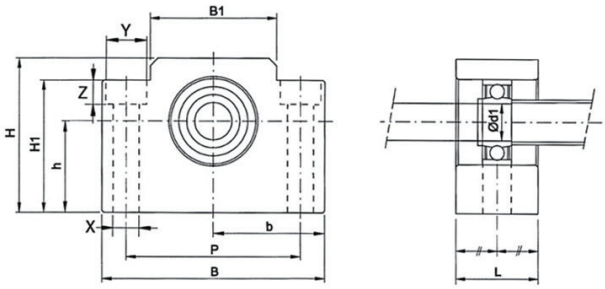
Model	ØDn	ØD2 g6	ØD1 h7	L2	L1	M	L3	L4	K
BK10	14	10	8	39	15	M10 x 1.0	15	12	2x2
BK12	16	12	10	39	15	M12 x 1.0	15	12	3x3
BK15	20	15	12	41	20	M15 x 1.0	13	15	4x4
BK17	25	17	15	53	27	M17 x 1.0	17	20	5x5
BK20	25	20	17	55	27	M20 x 1.0	17	20	5x5
BK25	32	25	20	66	36	M25 x 1.5	20	30	6x6
BK30	40	30	25	73	42	M30 x 1.5	25	32	8x7
BK35	50	35	30	83	50	M35 x 1.5	28	40	8x7
BK40	63	40	35	98	70	M40 x 1.5	35	60	10x8



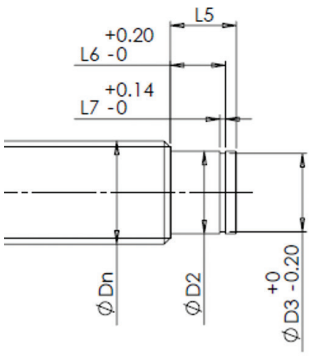
Support Units

BF
Simple Ballscrew Support Units

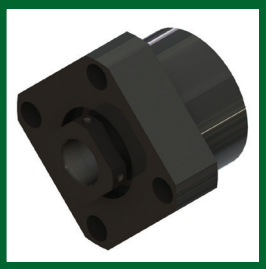
Contains bearing housing, bearing and circlip



Model	Dimensions (mm)											
	ØD1	L	B	H	b	h	B1	H1	P	X	Y	Z
BF10	8	20	60	39	30	22	34	32.5	46	6.6	10.8	5
BF12	10	20	60	43	30	25	34	32.5	46	6.6	10.8	1.5
BF15	15	20	70	48	35	28	40	38	54	6.6	11	6.5
BF17	17	23	86	64	43	39	50	55	68	9	14	8.5
BF20	20	26	88	60	44	34	52	50	70	9	14	8.5
BF25	25	30	106	80	53	48	64	70	85	11	17	11
BF30	30	32	128	89	64	51	76	78	102	14	20	13
BF35	35	32	140	96	70	52	88	79	114	14	20	13
BF40	40	37	160	110	80	60	100	90	130	18	26	17.5



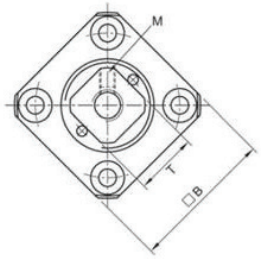
Model	Dimensions (mm)						
	ØD1	ØD2		L5	ØD3	L6	L7
BF10	12	8	-0.005 -0.012	10	7.6	7.9	0.9
BF12	16	10	-0.005 -0.012	11	9.6	9.15	1.15
BF15	20	15	-0.005 -0.014	13	14.3	10.15	1.15
BF17	25	17	-0.005 -0.014	16	16.2	13.15	1.15
BF20	25	20	-0.005 -0.014	16	19	13.35	1.35
BF25	32	25	-0.005 -0.014	20	23.9	16.35	1.35
BF30	40	30	-0.005 -0.015	21	28.6	17.75	1.75
BF35	50	35	-0.005 -0.015	22	33	18.75	1.75
BF40	63	40	-0.005 -0.015	23	38	19.75	1.95

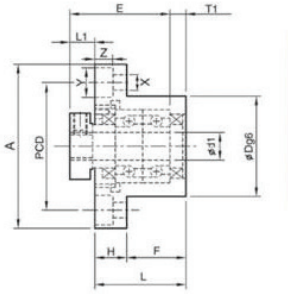


Support Units

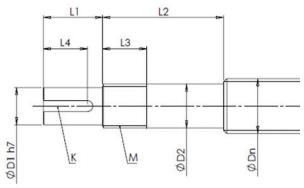
FK
Fixed Ballscrew Support Units

Contains bearing housing, bearing set, cover, spacer, seal, locknut and setscrew



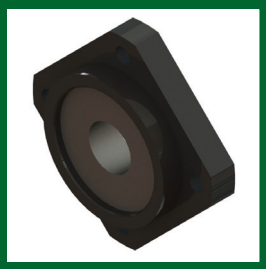


Model	Dimensions (mm)															
	ØD1	L	H	F	E	ØD	A	PCD	B	L1	T1	M	T	X	Y	Z
FK06	6	20	7	13	22	22	36	28	28	5.5	3.5	3	12	3.4	6.5	4
FK08	8	23	9	14	26	28	43	35	35	7	4	3	14	3.4	6.5	4
FK10	10	27	10	17	30	34	52	42	42	7	4	3	16	4.5	8	5
FK12	12	27	10	17	30	36	54	44	44	8	5	4	19	4.5	8	5
FK15	15	32	15	17	40	40	63	50	52	10	2	4	22	5.5	9.5	6
FK17	17	45	22	23	46	50	77	62	61	10	9	4	24	6.6	11	10
FK20	20	54	22	32	58	57	85	70	68	14	10	4	30	6.6	11	10
FK25	25	57	27	30	60	63	98	80	79	13	10	5	35	9	15	13
FK30	30	62	30	32	62	75	117	95	93	11	12	6	40	11	17.5	15



ØD2 Tolerance	
FK06 ~ FK08	-0.004/-0.012
FK10 ~ FK12	-0.005/-0.012
FK15 ~ FK25	-0.005/-0.014
FK30	-0.005/-0.015

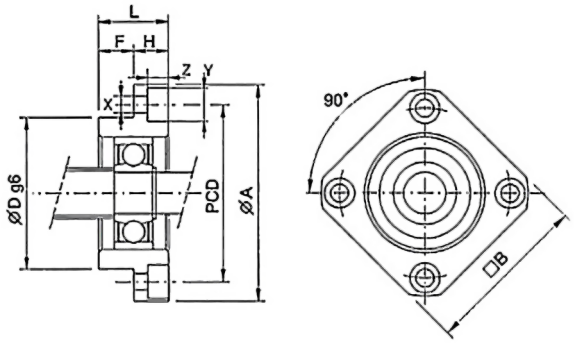
Model	ØDn	ØD2	ØD1 h7	L2	L1	M	L3	L4	K
FK06	10	6	4	30	8	M6 x 0.75	10	-	-
FK08	12	8	6	35	9	M8 x 1.0	13	-	-
FK10	14	10	8	39	15	M10 x 1.0	15	12	2x2
FK12	16	12	10	39	15	M12 x 1.0	15	12	3x3
FK15	20	15	12	49	20	M15 x 1.0	13	15	4x4
FK17	25	17	15	59	27	M17 x 1.0	18	20	5x5
FK20	25	20	17	70	27	M20 x 1.0	21	20	5x5
FK25	32	25	20	78	36	M25 x 1.5	30	30	6x6
FK30	40	30	25	73	42	M30 x 1.5	25	32	8x7



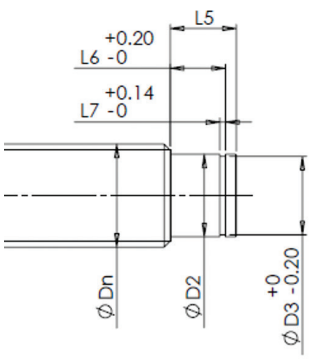
Support Units

FF
Simple Ballscrew Support Units

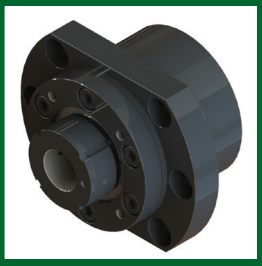
Contains bearing housing, bearing and circlip



Model	Dimensions (mm)										
	ØD2	L	H	F	ØD	ØA	PCD	B	X	Y	Z
FF06	6	10	6	4	22	36	28	28	3.4	6.5	4
FF10	8	12	7	5	28	43	35	35	3.4	6.5	4
FF12	10	15	7	8	34	52	42	42	4.5	8	4
FF15	15	17	9	8	40	63	50	52	5.5	9.5	5.5
FF17	17	20	11	9	50	77	62	61	6.6	11	6.5
FF20	20	20	11	9	57	85	70	68	6.6	11	6.5
FF25	25	24	14	10	63	98	80	79	9	15	8.5
FF30	30	27	18	9	75	117	95	93	11	17.5	11



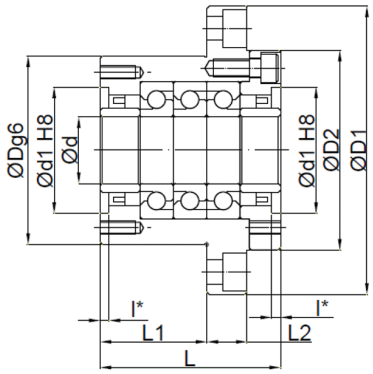
Model	Dimensions (mm)						
	ØDn	ØD2		L5	ØD3	L6	L7
FF06	10	6	-0.005 -0.012	9	5.7	6.8	0.8
FF10	12	8	-0.005 -0.012	10	7.6	7.9	0.9
FF12	16	10	-0.005 -0.014	11	9.6	9.15	1.15
FF15	20	15	-0.005 -0.014	13	14.3	10.15	1.15
FF17	25	17	-0.005 -0.014	16	16.2	13.15	1.15
FF20	25	20	-0.005 -0.014	19	19	15.35	1.35
FF25	32	25	-0.005 -0.014	20	23.9	16.35	1.35
FF30	40	30	-0.005 -0.014	21	28.6	17.75	1.75

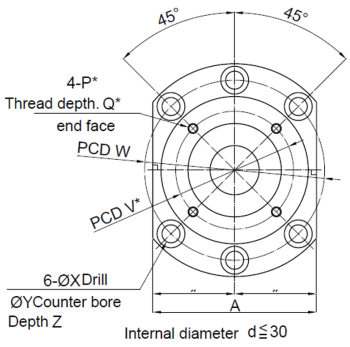


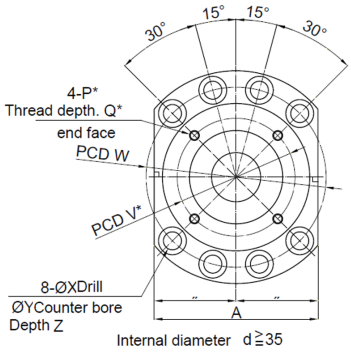
Support Units

WBK
Heavy Duty Ballscrew Support

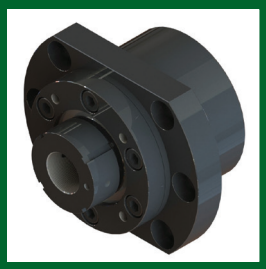
Thanks to their robust steel bearing housing, the flange bearing units of the wbk series are especially suited to use in heavy-duty ballscrews. Depending on the axial loads present, the wbk bearing units are available with the DF, DFD and DFF bearing arrangements.



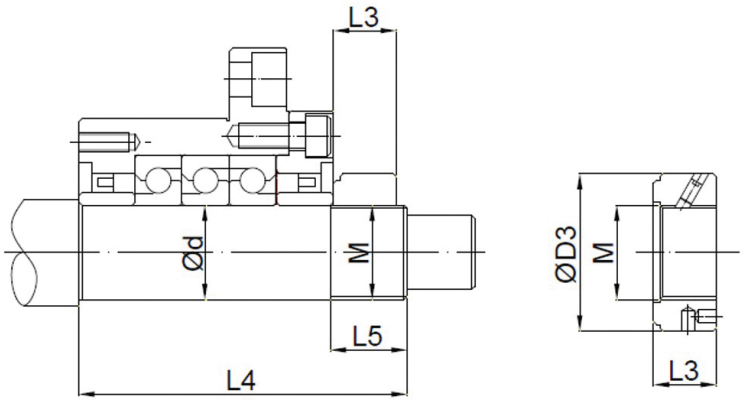




Model	Dimensions (mm)																	
	ØD1	ØD g6		ØD1	ØD2	L	L1	L2	A	W	X	Y	Z	ØD1 H8		l*	V*	P*	Q*
WBK15DF	15	70	-0.01 -0.029	106	72	60	32	15	80	88	9	14	8.5	45	+0.039 -0	3	58	M5	10
WBK17DF	17	70	-0.01 -0.029	106	72	60	32	15	80	88	9	14	8.5	45	+0.039 -0	3	58	M5	10
WBK20DF	20	70	-0.01 -0.029	106	72	60	32	15	80	88	9	14	8.5	45	+0.039 -0	3	58	M5	10
WBK25DF	25	85	-0.012 -0.034	130	90	66	33	18	100	110	11	17.5	11	57	+0.046 -0	4	70	M6	12
WBK25DFD						81	48												
WBK25DFF						96	48												
WBK30DF	30	85	-0.012 -0.034	130	90	66	33	18	100	110	11	17.5	11	57	+0.046 -0	4	70	M6	12
WBK30DFD						81	48												
WBK30DFF						96	48												
WBK35DF	35	95	-0.012 -0.034	142	102	66	33	18	106	121	11	17.5	11	69	+0.046 -0	4	80	M6	12
WBK35DFD						81	48												
WBK35DFF						96	48												
WBK40DF	40	95	-0.012 -0.034	142	102	66	33	18	106	121	11	17.5	11	69	+0.046 -0	4	80	M6	12
WBK40DFD						81	48												
WBK40DFF						96	48												



Support Units



Model	LOCK NUT			SUPPORT BASE INSTALLATION PART		
	M	D3	L3	ØD	L4	L5
WBK15DF	M15	30	14	15	81	23
WBK17DF	M17	32	16	17	81	23
WBK20DF	M20	38	16	20	81	23
WBK25DF	M25	38	18	25	89	26
WBK25DFD					104	
WBK25DFF					119	
WBK30DF	M30	45	18	30	89	26
WBK30DFD					104	
WBK30DFF					119	
WBK35DF	M35	52	18	35	92	30
WBK35DFD					107	
WBK35DFF					122	
WBK40DF	M40	58	20	40	92	30
WBK40DFD					107	
WBK40DFF					122	

Support Units

SUPPORT		AXIAL LOAD RATING (KGF)	
		DYNAMIC	STATIC
-	FK06	73	240
-	FK08	100	400
BK10	FK10	190	650
BK12	FK12	210	700
BK15	FK15	245	745
BK17	FK17	415	1315
BK20	-	425	1315
-	FK20	590	1755
BK25	FK25	710	1970
BK30	FK30	1000	2735
BK35	-	1470	3805
BK40	-	1835	4490

SUPPORT		RADIAL LOAD RATING (KGF)	
		DYNAMIC	STATIC
-	FF06	80	224
-	FF08	-	-
BF10	FF10	130	330
BF12	FF12	190	450
BF15	FF15	280	560
BF17	FF17	480	950
BF20	-	510	960
-	FF20	670	1300
BF25	FF25	795	1425
BF30	FF30	1150	1990
BF35	-	1560	2620
BF40	-	1825	2970

SUPPORT	AXIAL LOAD RATING (KGF)	
	DYNAMIC	STATIC
WBK15DF	2235	2714
WBK17DF	2235	2714
WBK20DF	2235	2714
WBK25DF	2908	4133
WBK25DFD	4745	8316
WBK25DFF	4745	8316
WBK30DF	2980	4388
WBK30DFD	4847	8776
WBK30DFF	4847	8776
WBK35DF	3163	5102
WBK35DFD	5153	10204
WBK35DFF	5153	10204
WBK40DF	3214	5306
WBK40DFD	5255	10612
WBK40DFF	5255	10612

DFD TYPE BEARING ARRANGEMENT IS NON-SYMETRICAL AND THUS THE ALLOWABLE AXIAL LOADS ONLY APPLY IN ONE DIRECTION

WMH RECOMMEND A FOUR-FOLD SAFETY FACTOR WHEN SELECTING ANY SUPPORT UNITS, BALLSCREWS OR LINEAR GUIDES AND USING STANDARD F03 GREASE*

***LOWER SAFETY FACTORS CAN BE USED WITH HEAVY DUTY F10 GREASE**

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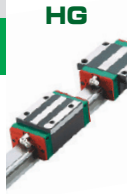
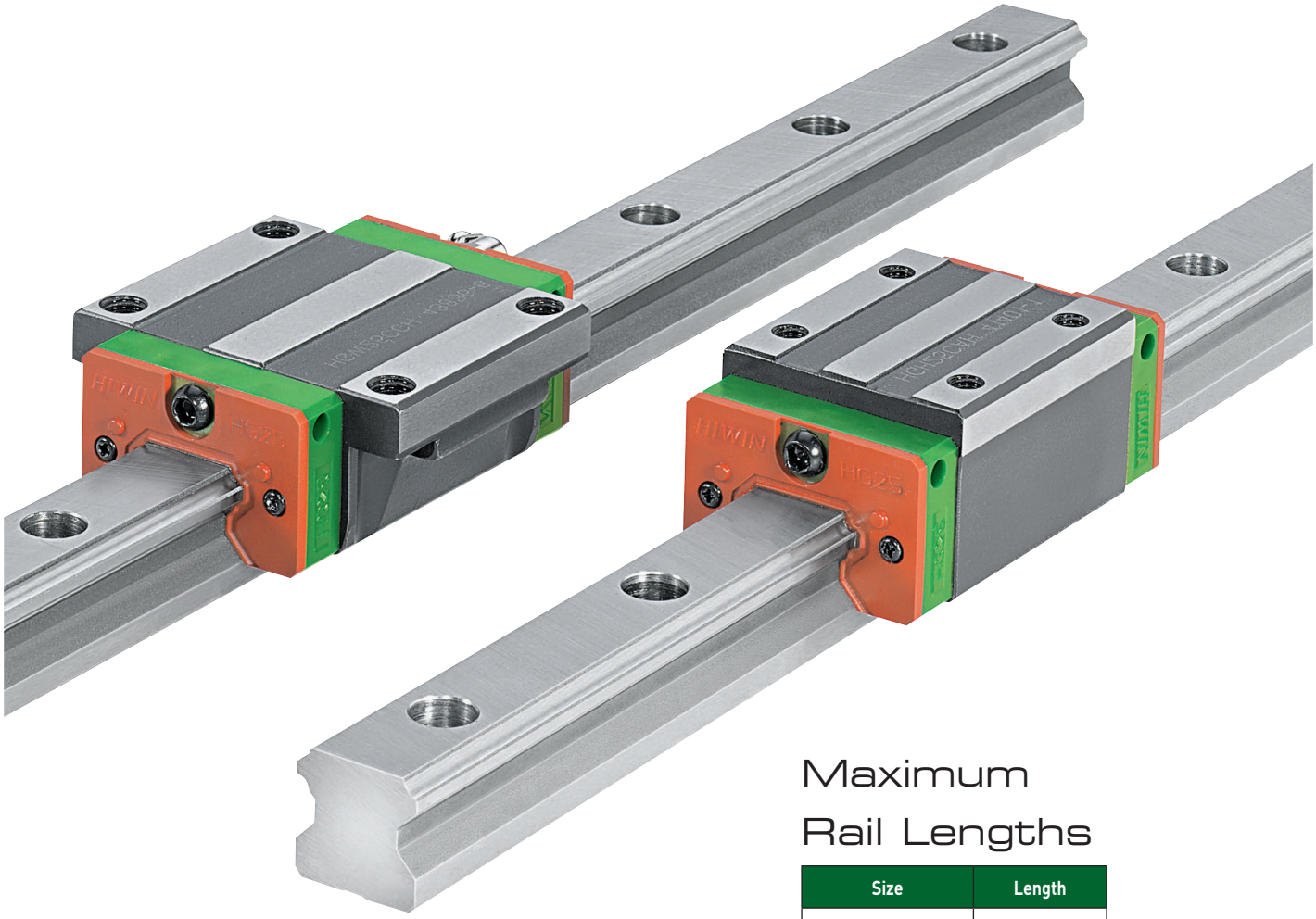
HIWIN®
LinearMotion

Linear Guideway Product Series

HG, PG, SE and Q1





Maximum Rail Lengths

Size	Length
HRG15GR-4000	4000mm
HGR20GR-5600	5600mm
HGR25GR-5600	5600mm
HGR30GR-5600	5600mm
HGR35GR-5600	5600mm
HGR45GR-4000	4000mm
HGR55GR-4000	4000mm
HGR65GR-4000	4000mm

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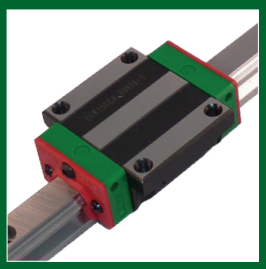


HG Series

Heavy Load Ball Type Linear Guideway

HG series linear guideways are designed with load capacity and rigidity higher than other similar products with circular-arc groove and structure optimization. It features equal load ratings in the radial, reverse radial and lateral directions, and self-aligning to absorb installation-error. Thus, HIWIN HG series linear guideways can achieve a long life with high speed, high accuracy and smooth linear motion.

Features of HG Series

(1) Self-aligning capability

By design, the circular-arc groove has contact points at 45 degrees. HG series can absorb most installation errors due to surface irregularities and provide smooth linear motion through the elastic deformation of rolling elements and the shift of contact points. Self-aligning capability, high accuracy and smooth operation can be obtained with an easy installation.

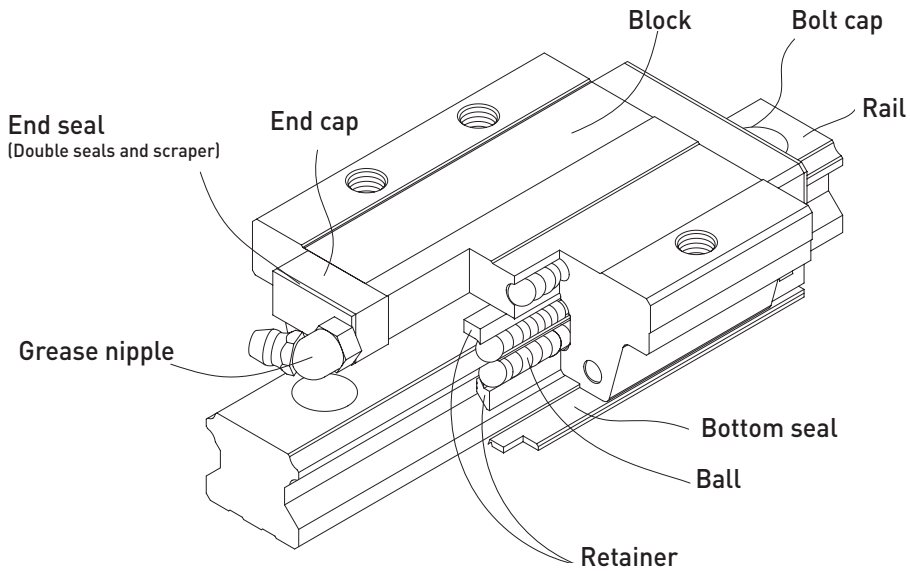
(2) Interchangeability

Because of precision dimensional control, the dimensional tolerance of HG series can be kept in a reasonable range, which means that any blocks and any rails in a specific series can be used together while maintaining dimensional tolerance. And a retainer is added to prevent the balls from falling out when the blocks are removed from the rail.

(3) High rigidity in all four directions

Because of the four-row design, the HG series linear guideway has equal load ratings in the radial, reverse radial and lateral directions. Furthermore, the circular-arc groove provides a wide-contact width between the balls and the groove raceway allowing large permissible loads and high rigidity.

Construction of HG Series



- Rolling circulation system: Block, Rail, End Cap and Retainer
- Lubrication system: Grease Nipple and Piping Joint
- Dust protection system: End seal, Bottom Seal, Bolt Cap, Double Seals and Scraper

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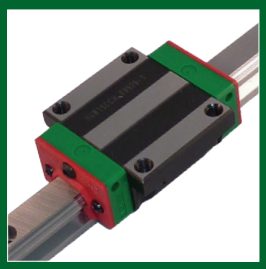


HIWIN®
LinearMotion

(1) Non-interchangeable type

HG	W	25	C	A	E	2	R	1600	E	ZA	P	II	+	DD/E2

- HG Series
- Block Type
  W : Flange Type
  H : Square Type
  L : Square Type3
- Model size
  15, 20, 25, 30, 35, 45, 55, 65
- Load Type
  C : Heavy Load
  H : Super Heavy Load
  L : Square Type (Low)3
- Block Mounting
  A : Mounting From Top
  B : Bottom
  C : Top or Bottom
- E: Special Block
  None: Standard Block
- No. of Blocks per Rail
- Rail Mounting Type
  R : Mounting From Top
  T : Bottom
- Rail Length (mm)
- E: Special Rail
  None: Standard Rail
- Preload Code: Z0, ZA, ZB
- Precision Code:
  C, H, P, SP, UP
- No. of Rails per matched set 1
- Dust Protection2
- E2: Self-Lubricant
  SE: Metallic End Cap

Note: 1. The roman numerals express a matched set of rails.
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
3. Block type HGL is the low profile design of HGH (square type), the assembled height is same as HGW (flange type) in same size.

(2) Interchangeable type

Model Number of HG Block

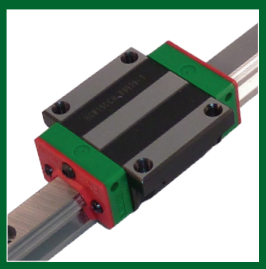
HG	W	25	C	A	E	ZA	P	+	ZZ/E2

- HG Series
- Block Type
  W : Flange Type
  H : Square Type
  L : Square Type3
- Model size
  15, 20, 25, 30, 35, 45, 55, 65
- Load Type
  C : Heavy Load
  H : Super Heavy Load
- Block Mounting Type
  A : Mounting From Top
  B : Bottom, C : Top or Bottom
- E: Special Block
  None: Standard Block
- Precision Code : C, H, P
- Preload Code : Z0, ZA
- Dust Protection2
- E2: Self-Lubricant
  SE: Metallic End Cap

Model Number of HG Rail

HG	R	25	R	1200	E	P

- HG Series
- Interchangeable Rail
- Model size
  15, 20, 25, 30, 35, 45, 55, 65
- Rail Mounting Type
  R : Mounting From Top
  T : Bottom
- Rail Length (mm)
- E: Special Rail,
  None: Standard Rail
- Precision Code : C, H, P

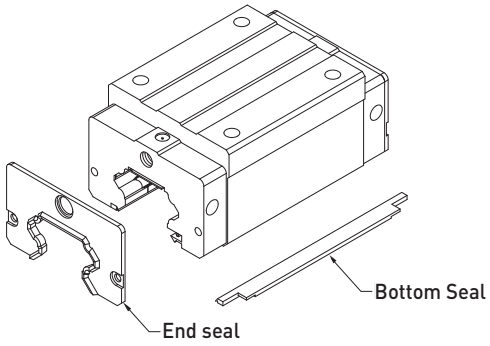


HG Series

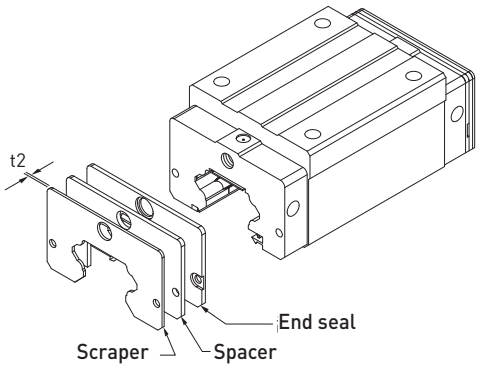
Dust Proof Accessories

(1) Codes of accessories

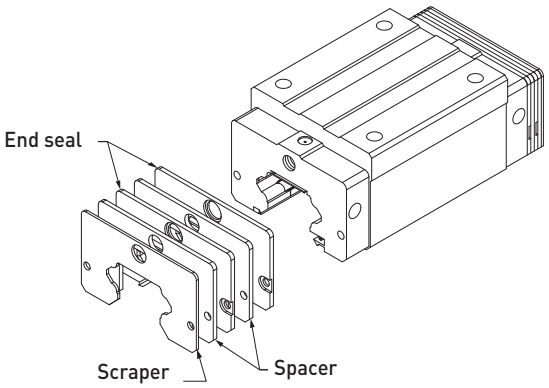
If the following accessories are needed, please add the code followed by the model number.



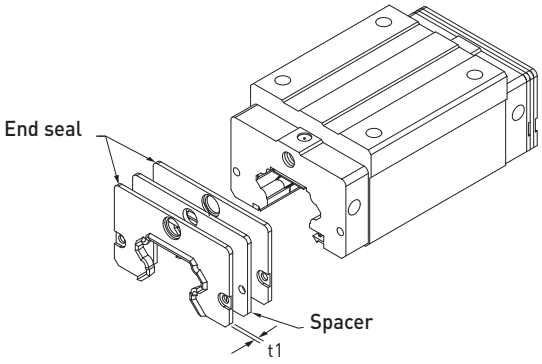
No symbol: Standard Protection (End seal + Bottom Seal)



ZZ (End seal + Bottom Seal + Scraper)



KK (Double seals + Bottom Seal + Scraper)



DD (Double seals + Bottom Seal)

(2) End seal and bottom seal

To prevent life reduction caused by iron chips or dust entering the block.

(3) Double seals

Enhances the wiping effect, foreign matter can be completely wiped off.

Table 3.1.1 Dimensions of end seal

Size	Thickness (t1) (mm)	Size	Thickness (t1) (mm)
HG 15 ES	3	HG 35 ES	3.2
HG 20 ES	3.5	HG 45 ES	4.5
HG 25 ES	3.5	HG 55 ES	4.5
HG 30 ES	3.2	HG 65 ES	6

(4) Scraper

The scraper removes high-temperature iron chips and larger foreign objects.

Table 3.1.2 Dimensions of scraper

Size	Thickness (t2) (mm)	Size	Thickness (t2) (mm)
HG 15 SC	1.5	HG 35 SC	1.5
HG 20 SC	1.5	HG 45 SC	1.5
HG 25 SC	1.5	HG 55 SC	1.5
HG 30 SC	1.5	HG 65 SC	1.5

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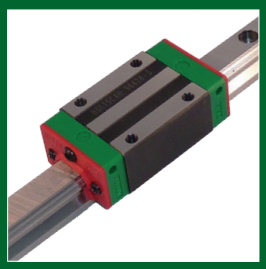
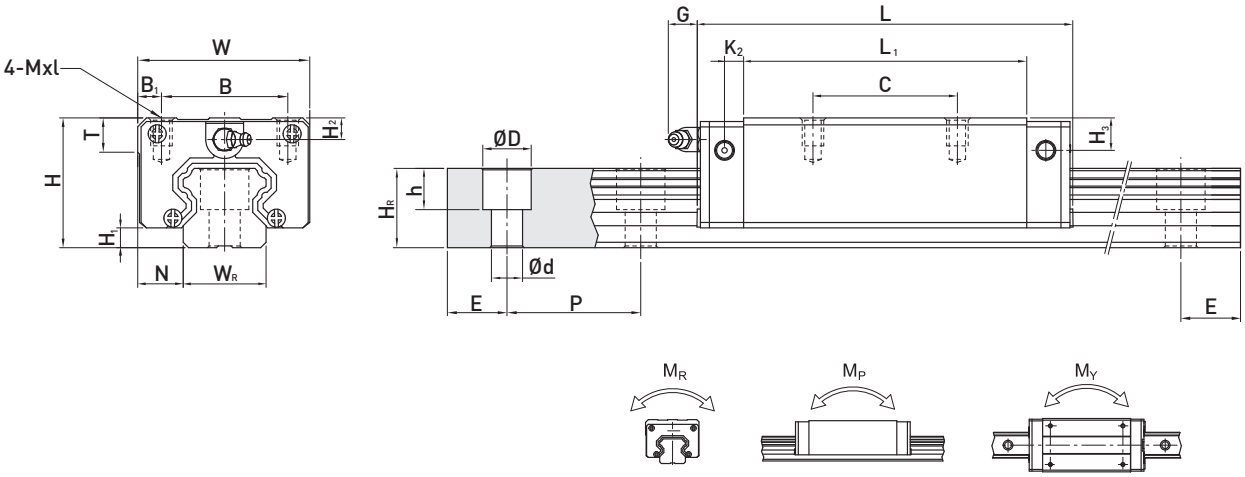


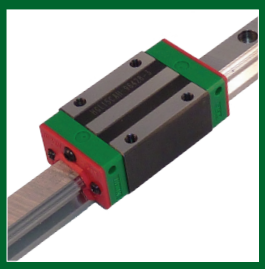
Dimensions

HGL-CA/HGL-HA



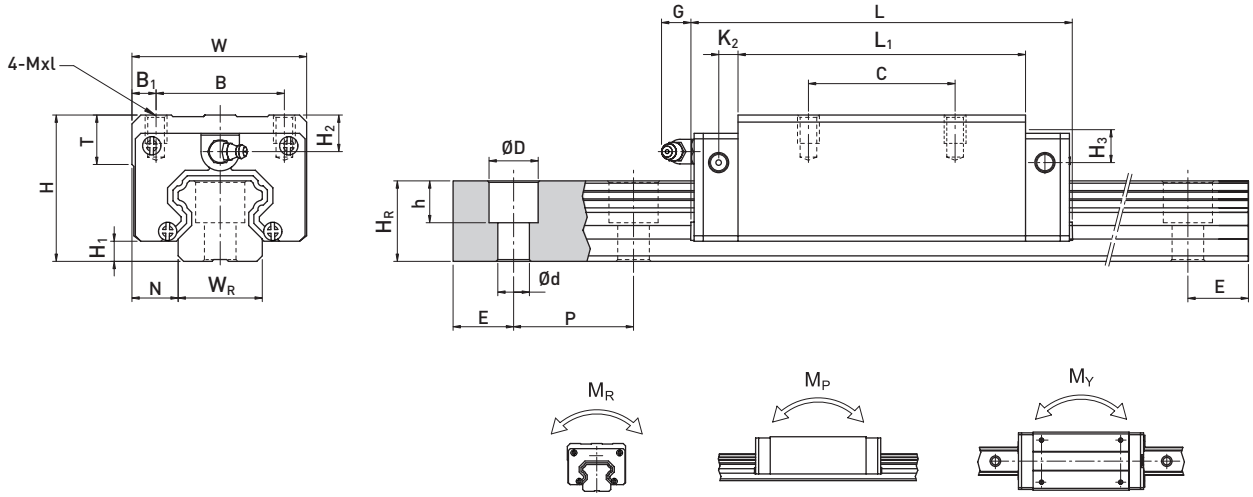
Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)										Dimensions of Rail (mm)							Mounting Bolt for Rail	Basic Dynamic Load Rating	Basic Static Load Rating	Static Rated Moment			Weight	
	H	H_1	N	W	B	B_1	C	L_1	L	G	Mxl	H_2	H_3	W_R	H_R	D	h	d	P	E	(mm)	C (kN)	C_0 (kN)	M_R kN-m	M_P kN-m	M_Y kN-m	Block kg	Rail kg/m
HGL15CA	24	4.3	9.5	34	26	4	26.0	39.4	61.4	5.3	M4x4	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	0.14	1.45
HGL25CA	36	5.5	12.5	48	35	6.5	35.0	58.0	84.0	12	M6x6	6	9	23	22	11	9	7	60	20	M6x20	26.48	56.19	0.64	0.51	0.51	0.42	3.21
HGL25HA							50.0	78.6	104.6													32.75	76.00	0.87	0.88	0.88	0.57	
HGL30CA	42	6	16	60	40	10	40.0	70.0	97.4	12	M8x10	6.5	10.8	28	26	14	12	9	80	20	M8x25	38.74	83.06	1.06	0.85	0.85	0.78	4.47
HGL30HA							60.0	93.0	120.4													47.27	110.13	1.40	1.47	1.47	1.03	
HGL35CA	48	7.5	18	70	50	10	50.0	80.0	112.4	12	M8x12	9	12.6	34	29	14	12	9	80	20	M8x25	49.52	102.87	1.73	1.20	1.20	1.14	6.30
HGL35HA							72.0	105.8	138.2													60.21	136.31	2.29	2.08	2.08	1.52	
HGL45CA	60	9.5	20.5	86	60	13	60.0	97.0	139.4	12.9	M10x17	8.5	20.5	45	38	20	17	14	105	22.5	M12x35	77.57	155.93	3.01	2.35	2.35	2.08	10.41
HGL45HA							80.0	128.8	171.2													94.54	207.12	4.00	4.07	4.07	2.75	
HGL55CA	70	13	23.5	100	75	12.5	75.0	117.7	166.7	12.9	M12x8	12	19	53	44	23	20	16	120	30	M14x45	114.44	227.81	5.66	4.06	4.06	3.25	15.08
HGL55HA							95.0	155.8	204.8													139.35	301.26	7.49	7.01	7.01	4.27	

Note : 1 kgf = 9.81 N



Dimensions

HGH-CA/HGH-HA



Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)													Dimensions of Rail (mm)							Mounting Bolt for Rail	Basic Dynamic Load Rating	Basic Static Load Rating	Static Rated Moment			Weight	
	H	H_1	N	W	B	B_1	C	L_1	L	K_1	K_2	G	Mxl	T	H_2	H_3	W_R	H_R	D	h	d	P	E	(mm)	C (kN)	C_0 (kN)	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	10	4.85	5.3	M4x5	6	7.95	7.7	15	15	7.5	5.3	4.5	60	20	M4x16	11.38	16.97	0.12	0.10	0.10	0.18	1.45
HGH 20CA	30	4.6	12	44	32	6	36	50.5	77.5	12.25	6	12	M5x6	8	6	7	20	17.5	9.5	8.5	6	60	20	M5x16	17.75	27.76	0.27	0.20	0.20	0.30	2.21
HGH 20HA							50	65.2	92.2	12.6															21.18	35.90	0.35	0.35	0.35	0.39	
HGH 25CA	40	5.5	12.5	48	35	6.5	35	58	84	16.8	6	12	M6x8	8	10	13	23	22	11	9	7	60	20	M6x20	26.48	36.49	0.42	0.33	0.33	0.51	3.21
HGH 25HA							50	78.6	104.6	19.6															32.75	49.44	0.56	0.57	0.57	0.69	
HGH 30CA	45	6	16	60	40	10	40	70	97.4	20.25	6	12	M8x10	8.5	9.5	13.8	28	26	14	12	9	80	20	M8x25	38.74	52.19	0.66	0.53	0.53	0.88	4.47
HGH 30HA							60	93	120.4	21.75															47.27	69.16	0.88	0.92	0.92	1.16	
HGH 35CA	55	7.5	18	70	50	10	50	80	112.4	20.6	7	12	M8x12	10.2	16	19.6	34	29	14	12	9	80	20	M8x25	49.52	69.16	1.16	0.81	0.81	1.45	6.30
HGH 35HA							72	105.8	138.2	22.5															60.21	91.63	1.54	1.40	1.40	1.92	
HGH 45CA	70	9.5	20.5	86	60	13	60	97	139.4	23	10	12.9	M10x17	16	18.5	30.5	45	38	20	17	14	105	22.5	M12x35	77.57	102.71	1.98	1.55	1.55	2.73	10.41
HGH 45HA							80	128.8	171.2	28.9															94.54	136.46	2.63	2.68	2.68	3.61	
HGH 55CA	80	13	23.5	100	75	12.5	75	117.7	166.7	27.35	11	12.9	M12x18	17.5	22	29	53	44	23	20	16	120	30	M14x45	114.44	148.33	3.69	2.64	2.64	4.17	15.08
HGH 55HA							95	155.8	204.8	36.4															139.35	196.20	4.88	4.57	4.57	5.49	
HGH 65CA	90	15	31.5	126	76	25	70	144.2	200.2	43.1	14	12.9	M16x20	25	15	15	63	53	26	22	18	150	35	M16x50	163.63	215.33	6.65	4.27	4.27	7.00	21.18
HGH 65HA							120	203.6	259.6	47.8															208.36	303.13	9.38	7.38	7.38	9.82	

Note : 1 kgf = 9.81 N

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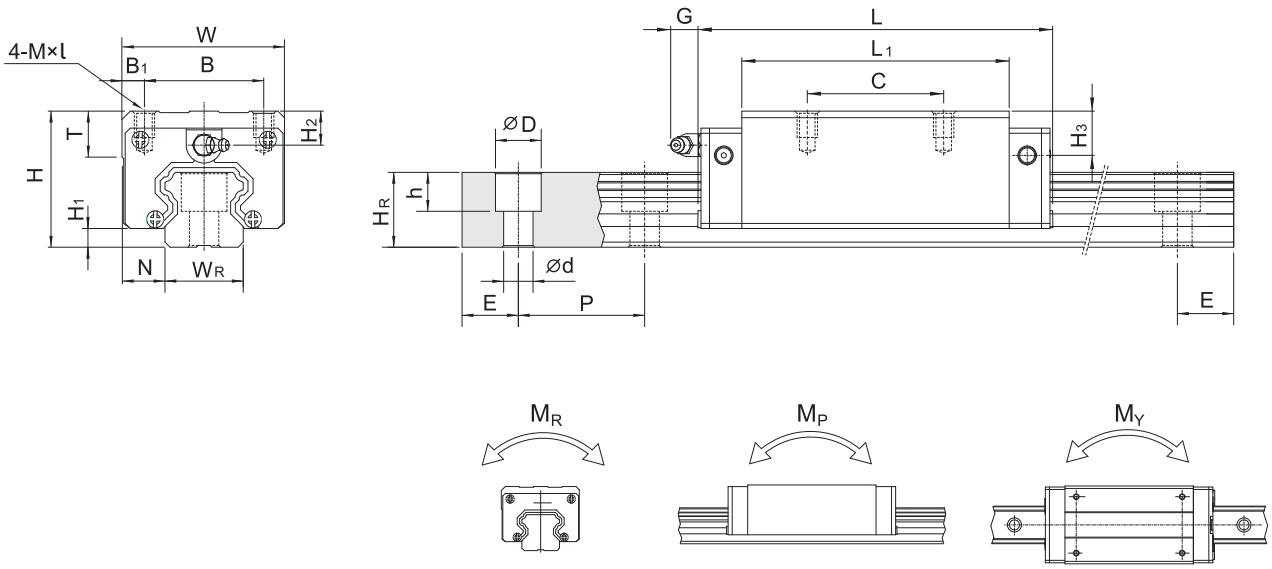
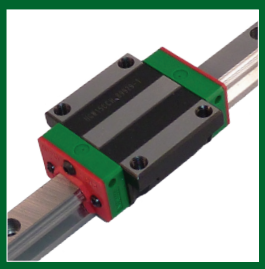
Dimensions

QHH-CA/QHH-HA



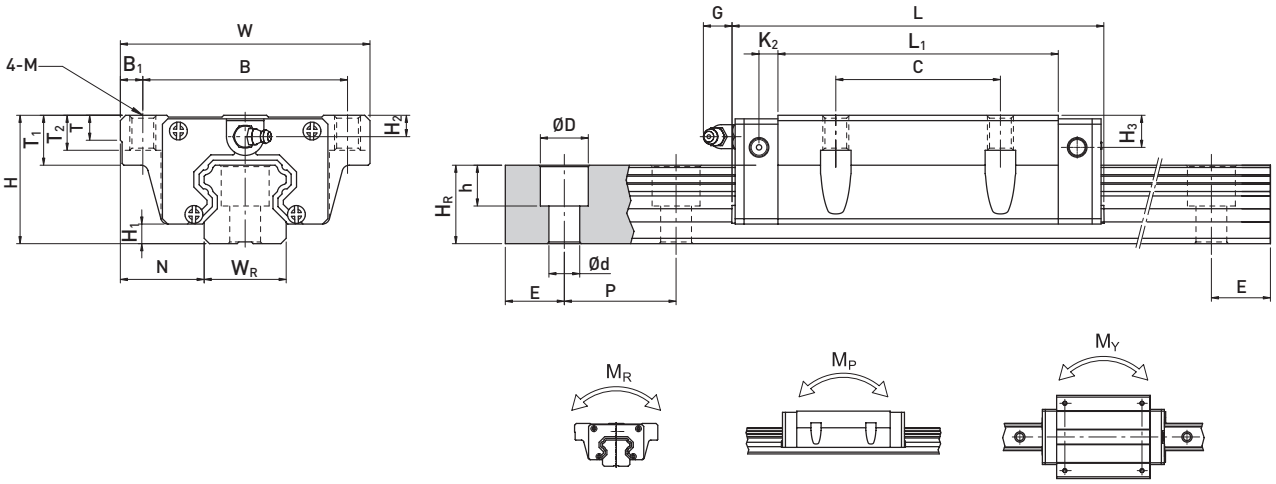
Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)											Dimensions of Rail (mm)							Mounting Bolt for Rail	Basic Dynamic Load Rating	Basic Static Load Rating	Static Rated Moment			Weight	
	H	H1	N	W	B	B1	C	L1	L	G	Mxl	T	H2	H3	WR	HR	D	h	d	P	E	(mm)	C (kN)	C0 (kN)	MR kN-m	MP kN-m	MY kN-m	Block kg	Rail kg/m
QHH15CA	28	4	9.5	34	26	4	26	39.4	61.4	5.3	M4 x 5	6	7.95	8.2	15	15	7.5	5.3	4.5	60	20	M4x16	13.88	14.36	0.1	0.08	0.08	0.18	1.45
QHH20CA	30	4.6	12	44	32	6	36	50.5	76.7	12	M5 x 6	8	6	6	20	17.5	9.5	8.5	6	60	20	M5x16	23.08	25.63	0.26	0.19	0.19	0.29	2.21
QHH20HA							50	65.2	91.4														27.53	31.67	0.31	0.27	0.27	0.38	
QHH25CA	40	5.5	12.5	48	35	6.5	35	58	83.4	12	M6 x8	8	10	8.5	23	22	11	9	7	60	20	M6x20	31.78	33.68	0.39	0.31	0.31	0.50	3.21
QHH25HA							50	78.6	104														39.30	43.62	0.5	0.45	0.45	0.68	
QHH30CA	45	6	16	60	40	10	40	70	97.4	12	M8x10	8.5	9.5	9	28	26	14	12	9	80	20	M8x25	46.49	48.17	0.6	0.5	0.5	0.87	4.47
QHH30HA							60	93	120.4														56.72	65.09	0.83	0.89	0.89	1.15	
QHH35CA	55	7.5	18	70	50	10	50	80	113.6	12	M8x12	10.2	15.5	13.5	34	29	14	12	9	80	20	M8x25	60.52	63.84	1.07	0.76	0.76	1.44	6.30
QHH35HA							72	105.8	139.4														73.59	86.24	1.45	1.33	1.33	1.90	
QHH45CA	70	9.2	20.5	86	60	13	60	97	139.4	12.9	M10x17	16	18.5	20	45	38	20	17	14	105	22.5	M12×35	89.21	94.81	1.83	1.38	1.38	2.72	10.41
QHH45HA							80	128.8	171.2														108.72	128.43	2.47	2.41	2.41	3.59	

Note : 1 kgf = 9.81 N



Dimensions

HGW-CC/HGW-HC



Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)														Dimensions of Rail (mm)							Mounting Bolt for Rail	Basic Dynamic Load Rating	Basic Static Load Rating	Static Rated Moment			Weight	
	H	H1	N	W	B	B1	C	L1	L	K1	K2	G	M	T	T1	T2	H2	H3	WR	HR	D	h	d	P	E	(mm)	C (kN)	C0 (kN)	MR kN-m	MP kN-m	MY kN-m	Block kg	Rail kg/m
HGW 15CC	24	4.3	16	47	38	4.5	30	39.4	61.4	8	4.85	5.3	M5	6	8.9	6.95	3.95	3.7	15	15	7.5	5.3	4.5	60	20	M4x16	11.38	16.97	0.12	0.10	0.10	0.17	1.45
HGW 20CC	30	4.6	21.5	63	53	5	40	50.5	77.5	10.25	6	12	M6	8	10	9.5	6	7	20	17.5	9.5	8.5	6	60	20	M5x16	17.75	27.76	0.27	0.20	0.20	0.40	2.21
HGW 20HC								65.2	92.2	17.6																	21.18	35.90	0.35	0.35	0.35	0.52	
HGW 25CC	36	5.5	23.5	70	57	6.5	45	58	84	11.8	6	12	M8	8	14	10	6	9	23	22	11	9	7	60	20	M6x20	26.48	36.49	0.42	0.33	0.33	0.59	3.21
HGW 25HC								78.6	104.6	22.1																	32.75	49.44	0.56	0.57	0.57	0.80	
HGW 30CC	42	6	31	90	72	9	52	70	97.4	14.25	6	12	M10	8.5	16	10	6.5	10.8	28	26	14	12	9	80	20	M8x25	38.74	52.19	0.66	0.53	0.53	1.09	4.47
HGW 30HC								93	120.4	25.75																	47.27	69.16	0.88	0.92	0.92	1.44	
HGW 35CC	48	7.5	33	100	82	9	62	80	112.4	14.6	7	12	M10	10.1	18	13	9	12.6	34	29	14	12	9	80	20	M8x25	49.52	69.16	1.16	0.81	0.81	1.56	6.30
HGW 35HC								105.8	138.2	27.5																	60.21	91.63	1.54	1.40	1.40	2.06	
HGW 45CC	60	9.5	37.5	120	100	10	80	97	139.4	13	10	12.9	M12	15.1	22	15	8.5	20.5	45	38	20	17	14	105	22.5	M12x35	77.57	102.71	1.98	1.55	1.55	2.79	10.41
HGW 45HC								128.8	171.2	28.9																	94.54	136.46	2.63	2.68	2.68	3.69	
HGW 55CC	70	13	43.5	140	116	12	95	117.7	166.7	17.35	11	12.9	M14	17.5	26.5	17	12	19	53	44	23	20	16	120	30	M14x45	114.44	148.33	3.69	2.64	2.64	4.52	15.08
HGW 55HC								155.8	204.8	36.4																	139.35	196.20	4.88	4.57	4.57	5.96	
HGW 65CC	90	15	53.5	170	142	14	110	144.2	200.2	23.1	14	12.9	M16	25	37.5	23	15	15	63	53	26	22	18	150	35	M16x50	163.63	215.33	6.65	4.27	4.27	9.17	21.18
HGW 65HC								203.6	259.6	52.8																	208.36	303.13	9.38	7.38	7.38	12.89	

Note : 1 kgf = 9.81 N

HIWIN®
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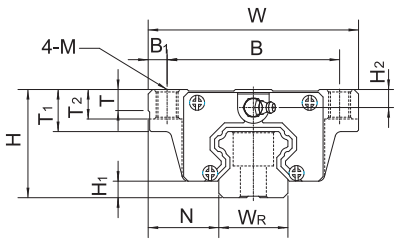
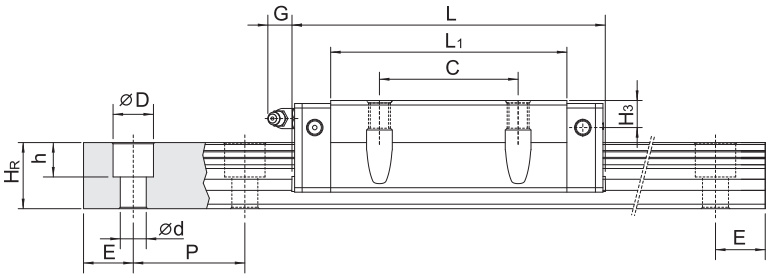
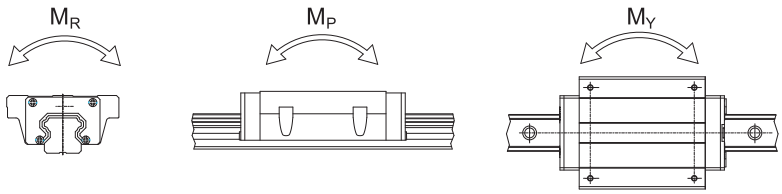
Dimensions

QHW-CC/QHW-HC





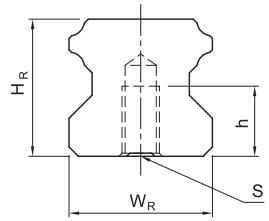


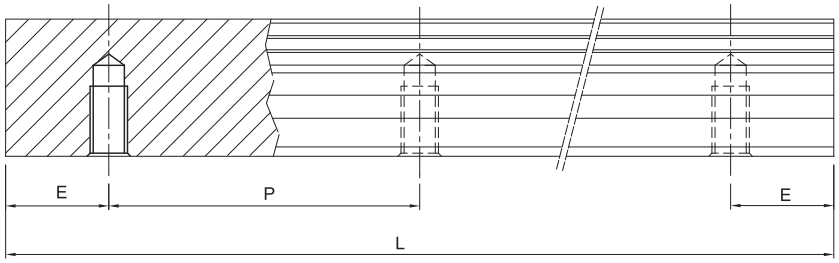
Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)													Dimensions of Rail (mm)							Mounting Bolt for Rail	Basic Dynamic Load Rating	Basic Static Load Rating	Static Rated Moment			Weight	
	H	H_1	N	W	B	B_1	C	L_1	L	G	M	T	T_1	T_2	H_2	H_3	W_R	H_R	D	h	d	P	E	(mm)	C (kN)	C_0 (kN)	M_R kN-m	M_P kN-m	M_Y kN-m	Block kg	Rail kg/m
QHW15CC	24	4	16	47	38	4.5	30	39.4	61.4	5.3	M5	6	8.9	6.95	3.95	4.2	15	15	7.5	5.3	4.5	60	20	M4x16	13.88	14.36	0.1	0.08	0.08	0.17	1.45
QHW20CC	30	4.6	21.5	63	53	5	40	50.5	76.7	12	M6	8	10	9.5	6	6	20	17.5	9.5	8.5	6	60	20	M5x16	23.08	25.63	0.26	0.19	0.19	0.40	2.21
QHW20HC								65.2	91.4																27.53	31.67	0.31	0.27	0.27	0.52	
QHW25CC	36	5.5	23.5	70	57	6.5	45	58	83.4	12	M8	8	14	10	6	4.5	23	22	11	9	7	60	20	M6x20	31.78	33.68	0.39	0.31	0.31	0.59	3.21
QHW25HC								78.6	104																39.30	43.62	0.5	0.45	0.45	0.80	
QHW30CC	42	6	31	90	72	9	52	70	97.4	12	M10	8.5	16	10	6.5	6	28	26	14	12	9	80	20	M8x25	46.49	48.17	0.6	0.5	0.5	1.09	4.47
QHW30HC								93	120.4																56.72	65.09	0.83	0.89	0.89	1.44	
QHW35CC	48	7.5	33	100	82	9	62	80	113.6	12	M10	10.1	18	13	8.5	6.5	34	29	14	12	9	80	30	M8x25	60.52	63.84	1.07	0.76	0.76	1.56	6.30
QHW35HC								105.8	139.4																73.59	86.24	1.45	1.33	1.33	2.06	
QHW45CC	60	9.2	37.5	120	100	10	80	97	139.4	12.9	M12	15.1	22	15	8.5	10	45	38	20	17	14	105	22.5	M12x35	89.21	94.81	1.83	1.38	1.38	2.79	10.41
QHW45HC								128.8	171.2																108.72	128.43	2.47	2.41	2.41	3.69	

Note : 1 kgf = 9.81 N

Dimensions

HGR-T (Rail Mounting from Below)





Model No.	Dimensions of Rail (mm)						Weight
	W_R	H_R	S	h	P	E	(kg/m)
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

HIWIN®
LinearMotion

PG Series

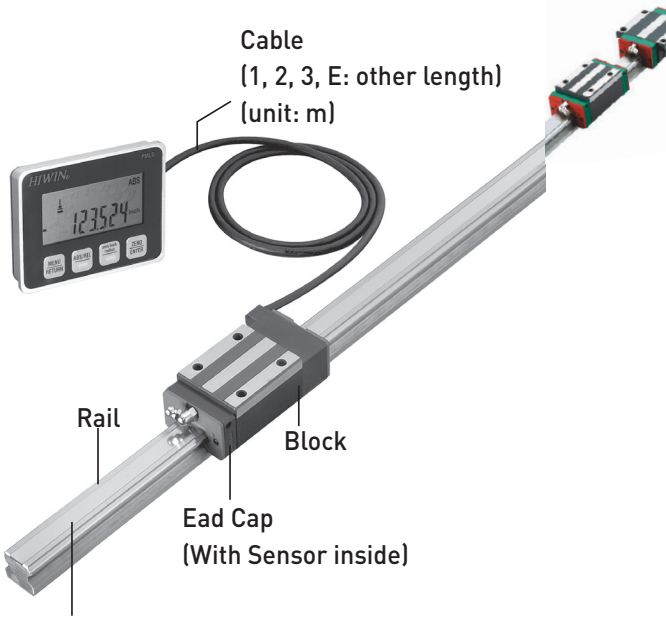
Positioning Guideway

Construction of PG Type

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

Features of PG Type

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 externally harmful contaminants such as dust, iron chips, etc.
4. Non-contact measuring sensor can achieve longer life.
5. Can measure distances up to 30 m.
6. Can withstand humid, and high-temperature environments in oily, dusty, and high vibration applications.
7. High resolution
8. Easy to install



Model Number of PG Type

PGH	W	25	C	A	E	1/2	T	1600	E	ZA	P	I / II / E2	+	KK	+	03	+□□

- Positioning Guideway Series : PGH
- Block Type : W : Flange Type, H : Square Type
- Model Size : 20, 25, 30, 35, 45, 55
- Load Type : 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 Rails
- 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 : Z0, ZA, ZB
- Precision Code : C, H, P
- No. of Rails with Magnetic Strip
- No. of Rails per Axis
- E2 : Self Lubricant Block, Blank: Standard Block
- Dustproof : DD, ZZ, KK
- Cable Length : 01=1m; 02=2m; 03=3m; 10=10m
- Resolution: 1=5μm, 2=10μm
- Output Signal Type: 1:5V input, TTL output; 2:24V input, O.C. output
- L D = Multi-function LCD display (Option)
- D P = Display (Option)
- 1 2 = Signal Translator

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Technical Data

PG Series

Table 2.82

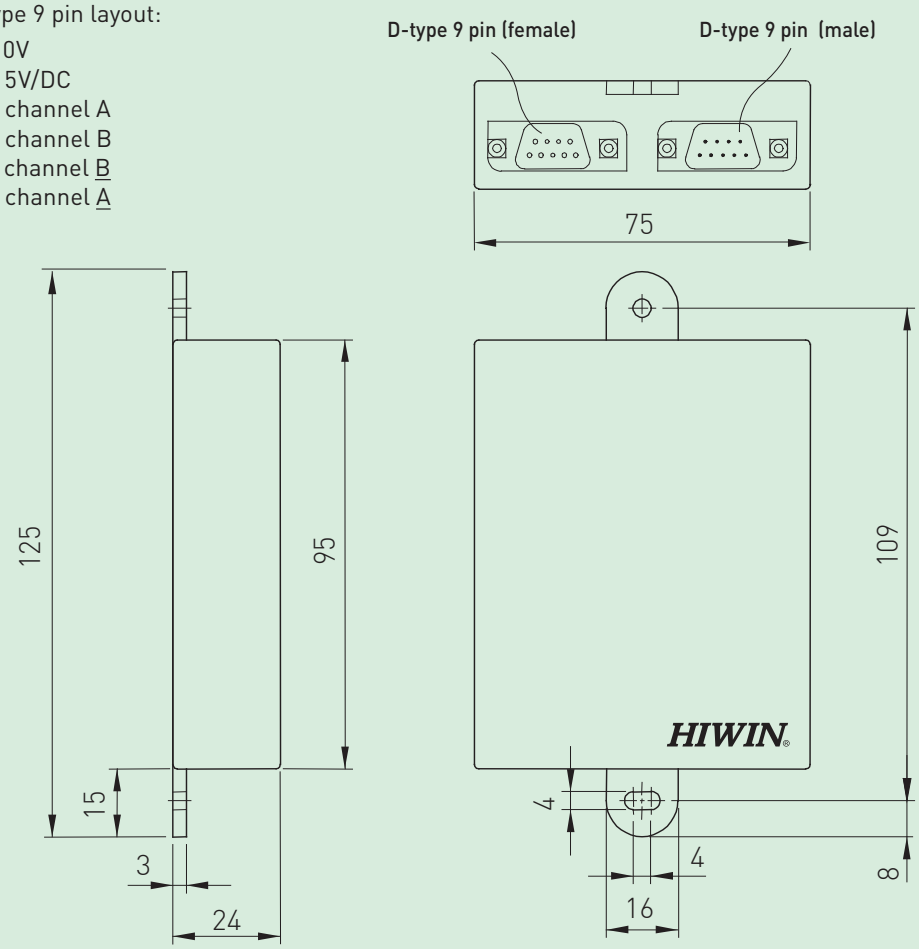
Specifications / Item			
	Signal Translator	Display	Multi-function LCD Display
Measuring length	Max. 10M (option: Max. 30M)	Max. 10M (option: Max. 30M)	Max. 10M (option: Max. 30M)
Resolution (μm)	5/10	5	5
Accuracy (μm)	± (80+15×L) , L: Scale length unit(m)	± (80+15×L) , L: Scale length unit(m)	± (80+15×L) , L: Scale length unit(m)
Repeatability (μm)	±10 μ / m	±10 μ / m	±10 μ / m
Max. velocity (m/sec)	1.2 (Acc. 1G)	3 (Acc. 2G)	3 (Acc. 2G)
Output pulse signals	A, B phase differential , O.C	-	-
Max. output frequency (KHZ)	64/ 32 (at resolution: 5/10μm)	-	-
Power input	DC5V ±5% / 1A	DC5V ±5% / 1A	Commercial AA battery x 2
Battery life		-	1 year (when set at 1.5m/s)
Operating temperature(°C)	0 ~ 50	0 ~ 50	0 ~ 50
Storage temperature(°C)	-5 ~ 70	-5 ~ 70	-5 ~ 70
IP Class	Scale / Sensor: IP66, Display : IP43	Scale / Sensor: IP66, Display : IP43	Scale / Sensor: IP66, Display : IP43

HIWIN®
LinearMotion

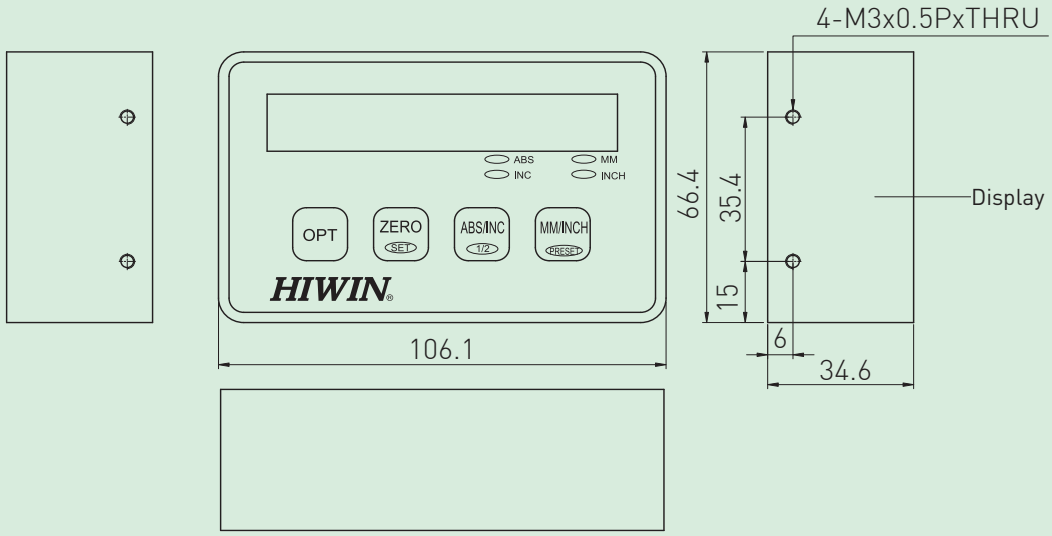
Signal Translator

◆ D-type 9 pin layout:

Pin1 = 0V
Pin2 = 5V/DC
Pin3 = channel A
Pin4 = channel B
Pin7 = channel B
Pin8 = channel A



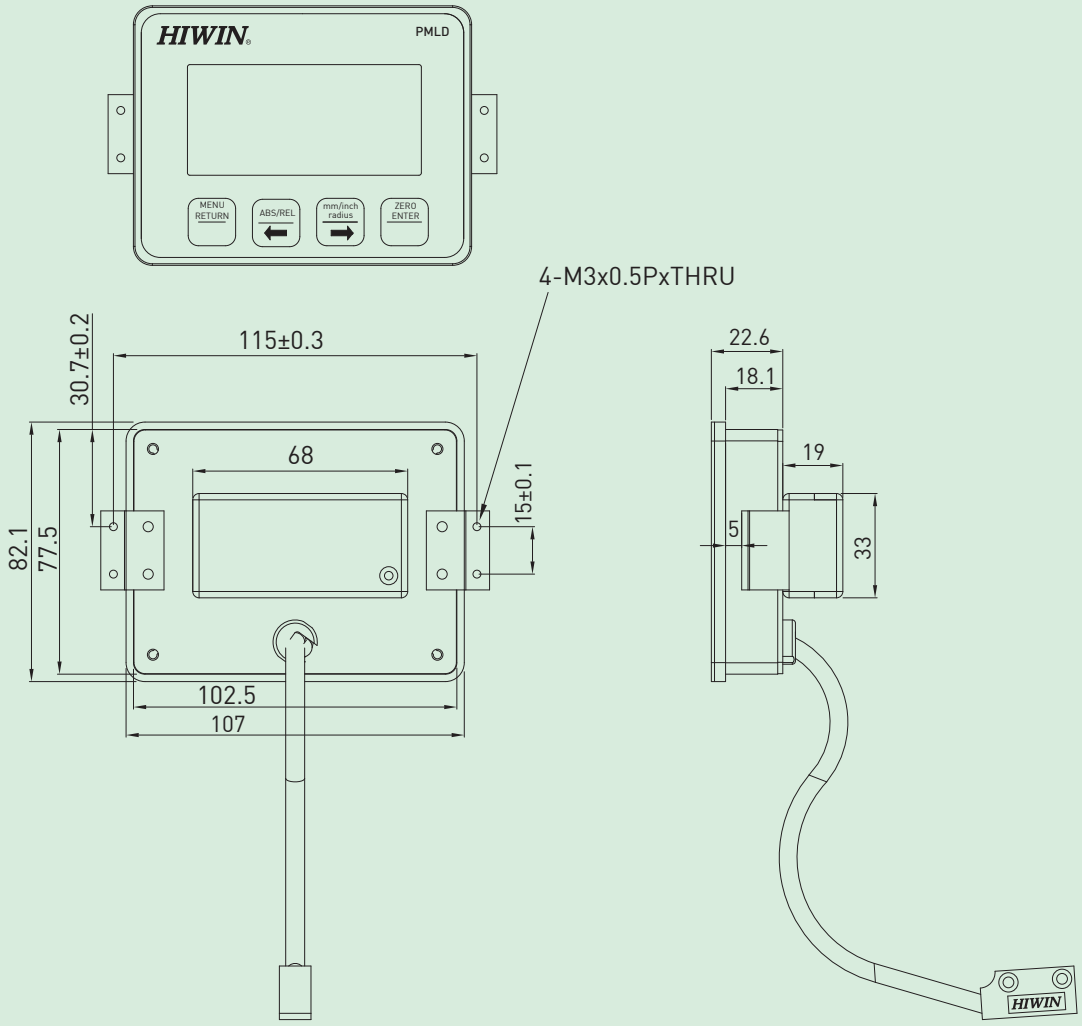
Display



Technical Data

PG Series

Multi-function LCD Display



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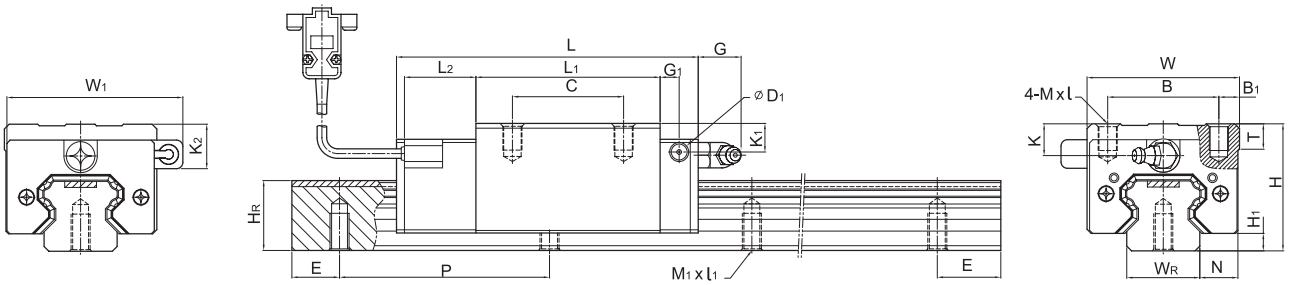
Dimensions

PGHH-CA/PGHH-HA

HG

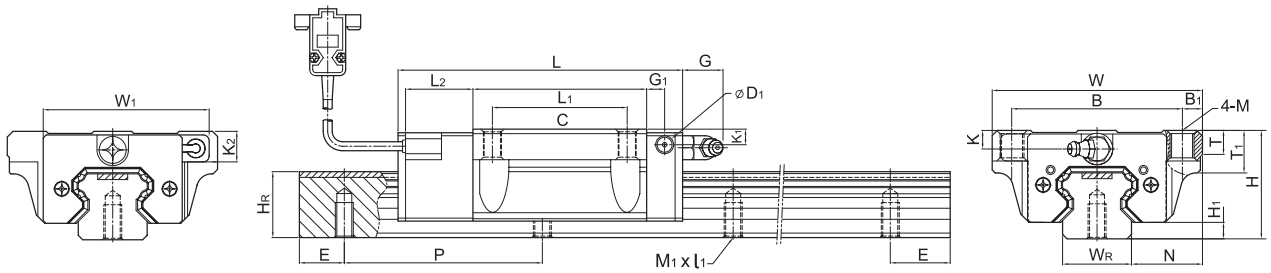


Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)														Dimensions of Rail (mm)					Basic Dynamic Load Rating	Basic Static Load Rating	Weight	
	H	H_1	N	W	W_1	B	B_1	C	L	L_1	L_2	G	G_1	D_1	K	K_1	K_2	Mxl	T	W_R	H_R	M1xl1	P	E	C (kN)	C_0 (kN)	Block kg	Rail kg/m
PGHH20CA	30	4.6	12	44	52	32	6	36	90.5	50.5	25	12	6	5	6	7	10	M5x6	8	20	17.5	M6x10	60	20	17.75	27.76	0.38	2.21
PGHH20HA								50	105.2	65.2															21.18	35.9	0.39	
PGHH25CA	40	5.5	12.5	48	55.4	35	6.5	35	95	58	22.5	12	6	5	10	13	18	M6x8	8	23	22	M6x12	60	20	26.48	36.49	0.51	3.21
PGHH25HA								50	116	78.6															32.75	49.44	0.69	
PGHH30CA	45	6	16	60	67	40	10	40	110	70	23	12	6	5	9.5	13.8	19	M8x10	8.5	28	26	M8x15	80	20	38.74	52.19	0.88	4.47
PGHH30HA								60	133	93															47.27	69.16	1.16	
PGHH35CA	55	7.5	18	70	77	50	10	50	123	80	23.4	12	7	5	16	19.6	23.5	M8x12	10.2	34	29	M8x17	80	20	49.52	69.16	1.45	6.30
PGHH35HA								72	149	106															60.21	91.63	1.92	
PGHH45CA	70	9.5	20.5	86	91	60	13	60	148	97	24.5	12.9	10	8.5	18.5	30.5	30.5	M10x17	16	45	38	M12x24	105	22.5	77.57	102.71	2.73	10.41
PGHH45HA								80	180	129															94.54	136.46	3.61	
PGHH55CA	80	13	23.5	100	106	75	12.5	75	173	118	26	12.9	11	8.5	22	29	28.5	M12x18	17.5	53	44	M14x25	120	30	114.44	148.33	4.17	15.08
PGHH55HA								95	198	143															139.35	196.2	5.49	

Note : 1 kgf = 9.81 N

Dimensions

PGHW-CA/PGHW-HA



Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)																Dimensions of Rail (mm)					Basic Dynamic Load Rating	Basic Static Load Rating	Weight	
																											Block	Rail
	H	H_1	N	W	W_1	B	B_1	C	L	L_1	L_2	G	G_1	D_1	M	K	K_1	K_2	T	T_1	W_R	H_R	M1xl1	P	E	C (kN)	C_0 (kN)	kg	kg/m
PGHW20CA	30	4.6	21.5	63	52	53	5	40	90.5	50.5	25	12	6	5	M6	6	7	10	8	10	20	17.5	M6x10	60	20	17.75	27.76	0.40	2.21
PGHW20HA									105.2	65.2																21.18	35.9	0.52	
PGHW25CA	36	5.5	23.5	70	55.4	57	6.5	45	95	58	22.5	12	6	5	M8	6	9	14	8	14	23	22	M6x12	60	20	26.48	36.49	0.59	3.21
PGHW25HA									116	78.6																32.75	49.44	0.80	
PGHW30CA	42	6	31	90	67	72	9	52	110	70	23	12	6	5	M10	6.5	10.8	16	8.5	16	28	26	M8x15	80	20	38.74	52.19	1.09	4.47
PGHW30HA									133	93																47.27	69.16	1.44	
PGHW35CA	48	7.5	33	100	77	82	9	62	123	80	23.4	12	7	5	M10	9	12.6	16.5	10.1	18	34	29	M8x17	80	20	49.52	69.16	1.56	6.30
PGHW35HA									149	106																60.21	91.63	2.06	
PGHW45CA	60	9.5	37.5	120	91	100	10	80	148	97	24.5	12.9	10	8.5	M12	8.5	20	20	15.1	22	45	38	M12x24	105	22.5	77.57	102.71	2.79	10.41
PGHW45HA									180	129																94.54	136.46	3.69	
PGHW55CA	70	13	43.5	140	106	116	12	95	173	118	26	12.9	11	8.5	M14	12	19	18.5	17.5	26.5	53	44	M14x25	120	30	114.44	148.33	4.52	15.08
PGHW55HA									198	143																139.35	196.2	5.96	

Note : 1 kgf = 9.81 N

HIWIN®
LinearMotion

SE Series

Metallic End Cap Linear Guideway

HG

General Information

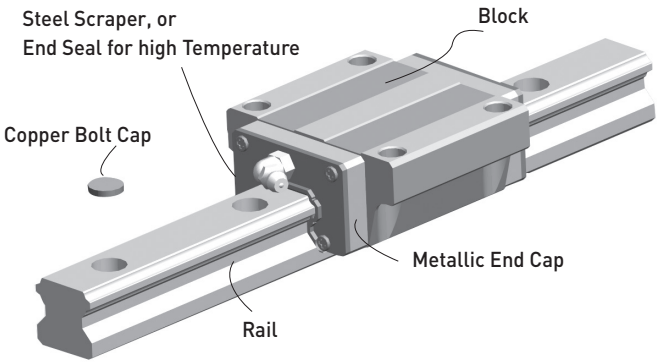
(1) Features

- Use of Metallic parts; (if end seal is needed, the high-temperature rubber in end seal is available).
- Excellent temperature resistance; service temperature under 150 °C.

(2) Applications

- Heat treatment equipment,
- Applications using vacuums (no vapor dispersion from plastic or rubber)
- Welding equipment.

Structure



Specification

(1) Add "/ SE" after the specification of linear guideway

Ex. HGW25CA2R1000Z0PII + ZZ / SE

Dimensions

Copper Bolt Cap

Table 2.78

Item	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
C12	M14	23.15	4

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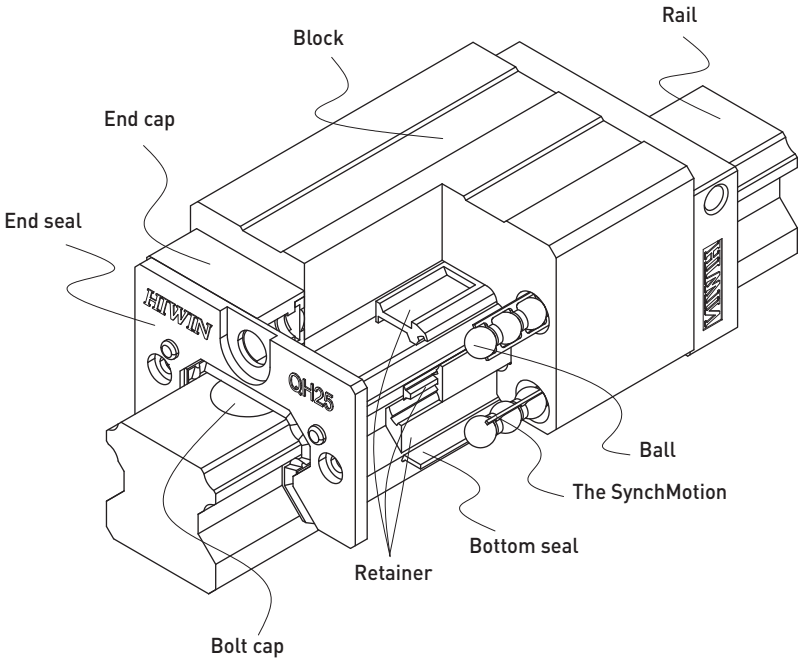
Q1 Series

Quiet Linear Guideway with SynchMotion™ Technology

Lubrication

The development of HIWIN-QH linear guideway is based on a four-row circular-arc contact. The HIWIN-QH series linear guideway with SynchMotionTM Technology possesses all the advantages of the HIWIN-HG series, and also offers smooth movement, superior lubrication, quieter operation and longer running life. Therefore the HIWIN-QH linear guideway has broad industrial applicability. In the high-tech industry where high speed, low noise, and reduced dust generation is required, the HIWIN-QH series is interchangeable with the HIWIN-HG series.

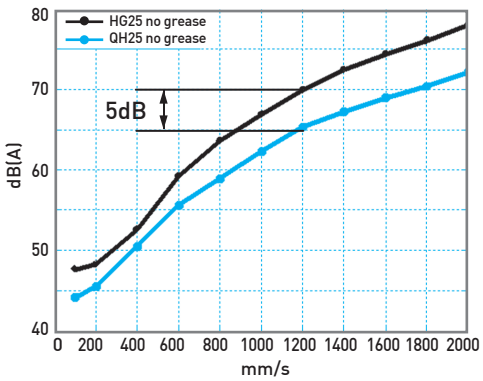
Construction

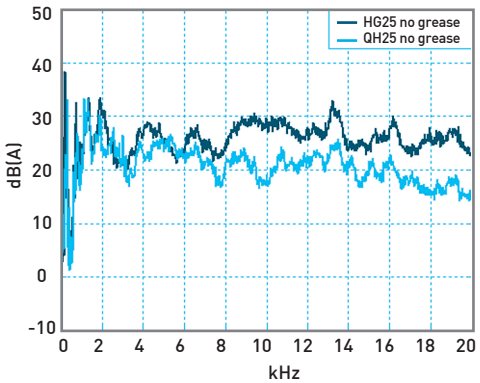


Features

(1) Low Noise Design

With SynchMotionTM technology, rolling elements are interposed between the partitions of SynchMotionTM to provide impoved circulation. Due to the elimination of contact between the rolling elements, collision noise and sound levels are drastically reduced.





(2) Self-Lubricant Design

The partition is a grouping of hollow ring-like structures formed with a through hole to facilitate circulation of the lubricant. Because of the special lubrication path design, the lubricant of the partition storage space can be refilled.
Therefore, the frequency of lubricant refilling can be decreased. The QH-series linear guideway is pre-lubricated. Performance testing at a 0.2C (basic dynamic load) shows that after running 4,000km no damage was apparent to either the rolling elements or the raceway.

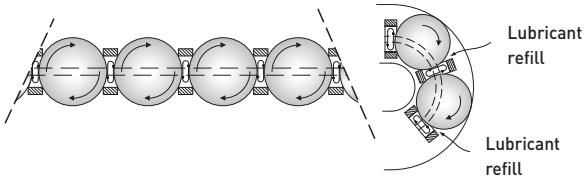
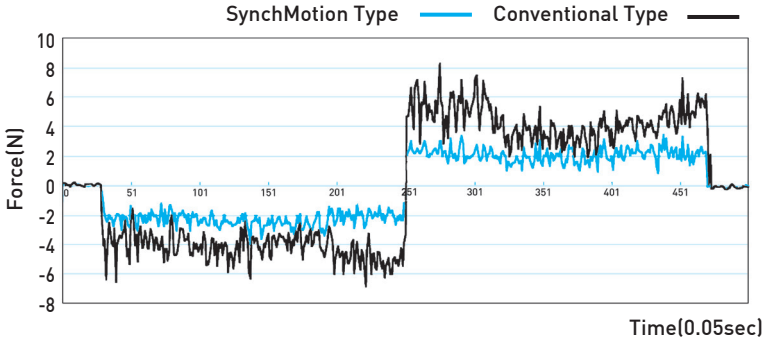


Table 2.86 Load Test

Test Sample	QHH25CAZAH	Load Test
Speed	24m/min	
Lubricant	lithium soap base grease (initial lubrication only)	
Load	5kN	
Distance travel	4,000km	

(3) Smooth Movement

In standard linear guideways, rolling elements on the load side of the guide block begin rolling and push their way through the raceway. When they contact other rolling elements they create counter-rotational friction. This results in a great variation of rolling resistance. The QH linear guideway, with SynchMotionTM technology prevents this condition. As the block starts to move, the rolling elements begin rolling consecutively and remain separated to prevent contact with one another thus keeping the element's kinetic energy extremely stable in order to effectively reduce fluctuations in rolling resistance.



Q1 Series

Quiet Linear Guideway with SynchMotion™ Technology

(4) High Speed Performance

The Hiwin-QH series offers excellent high-speed performance due to the partitions of the SynchMotion™ structure. They are employed to separate the adjacent balls thereby resulting in low rolling traction and the metallic friction between adjacent balls is eliminated.

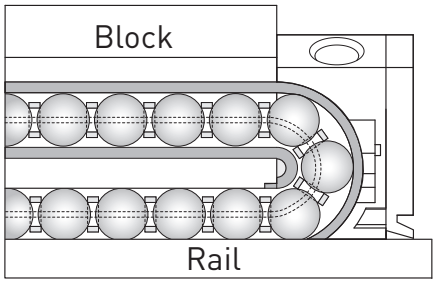
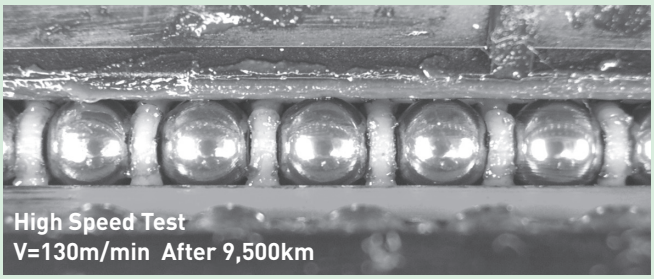


Table 2.87

Test Sample	QHW25CAZAH	High Speed Test
Speed	130m/min	
Lubricant	lithium soap base grease (initial lubrication only)	
Distance travel	9,500km	

Friction

The maximum value of seal resistance per block are shown in the table.

Table 2.89 Seal Resistance

Size	Resistance N (kgf)
QH15	1.2 (0.12)
QH20	1.6 (0.16)
QH25	2.0 (0.2)
QH30	2.7 (0.27)
QH35	3.1 (0.31)
QH45	5.3 (0.53)

Model Number of QH Series

HIWIN-QH series guideway can be classified into non-interchangeable and interchangeable types. The sizes are identical. The main difference is that the interchangeable blocks and rails can be freely exchanged. Because of dimensional control, the interchangeable type linear guideway is a perfect choice for the client when rails do not need to be paired for an axis. And since the QH and HG share the identical rails, the customer does not need to redesign when choosing the QH series. Therefore the HIWIN-QH linear guideway has increased applicability.

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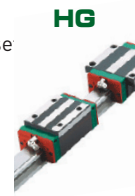
(1) Non-interchangeable type

QH	W	25	C	A	E	2	R	1600	E	ZA	P	II	+	KK

- QH Series
- Block Type
  W : Flange Type
  H : Square Type
- Model size
  15, 20, 25, 30, 35, 45
- Load Type
  C : Heavy Load
  H : Super Heavy Load
- Block Mounting
  A : Mounting From Top
  B : Bottom
  C : Top or Bottom
- E: Special Block
  None: Standard Block
- No. of Blocks per Rail
- Rail Mounting Type
  R : Mounting From Top
  T : Bottom
- Rail Length (mm)
- Preload Code: Z0, ZA, ZB
- E: Special Rail
  None: Standard Rail
- Precision Code:
  C, H, P, SP, UP
- No. of Rails per Axis se
- Dust Protection[2]



Note: 1. The roman numerals it is shown in no symbol express the number of rails used in one axis. As for the single rail in an axis, it shows no symbol.
2. For dust protection, it is 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.

(2) Interchangeable type

○ Model Number of QH Block

QH	W	25	C	A	E	ZA	P	+	KK

- QH Series
- Block Type
  W : Flange Type
  H : Square Type
- Model size
  15, 20, 25, 30, 35, 45
- Load Type
  C : Heavy Load
  H : Super Heavy Load
- Block Mounting Type
  A : Mounting From Top
  B : Bottom, C : Top or Bottom
- E: Special Block
  None: Standard Block
- Preload Code : Z0, ZA
- Precision Code : C, H, P
- Dust Protection[2]

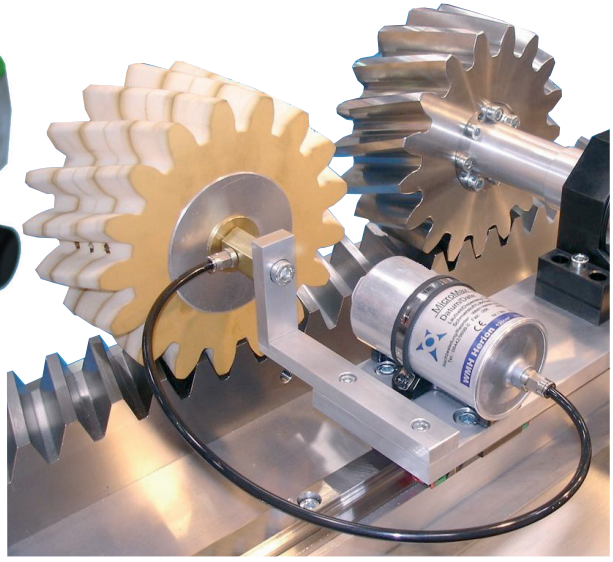
○ Model Number of QH Rail (QH and HG share the identical rails)

HG	R	25	R	1200	E	P

- QH/HG Series
- Interchangeable Rail
- Model size
  15, 20, 25, 30, 35, 45
- Rail Mounting Type
  R : Mounting From Top
  T : Bottom
- Rail Length (mm)
- E: Special Rail, None: Standard Rail
- Precision Code : C, H, P

HIWIN®
LinearMotion

LUBRICATION SYSTEMS AVAILABLE FOR LINEAR GUIDES & RAILS, PINIONS & RACKS AND CHAIN DRIVES



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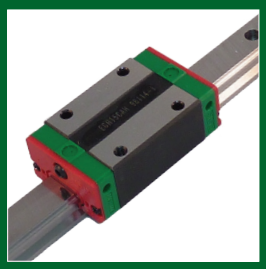

HIWIN®
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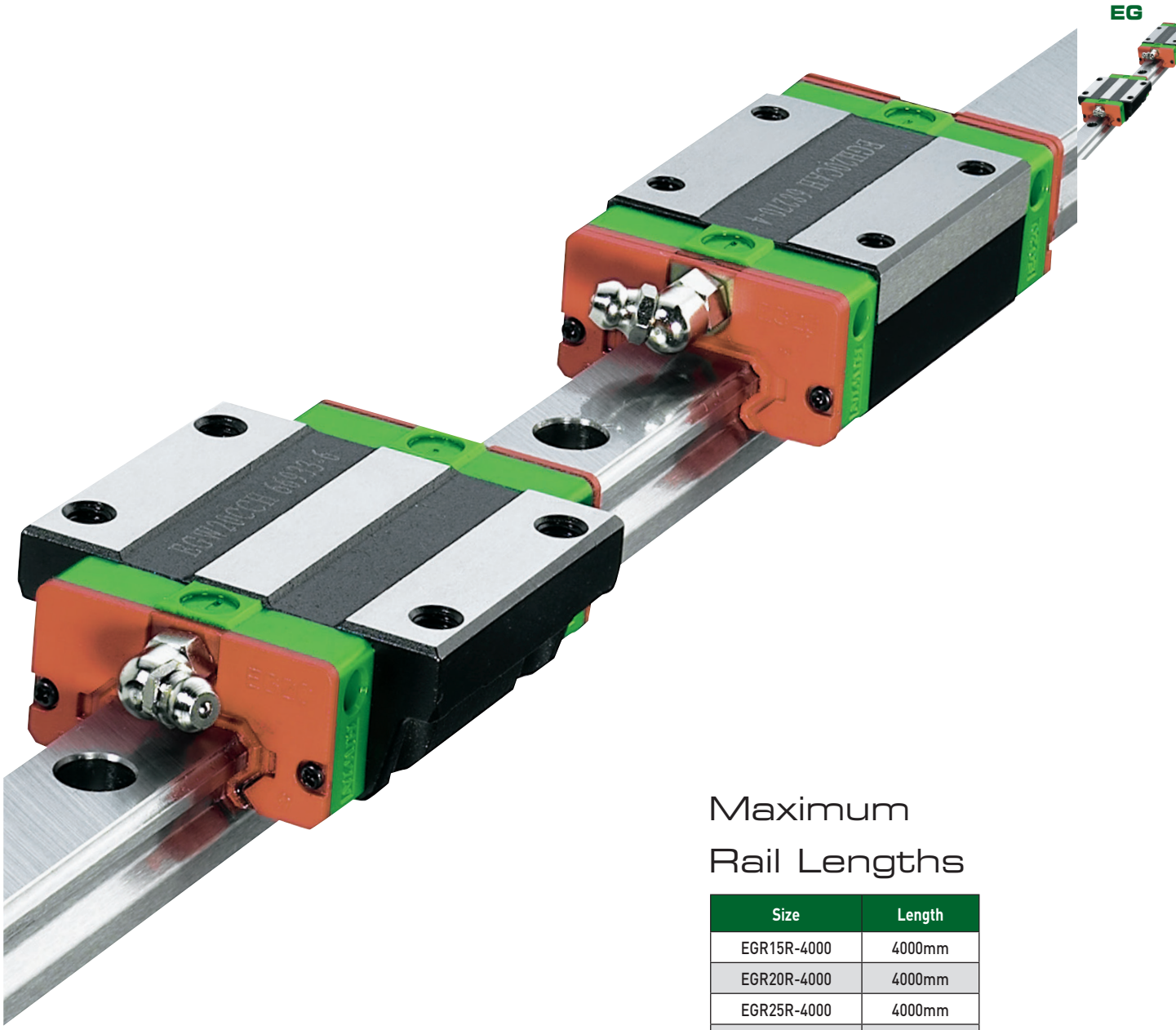
EG Series

Low Profile Ball Type Linear Guideway



Maximum Rail Lengths

Size	Length
EGR15R-4000	4000mm
EGR20R-4000	4000mm
EGR25R-4000	4000mm
EGR30R-5600	4000mm
EGR35R-4000	4000mm

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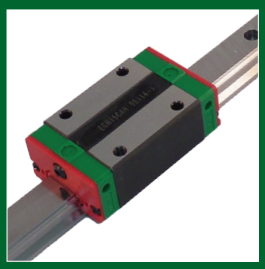


(1) Non-interchangeable type

EG W 25 C A E 2 R 1600 E ZA P II + KK/E2

- EG Series
- Block Type
  W : Flange Type
  H : Square Type
- Model size
  15, 20, 25, 30, 35
- Load Type
  C : Heavy Load
  S: Medium Load
- Block Mounting Type
  A : Top mounting
  B : From bottom
- E: Special Block
  None: Standard Block
- No. of Blocks per Rail
- Rail Mounting Type
  R/U : Top mounting
  T : From bottom
- Rail Length (mm)
- E: Special Rail
  None: Standard rail
- Preload Code: Z0, ZA, ZB
- Precision Code:
  C, H, P, SP, UP
- No. of Rails per Axis 1
- Dust Protection2
- E2: Self-Lubricant
  SE: Metallic End Cap

Note: 1. The roman numerals are used to express the number of matched rails used in one axis. When a single rail is used in an axis, no symbol is indicated.
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

(2) Interchangeable type

Model Number of EG Block

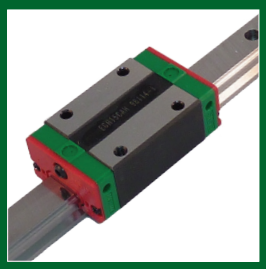
EG W 25 C A E ZA P + ZZ/E2

- EG Series
- Block Type
  W : Flange Type
  H : Square Type
- Model size
  15, 20, 25, 30, 35
- Load Type
  C : Heavy Load
  S: Medium Load
- Block Mounting Type
  A : Top Mounting
  B : From Bottom
- E: Special Block
  None: Standard block
- Preload Code : Z0, ZA
- Precision Code : C, H, P
- Dust Protection2
- E2: Self-Lubricant
  SE: Metallic End Cap

Model Number of EG Rail

EG R 25 R 1240 E P

- EG Series
- Interchangeable Rail
- Model size
  15, 20, 25, 30, 35
- Rail Mounting Type
  R/U : Mounting From Top
  T : Bottom
- Rail Length (mm)
- E: Special Rail,
  None: Standard Rail
- Precision Code : C, H, P



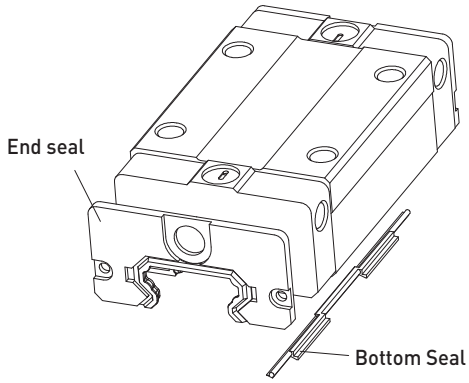
HIWIN®
LinearMotion

EG Series

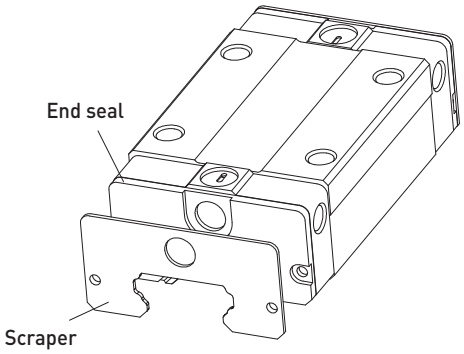
Dust Protection Equipment

(1) Codes of equipment

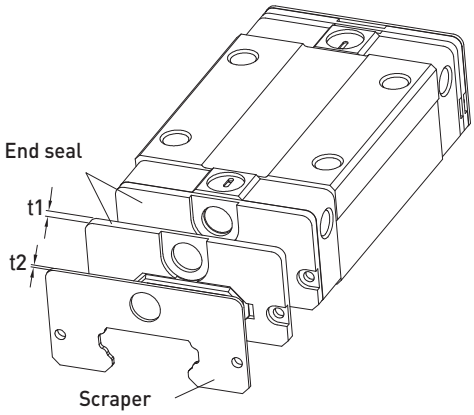
If the following equipment is needed, please indicate the code followed by the model number.



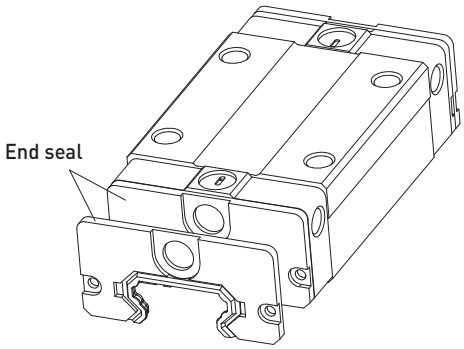
No symbol: Standard Protection (End seal + Bottom Seal)



ZZ (End seal + Bottom Seal + Scraper)



KK (Double seals + Bottom Seal + Scraper)



DD (Double seals + Bottom Seal)

(2) End seal and bottom seal

To prevent life reduction caused by iron chips or dust entering the block.

(3) Double seals

Enhances the wiping effect, foreign matter can be completely wiped off.

Table 3.1.1 Dimensions of end seal

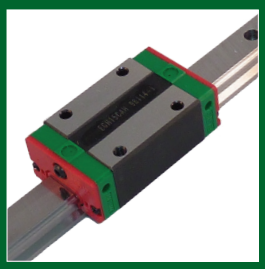
Size	Thickness (t1)(mm)
EG 15	2
EG 20	2
EG 25	2
EG 30	2

(4) Scraper

The scraper removes high-temperature iron chips and larger foreign objects.

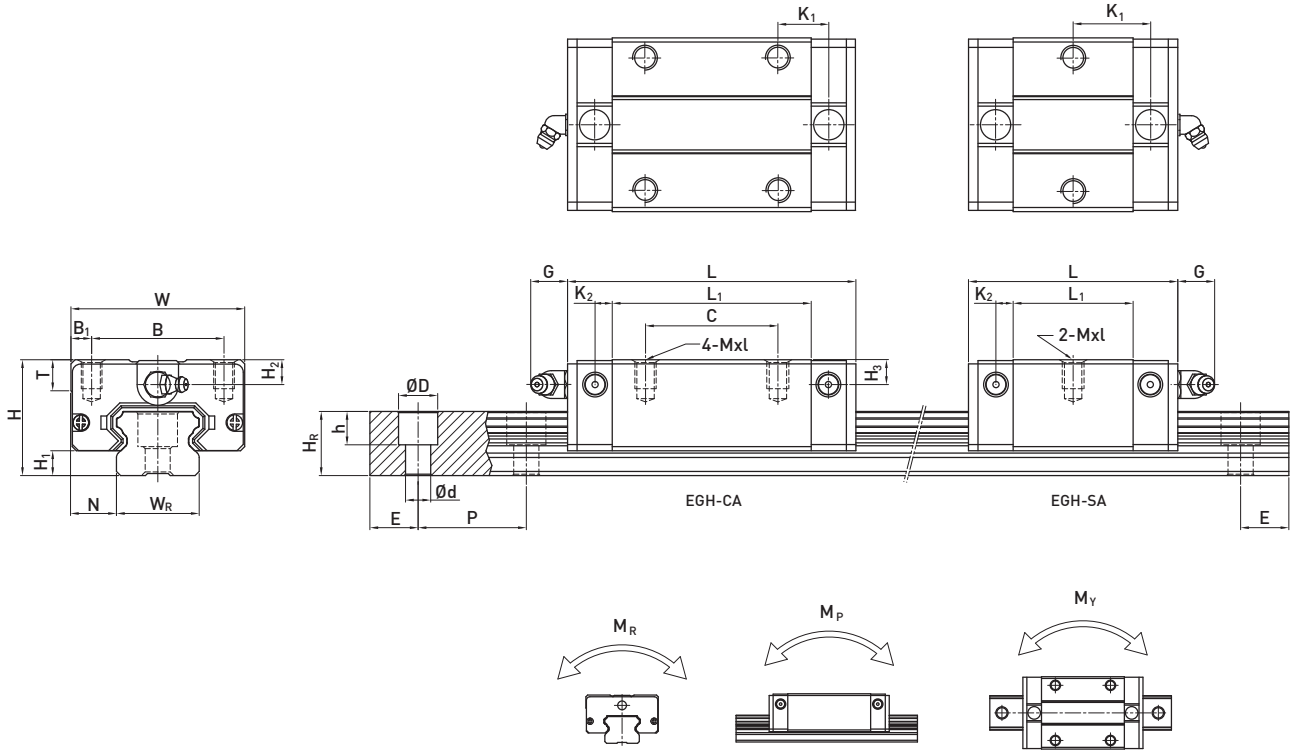
Table 3.1.2 Dimensions of scraper

Size	Thickness (t2)(mm)
EG 15	0.8
EG 20	0.8
EG 25	1
EG 30	1



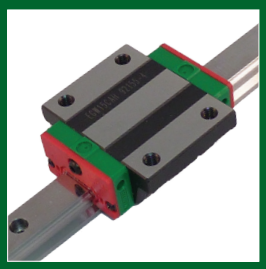
Dimensions

EGH-SA/EGH-CA



Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)												Dimensions of Rail (mm)							Mounting Bolt for Rail	Basic Dynamic Load Rating	Basic Static Load Rating	Static Rated Moment			Weight	
	H	H1	N	W	B	B1	C	L1	L	K1	K2	G	M	T	H2	H3	WR	HR	D	h	d	P	E	(mm)	C (kN)	C0 (kN)	MR kN-m	MP kN-m	MY kN-m	Block kg	Rail kg/m
EGH15SA	24	4.5	9.5	34	26	4	-	23.1	40.1	14.8	3.5	5.7	M4x6	6	5.5	6	15	12.5	6	4.5	3.5	60	20	M3x16	5.35	9.40	0.08	0.04	0.04	0.09	1.25
EGH15CA							26	39.8	56.8	10.15															7.83	16.19	0.13	0.10	0.10	0.15	
EGH20SA	28	6	11	42	32	5	-	29	50	18.75	4.15	12	M5x7	7.5	6	6	20	15.5	9.5	8.5	6	60	20	M5x16	7.23	12.74	0.13	0.06	0.06	0.15	2.08
EGH20CA							32	48.1	69.1	12.3															10.31	21.13	0.22	0.16	0.16	0.24	
EGH25SA	33	7	12.5	48	35	6.5	-	35.5	59.1	21.9	4.55	12	M6x9	8	8	8	23	18	11	9	7	60	20	M6x20	11.40	19.50	0.23	0.12	0.12	0.25	2.67
EGH25CA							35	59	82.6	16.15															16.27	32.40	0.38	0.32	0.32	0.41	
EGH30SA	42	10	16	60	40	10	-	41.5	69.5	26.75	6	12	M8x12	9	8	9	28	23	11	9	7	80	20	M6x25	16.42	28.10	0.40	0.21	0.21	0.45	4.35
EGH30CA							40	70.1	98.1	21.05															23.70	47.46	0.68	0.55	0.55	0.76	
EGH35SA	48	11	18	70	50	10	-	45	75	28.5	7	12	M8x12	10	8.5	8.5	34	27.5	14	12	9	80	20	M8x25	22.66	37.38	0.56	0.31	0.31	0.66	6.14
EGH35CA							50	78	108	20															33.35	64.84	0.98	0.69	0.69	1.13	

Note : 1 kgf = 9.81 N



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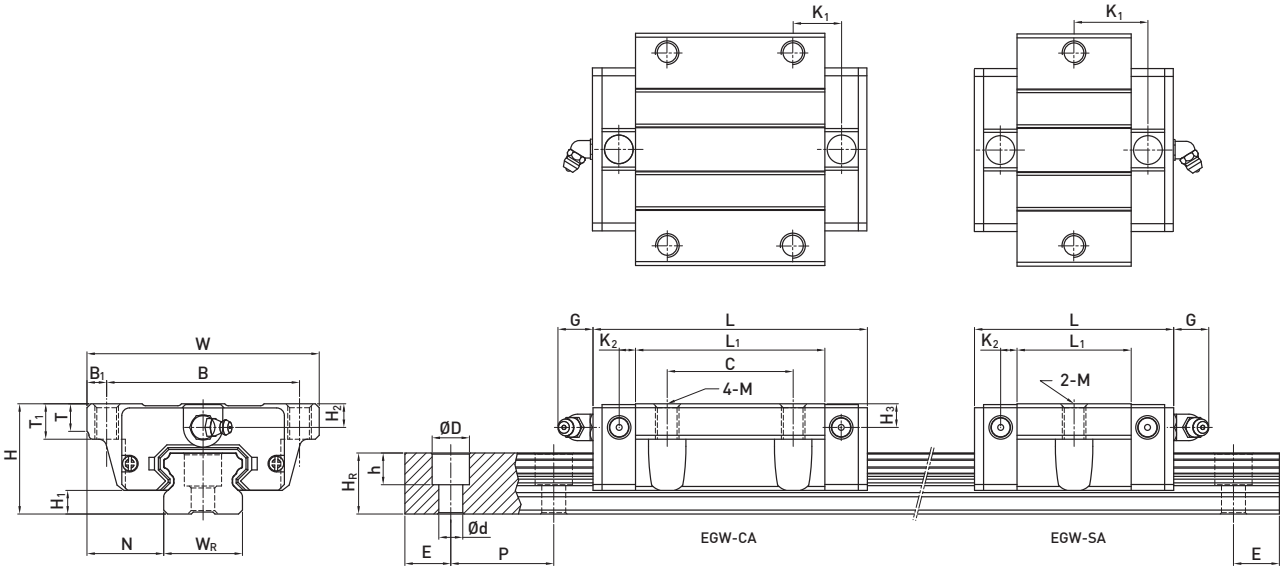
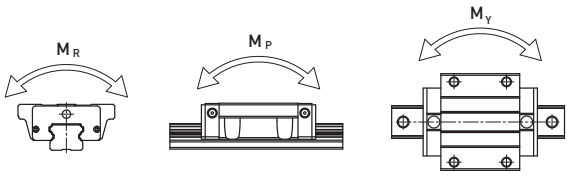
Dimensions

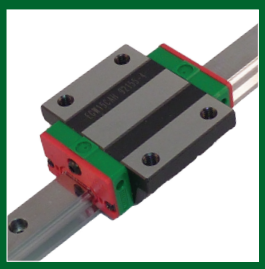
EGW-SA/EGW-CA





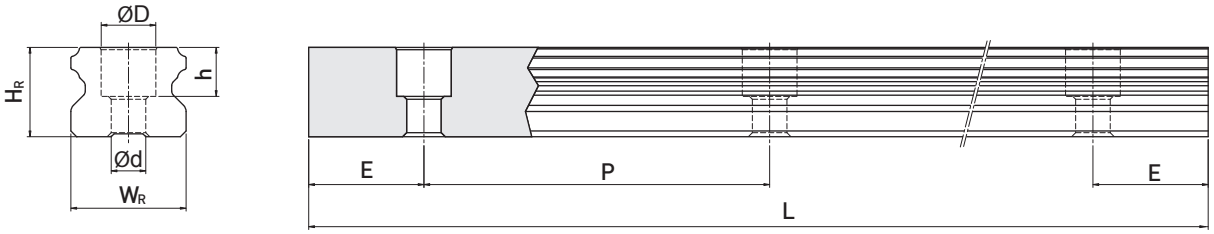
Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)														Dimensions of Rail (mm)							Mounting Bolt for Rail	Basic Dynamic Load Rating	Basic Static Load Rating	Static Rated Moment			Weight	
	H	H_1	N	W	B	B_1	C	L_1	L	K_1	K_2	G	M	T	T_1	H_2	H_3	W_R	H_R	D	h	d	P	E	(mm)	C (kN)	C_0 (kN)	M_R kN-m	M_P kN-m	M_Y kN-m	Block kg	Rail kg/m
EGW 15SA	24	4.5	18.5	52	41	5.5	-	23.1	40.1	14.8	3.5	5.7	M5	5	7	5.5	6	15	12.5	6	4.5	3.5	60	20	M3x16	5.35	9.40	0.08	0.04	0.04	0.12	1.25
EGW 15CA							26	39.8	56.8	10.15																7.83	16.19	0.13	0.10	0.10	0.21	
EGW 20SA	28	6	19.5	59	49	5	-	29	50	18.75	4.15	12	M6	7	9	6	6	20	15.5	9.5	8.5	6	60	20	M5x16	7.23	12.74	0.13	0.06	0.06	0.19	2.08
EGW 20CA							32	48.1	69.1	12.3																10.31	21.13	0.22	0.16	0.16	0.32	
EGW 25SA	33	7	25	73	60	6.5	-	35.5	59.1	21.9	4.55	12	M8	7.5	10	8	8	23	18	11	9	7	60	20	M6x20	11.40	19.50	0.23	0.12	0.12	0.35	2.67
EGW 25CA							35	59	82.6	16.15																16.27	32.40	0.38	0.32	0.32	0.59	
EGW 30SA	42	10	31	90	72	9	-	41.5	69.5	26.75	6	12	M10	7	10	8	9	28	23	11	9	7	80	20	M6x25	16.42	28.10	0.40	0.21	0.21	0.62	4.35
EGW 30CA							40	70.1	98.1	21.05																23.70	47.46	0.68	0.55	0.55	1.04	
EGW35SA	48	11	33	100	82	9	-	45	75	28.5	7	12	M10	10	13	8.5	8.5	34	27.5	14	12	9	80	20	M8x25	22.66	37.38	0.56	0.31	0.31	0.84	6.14
EGW35CA							50	78	108	20																33.35	64.84	0.98	0.69	0.69	1.45	

Note : 1 kgf = 9.81 N



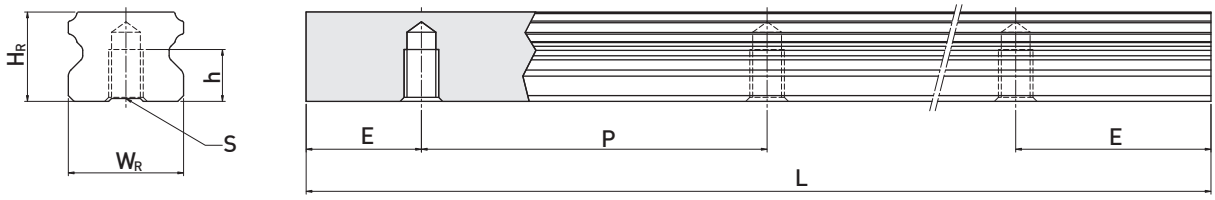
Dimensions

EGR-U (Large Mounting Hole, Rail Mounting from top)



Model No.	Mounting Bolt for Rail (mm)	Dimensions of Rail (mm)							Weight
		W_R	H_R	D	h	d	P	E	(kg/m)
EGR15U	M4x16	15	12.5	7.5	5.3	4.5	60	20	1.23
EGR30U	M8x25	28	23	14	12	9	80	20	4.23

EGR-T (Rail Mounting from bottom)



Model No.	Dimensions of Rail (mm)						Weight
	W_R	H_R	S	h	P	E	(kg/m)
EGR15T	15	12.5	M5 x 0.8P	7	60	20	1.26
EGR20T	20	15.5	M6 x 1P	9	60	20	2.15
EGR25T	23	18	M6 x 1P	10	60	20	2.79
EGR30T	28	23	M8 x 1.25P	14	80	20	4.42

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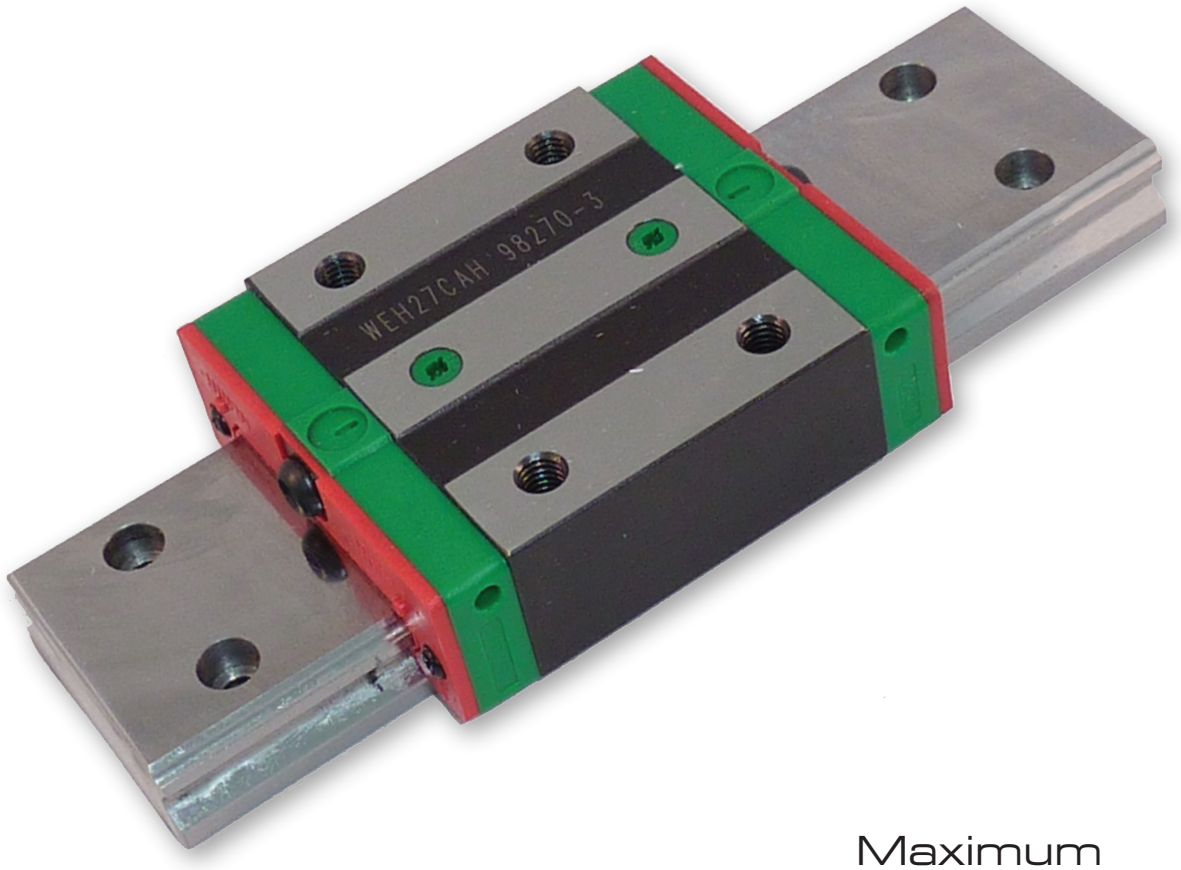
WE Series

Four-Row Wide Rail



Maximum Rail Lengths

Size	Length
WER17R-4000	4000mm
WER21R-4000	4000mm
WER27R-4000	4000mm
WER35R-4000	4000mm
WER50R-4000	4000mm

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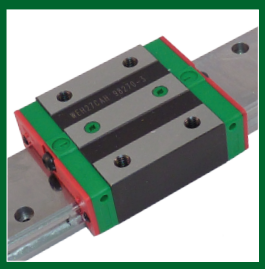


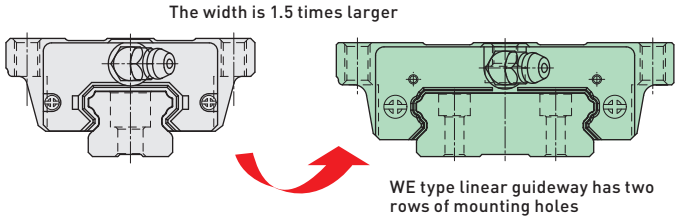
WE Series

Four-Row Wide Rail

Feature of WE Series

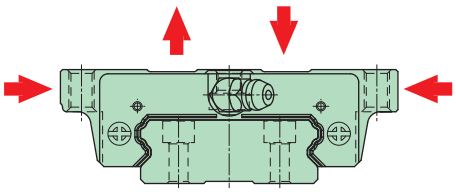
High Moment Capability

The rail of the WE type linear guideway has two rows of mounting holes increasing the mounting strength of the rail. The width is 1.5 times larger than the traditional size guideways. This also increases the moment load capacity of the block.

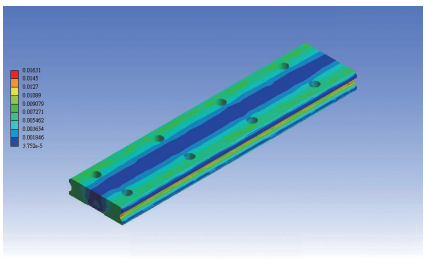


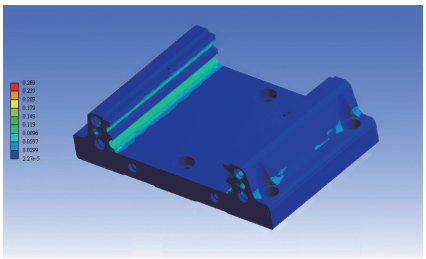
Rated Loads in All Directions

WE series is capable of receiving loads in four directions:radial, reverse radial, and lateral directions.



Structure Analysis

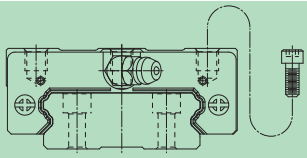
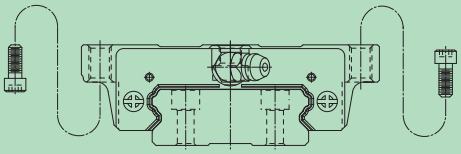




Applications

- Automations
- Semi-conductor equipment
- Transportation devices
- Blow moulding machine
- Precision measuring equipments
- Single Axis Robot- Robotics

WE Block Types

Type	Model	Shape	Height (mm)	Rail Length (mm)
Square	WEH-CA		17 ↓ 50	100 ↓ 4000
Flange	WEW-CC		17 ↓ 50	100 ↓ 4000

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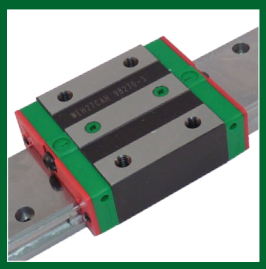

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Model Number

Example: WEW27CCE2R1600EZAPII+KK

WE	W	27	C	C	E	2	R	1600	E	ZA	P	II	+	KK

- WE Series
- Block Type
  W : Flange Type
  H : Square Type
- Model size
  17, 21, 27, 35 & 50
- Load Type
  C : Heavy Load
- Block Mounting
  A : Mounting From Top
  C : Top or Bottom
- E: Special Block
  None: Standard Block
- No. of Blocks per Rail
- Rail Mounting Type
  R : Mounting From Top
- Rail Length (mm)
- E: Special Rail
  None: Standard Rail
- Preload Code: Z0, ZA, ZB
- Precision Code:
  C, H, P, SP, UP
- No. of Rails per matched set1
- Dust Protection2

Note: 1. The roman numerals it is shown in no symbol express the number of rails used in one axis. As for the single rail in an axis, it shows no symbol.

2. For dust protection, it is 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.

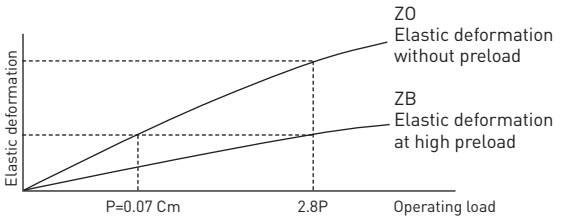
Preload

Class	Code	Preload
Very light Preload	Z0	0~ 0.02C
Light Preload	ZA	0.03C~ 0.05C
Medium Preload	ZB	0.06C~ 0.08C

1.4.6 Preload

1.4.6.1 Definition

A preload can be applied to any rails version. For this purpose, oversized balls are used. Normally a linear guideway has a negative clearance between the path and the ball bearings, to increase rigidity and precision. The curve shows that rigidity doubles with a high preload.



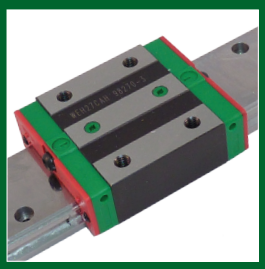
1.4.6.2 Preload ID

Table 1.44 Preload ID

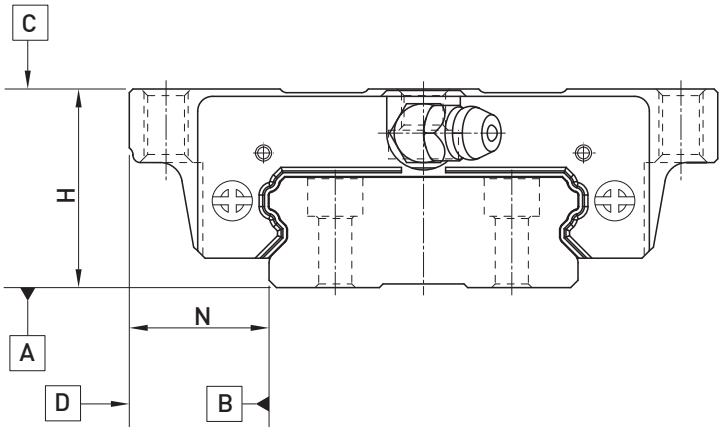
ID	Preload	
Z0	Light preload	0~ 0.02C
ZA	Medium preload	0.03C~ 0.05C
ZB	High preload	0.06C~ 0.08C

Application
Constant load direction, low impact, low accuracy required
High accuracy required
High rigidity required, with vibrations and impacts

Note:
Preload classes for interchangeable versions Z0 and ZA. For non-interchangeable versions: Z0, ZA, ZB



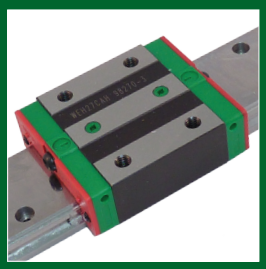
Accuracy Classes



Type	WER17, WER21, WE27, WE35, WER50				
Accuracy Classes	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	$^{0}_{-0.04}$	$^{0}_{-0.02}$	$^{0}_{-0.01}$
Variation of height H	0.02	0.015	0.007	0.005	0.003
Variation of width N	0.03	0.015	0.007	0.005	0.003
Running parallelism of block surface C to surface A	See chart below				
Running parallelism of block surface D to surface B	See chart below				

Accuracy of Running Parallelism

Rail Length (mm)	Accuracy (μm)				
	C	H	P	SP	UP
~ 100	12	7	3	2	2
100 ~ 200	14	9	4	2	2
200 ~ 300	15	10	5	3	2
300 ~ 500	17	12	6	3	2
500 ~ 700	20	13	7	4	2
700 ~ 900	22	15	8	5	3
900 ~ 1,100	24	16	9	6	3
1,100 ~ 1,500	26	18	11	7	4
1,500 ~ 1,900	28	20	13	8	4
1,900 ~ 2,500	31	22	15	10	5
2,500 ~ 3,100	33	25	18	11	6
3,100 ~ 3,600	36	27	20	14	7
3,600 ~ 4,000	37	28	21	15	7



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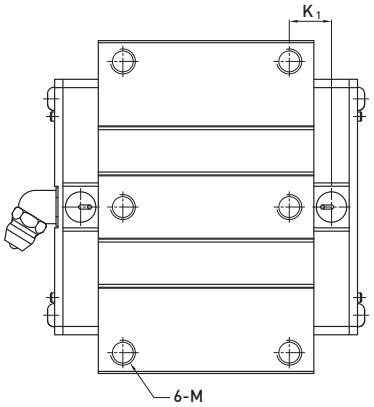
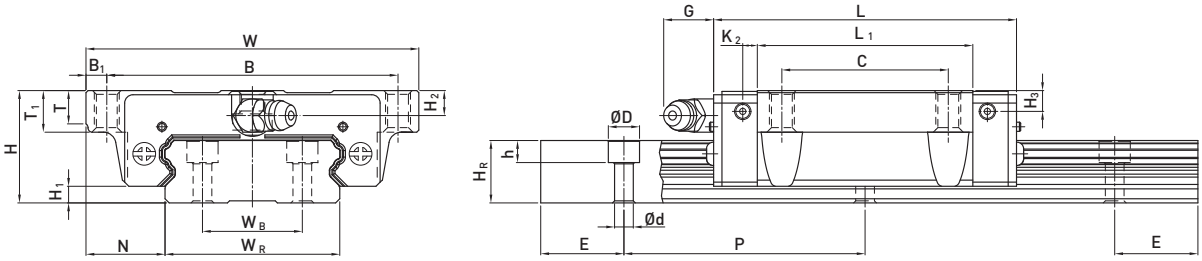
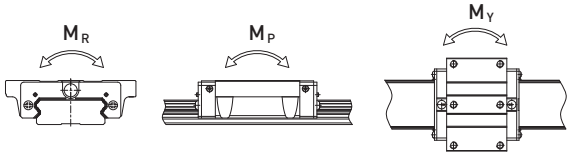
Dimensions

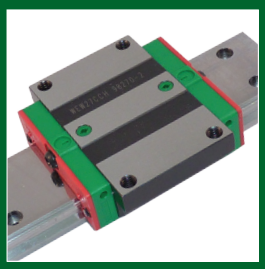
WEW-CC





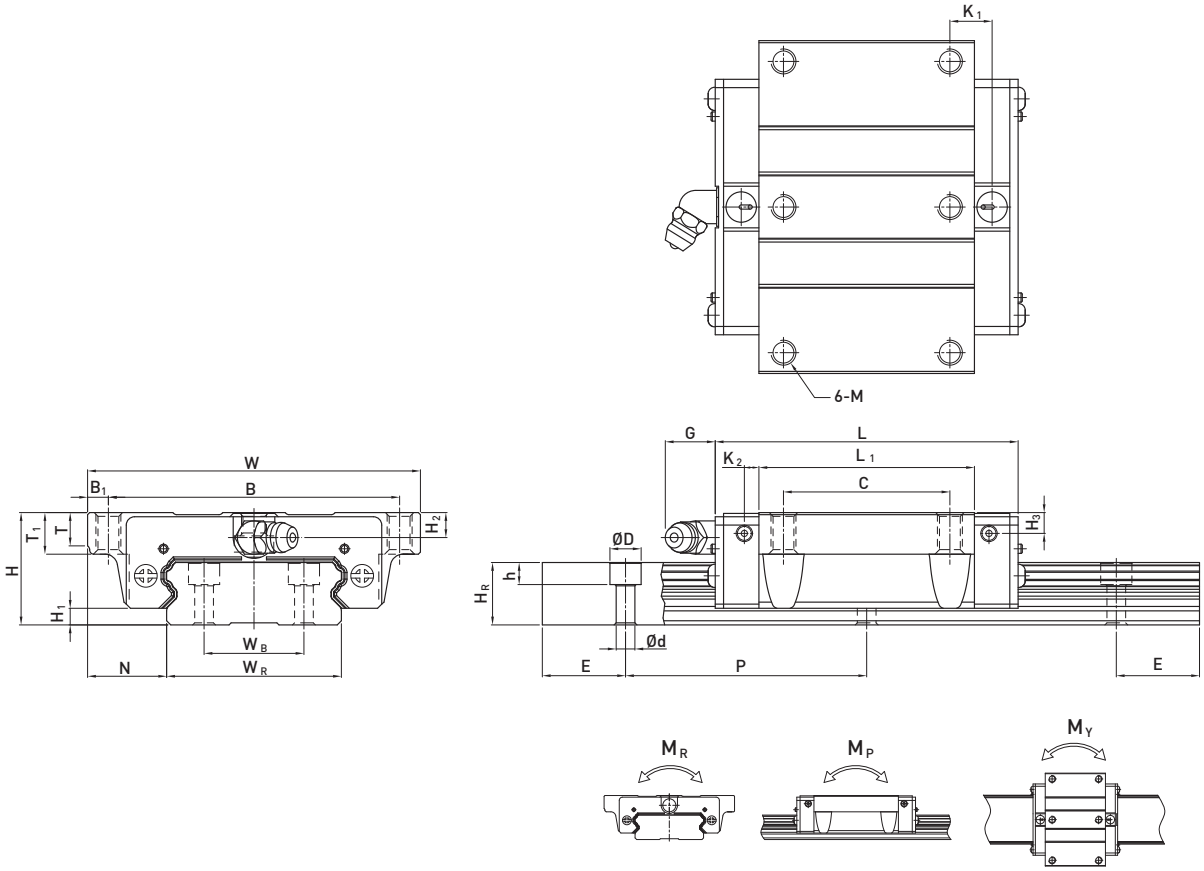


Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)													Dimensions of Rail (mm)								Mounting Bolt for Rail	Basic Dynamic Load Rating	Basic Static Load Rating	Static Rated Moment			Weight	
	H	H_1	N	W	B	B_1	C	L_1	L	K_1	K_2	G	M	T	T_1	H_2	H_3	W_R	W_B	H_R	D	h	d	P	E	(mm)	C(kN)	C_0 (kN)	M_R kN-m	M_P kN-m	M_Y kN-m	Block kg	Rail kg/m
WEW17CC	17	2.5	13.5	60	53	3.5	26	35	50.6	-	3.1	4.9	M4	5.3	6	4	3	33	18	9.3	7.5	5.3	4.5	40	15	M4x12	5.23	9.64	0.15	0.062	0.062	0.13	2.2
WEW21CC	21	3	15.5	68	60	4	29	41.7	59	9.68	3.65	12	M5	7.3	8	4.5	4.2	37	22	11	7.5	5.3	4.5	50	25	M4x12	7.21	13.7	0.23	0.10	0.10	0.23	3.0
WEW27CC	27	4	19	80	70	5	40	51.8	72.8	10.15	3.5	12	M6	8	10	6	5	42	24	15	7.5	5.3	4.5	60	20	M4x16	12.4	21.6	0.47	0.17	0.17	0.43	4.8
WEW35CC	35	4	25.5	120	107	6.5	60	77.6	102.6	13.35	5.25	12	M8	11.2	14	8	6.5	69	40	19	11	9	7	80	20	M6x20	29.8	49.4	1.6	0.67	0.67	1.26	9.9
WEW50CC	50	7.5	36	162	144	9	80	112	140	20.55	6	12.9	M10	14	18	12	10.5	90	60	24	14	12	9	80	20	M8x25	61.52	97.1	4.03	1.96	1.96	3.71	14.6

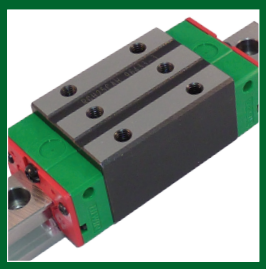


Dimensions

WEH-CA



Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)													Dimensions of Rail (mm)								Mounting Bolt for Rail	Basic Dynamic Load Rating	Basic Static Load Rating	Static Rated Moment			Weight	
	H	H1	N	W	B	B1	C	L1	L	K1	K2	G	Mxl	T	H2	H3	WR	WB	HR	D	h	d	P	E	(mm)	C(kN)	C0 (kN)	MR kN-m	MP kN-m	MY kN-m	Block kg	Rail kg/m
WEH17CA	17	2.5	8.5	50	29	10.5	15	35	50.6	-	3.1	4.9	M4x5	6	4	3	33	18	9.3	7.5	5.3	4.5	40	15	M4x12	5.23	9.64	0.15	0.06	0.06	0.12	2.2
WEH21CA	21	3	8.5	54	31	11.5	19	41.7	59	14.68	3.65	12	M5x6	8	4.5	4.2	37	22	11	7.5	5.3	4.5	50	25	M4x16	7.21	13.7	0.23	0.10	0.10	0.20	3.0
WEH27CA	27	4	10	62	46	8	32	51.8	72.8	14.15	3.5	12	M6x6	10	5	5	42	24	15	7.5	5.3	4.5	60	20	M4x16	12.4	21.6	0.47	0.17	0.17	0.35	4.8
WEH35CA	35	4	15.5	100	76	12	50	77.6	102.6	18.35	5.25	12	M8x8	13	6.5	6.5	69	40	19	11	9	7	80	20	M6x20	29.8	49.4	1.60	0.67	0.67	1.10	9.9
WEH50CA	50	7.5	20	130	100	15	65	112	140	28.05	6	12.9	M10x15	19.5	10.5	10.5	90	60	24	14	12	9	80	20	M8x25	61.5	97.1	4.03	1.96	1.96	3.16	14.6



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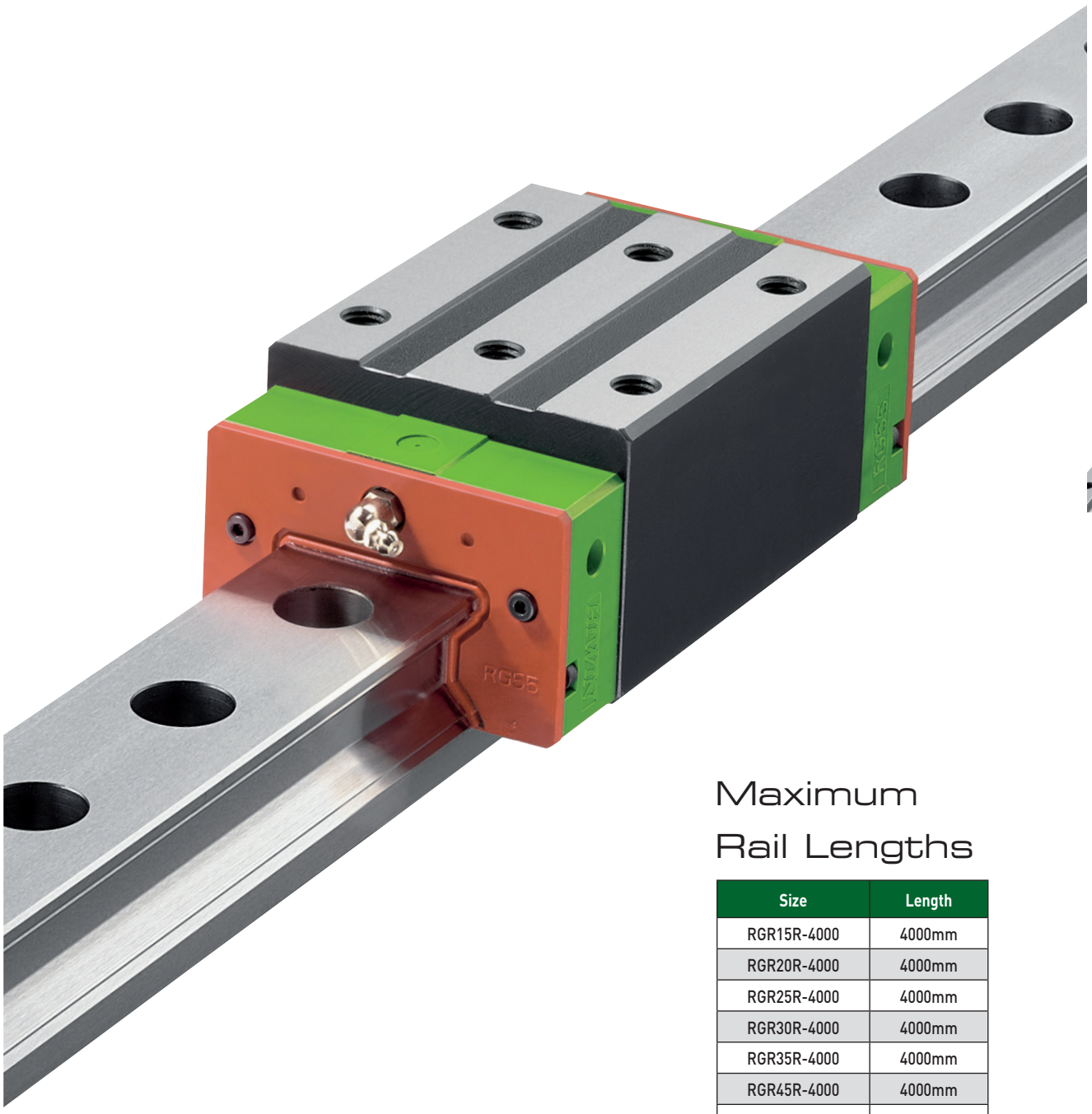
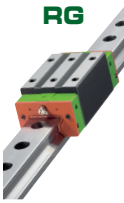
RG Series

High Rigidity Roller Type Linear Guideway





Maximum Rail Lengths

Size	Length
RGR15R-4000	4000mm
RGR20R-4000	4000mm
RGR25R-4000	4000mm
RGR30R-4000	4000mm
RGR35R-4000	4000mm
RGR45R-4000	4000mm
RGR55R-4000	4000mm
RGR65R-4000	4000mm

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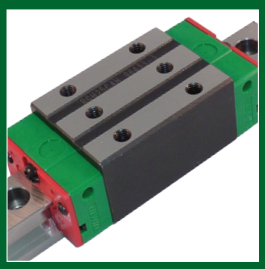


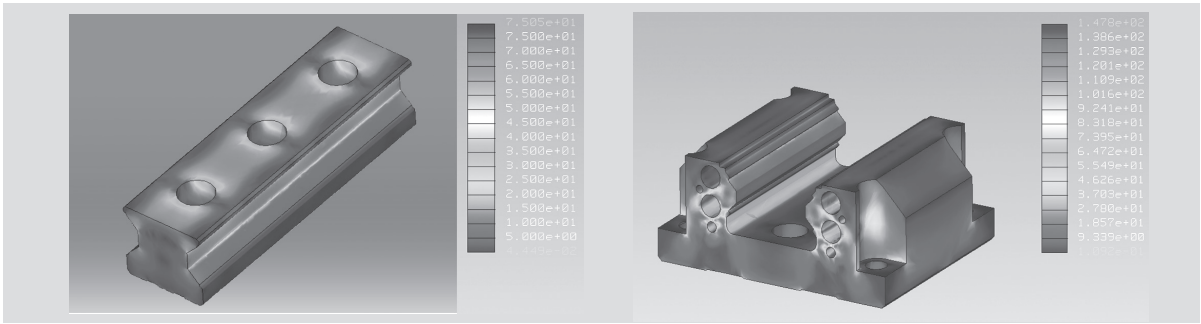
RG Series

Advantages and Features

The new RG series from Hiwin features a roller as the rolling element instead of steel balls. The roller series offers super high rigidity and very high load capacities. The RG series is designed with a 45-degree angle of contact. Elastic deformation of the linear contact surface, during load, is greatly reduced thereby offering greater rigidity and higher load capacities in all 4 load directions.The RG series linear guideway offers high performance for high-precision manufacturing and achieving longer service life.

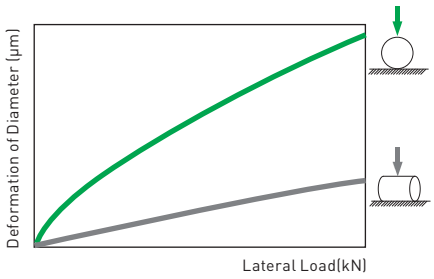
(1) Optimal design

FEM analysis was performed to determine the optimal structure of the block and the rail. The unique design of the circulation path allows the RG series linear guideway to offer smoother linear motion.



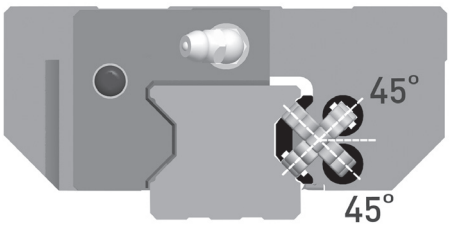
(2) Super high rigidity

The RG series is a type of linear guideway that uses rollers as the rolling elements. Rollers have a greater contact area than balls so that the roller guideway features higher load capacity and greater rigidity. The figure shows the rigidity of a roller and a ball with equal volume.



(3) Super high load capacity

With the four rows of rollers arranged at a contact angle of 45-degrees, the RG series linear guideway has equal load ratings in the radial, reverse radial and lateral directions. The RG series has a higher load capacity in a smaller size than conventional, ball-type linear guideways.



(4) Operating life increased

The basic dynamic load rating (100km rating) complies with ISO standard (ISO14728-1). The actual load will affect the nominal life of a linear guideway. Based on the selected basic dynamic rated load and the actual load, the nominal life can be calculated by using Eq.2.4. This life formula is different from that for conventional linear ball-type guideways.

$$L=\left(\frac{C}{P}\right)^{\frac{10}{3}}\cdot 100km=\left(\frac{C}{P}\right)^{\frac{10}{3}}\cdot 62mile$$

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If the environmental factors are taken into consideration, the nominal life will be influenced greatly by the motion conditions, the hardness of the raceway, and the temperature of the linear guideway. The relationship between these factors is expressed in Eq.2.5.

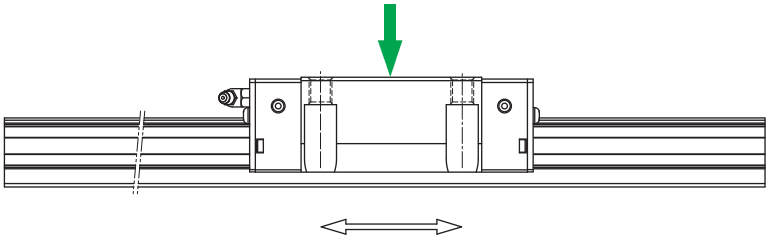
$$L=\left(\frac{f_h \cdot f_t \cdot C}{f_w \cdot P}\right)^{\frac{10}{3}} \cdot 100km=\left(\frac{f_h \cdot f_t \cdot C}{f_w \cdot P}\right)^{\frac{10}{3}} \cdot 62mile \quad \text{Eq. 2.5}$$

L : Nominal life
P : Calculated load
C : Basic dynamic load rating

f_h : Hardness factor
f_t : Temperature factor
f_W : Load factor

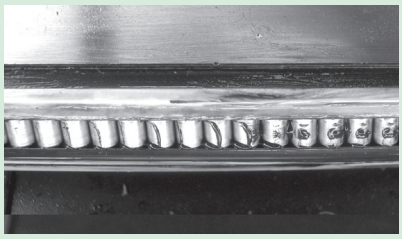
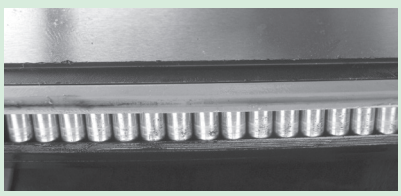
Where, the hardness factor, the temperature factor and the load factor are the same as a ball-type guideway. Compared with conventional linear ball-type guideways, the RG series linear guideway has a higher load capacity that allows it to achieve a longer service life.

(5) Durability test

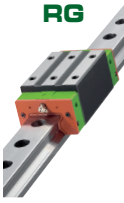


Model of the test system

Table 2.56

Tested model 1: RGH35CA	Test results:	
Preload: ZA class Max. Speed: 60m/min Acceleration: 1G Stroke: 0.55m Lubrication: grease held every 100km External: 15kN Traveling distance: 1135km	The nominal life of the model is 1000km. After the traveling distance, fatigue flaking did not appear on the surface of the raceway or rollers.	
Tested model 2: RGW35CC	**Test results:**	
Preload: ZA class Max. Speed: 120m/min Acceleration: 1G Stroke: 2m Lubrication: oil feed rate: 0.3cm^3/hr External load: 0kN Traveling distance: 15000km	Fatigue flaking did not appear on the surface of the raceway or rollers after a distance of (15000km).	

Note: The data listed are from these samples.



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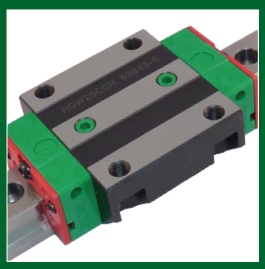
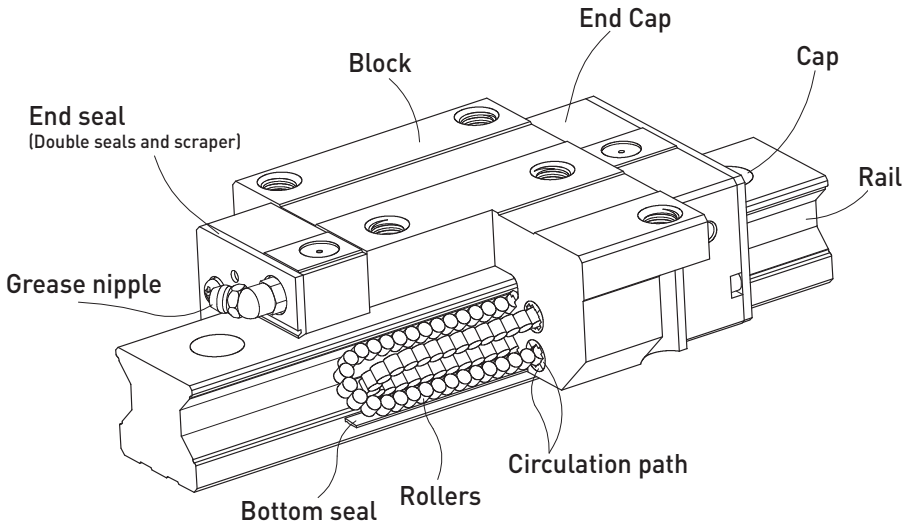


Construction of RG Series



- Rolling circulation system: Block, Rail, End cap, Circulation path, rollers
- Lubrication system: Grease nipple and piping joint
- Dust protection system: End seal, Bottom seal, Cap, Double seals and Scraper

Model Number of RG series

In order to maintain H-class accuracy, the RG series linear guideway is available in only non-interchangeable types. Model numbers of the RG series contain the size, type, accuracy class, preload class, etc..

RG	W	35	C	C	E	2	R	1640	E	ZA	P	II	+	KK

RG Series

Block Type
W : Flange Type
H : Square Type

Model size
15, 20, 25, 30, 35, 45, 55, 65

Load Type
C : Heavy Load
H : Super Heavy Load

Block Mounting
A : Mounting From Top
C : Top or Bottom

E: Special Block
None: Standard Block

No. of Blocks per Rail

Rail Mounting Type
R : Mounting From Top
T : Bottom

Rail Length (mm)

E: Special Rail
None: Standard Rail

Preload Code: Z0, ZA, ZB

Precision Code:
H, P, SP, UP

No. of Rails per matched set 1

Dust Protection2

Note: 1. Roman numerals are used to express the number of matched sets of rails.
2. For dust protection, no symbol is required if it is standard (end seal and bottom seal only).
ZZ: End seal, bottom seal and scraper
KK: Double seals, bottom seal and scraper
DD: Double seals and bottom seal

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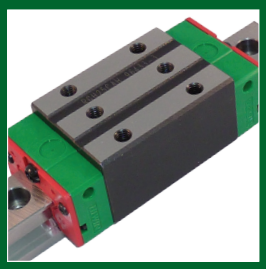
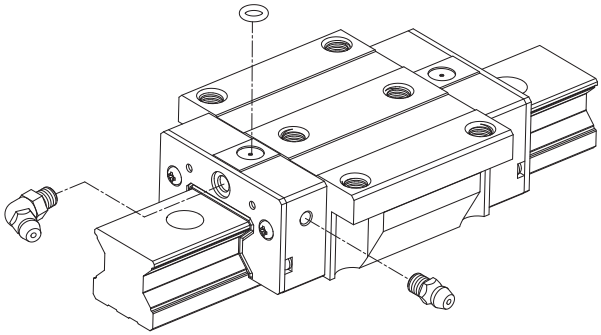


RG Series

Lubrication

The standard location of the grease fitting is at both ends of the block, but the nipple can be mounted in the side or the top of block. For lateral installation, we recommend that the nipple be mounted at the non-reference side, otherwise please contact us. It is possible to carry out the lubrication by using an oil-piping joint. The figure shows the locations of the grease fitting.

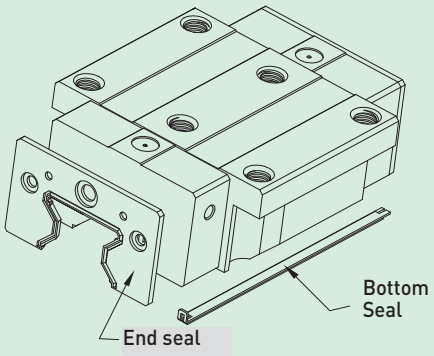


Dust Proof Accessories

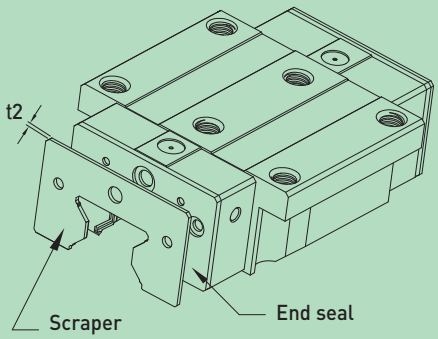
(1) Codes of accessories

If the following accessories are needed, please add the code followed by the model number.

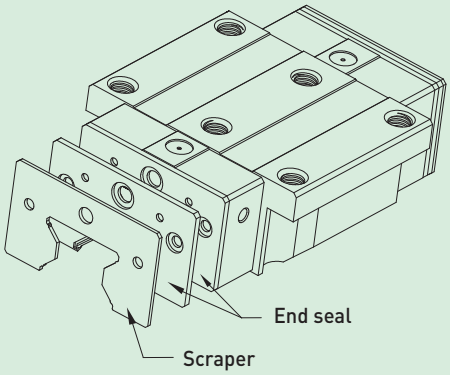
Table 2.70



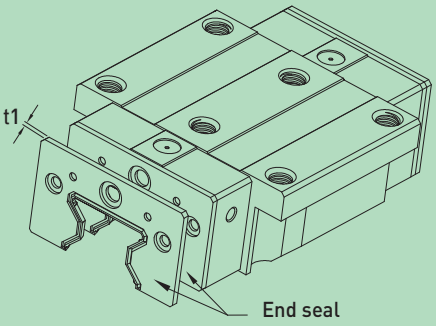
No symbol: Standard Protection
(End seal + Bottom Seal)



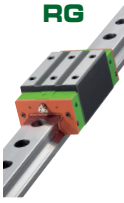
ZZ (End seal + Bottom Seal + Scraper)

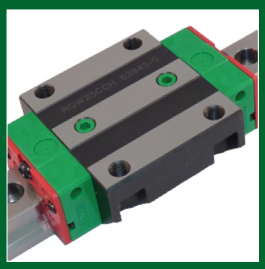


KK (Double seals + Bottom Seal + Scraper)



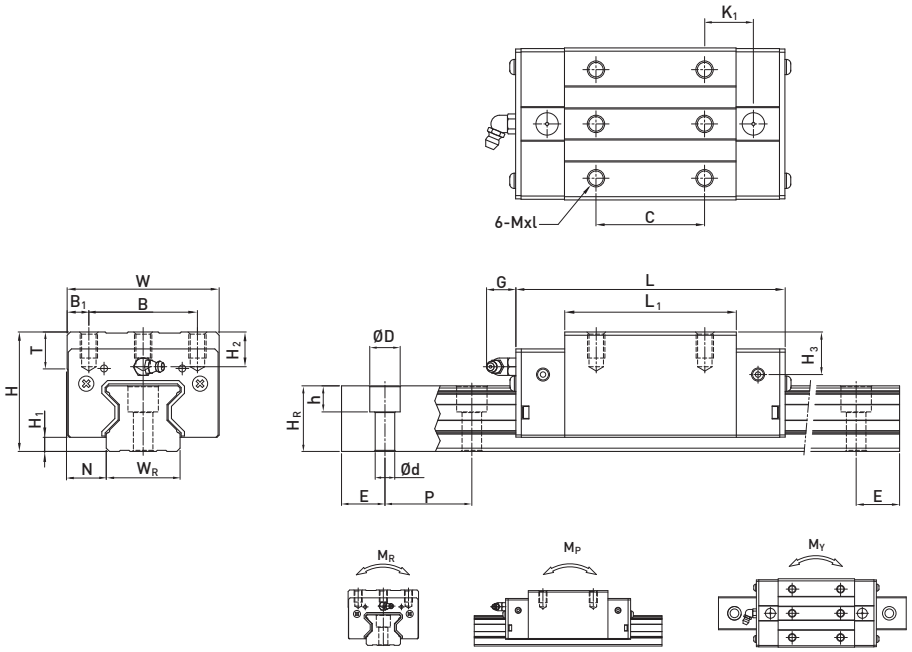
DD (Double seals + Bottom Seal)





Dimensions

RGH-CA/RGH-HA



Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)												Dimensions of Rail (mm)							Mounting Bolt for Rail	Basic Dynamic Load Rating	Basic Static Load Rating	Static Rated Moment			Weight	
	H	H_1	N	W	B	B_1	C	L_1	L	K_1	K_2	G	Mxl	T	H_2	H_3	W_R	H_R	D	h	d	P	E	(mm)	C (kN)	C_0 (kN)	M_R kN-m	M_P kN-m	M_Y kN-m	Block kg	Rail kg/m
RGH 15CA	28	4	9.5	34	26	4	26	45	68	13.4	4.7	5.3	M4x8	6	7.6	10.1	15	16.5	7.5	5.7	4.5	30	20	M4x16	11.3	24	0.311	0.173	0.173	0.22	1.8
RGH 20CA	34	5	12	44	32	6	36	57.5	86	15.8	6	5.3	M5x8	8	8.3	8.3	20	21	9.5	8.5	6	30	20	M5x20	21.3	46.7	0.647	0.46	0.46	0.37	2.76
RGH 20HA							50	77.5	106	18.8															26.9	63	0.872	0.837	0.837	0.49	
RGH 25CA	40	5.5	12.5	48	35	6.5	35	64.5	97.9	20.75	7.25	12	M6x8	9.5	10.2	10	23	23.6	11	9	7	30	20	M6x20	27.7	57.1	0.758	0.605	0.605	0.55	3.08
RGH 25HA							50	81	114.4	21.5															33.9	73.4	0.975	0.991	0.991	0.7	
RGH 30CA	45	6	16	60	40	10	40	71	109.8	23.5	8	12	M8x10	9.5	9.5	10.3	28	28	14	12	9	40	20	M8x25	39.1	82.1	1.445	1.06	1.06	0.82	4.41
RGH 30HA							60	93	131.8	24.5															48.1	105	1.846	1.712	1.712	1.07	
RGH 35CA	55	6.5	18	70	50	10	50	79	124	22.5	10	12	M8x12	12	16	19.6	34	30.2	14	12	9	40	20	M8x25	57.9	105.2	2.17	1.44	1.44	1.43	6.06
RGH 35HA							72	106.5	151.5	25.25															73.1	142	2.93	2.6	2.6	1.86	
RGH 45CA	70	8	20.5	86	60	13	60	106	153.2	31	10	12.9	M10x17	16	20	24	45	38	20	17	14	52.5	22.5	M12x35	92.6	178.8	4.52	3.05	3.05	2.97	9.97
RGH 45HA							80	139.8	187	37.9															116	230.9	6.33	5.47	5.47	3.97	
RGH 55CA	80	10	23.5	100	75	12.5	75	125.5	183.7	37.75	12.5	12.9	M12x18	17.5	22	27.5	53	44	23	20	16	60	30	M14x45	130.5	252	8.01	5.4	5.4	4.62	13.98
RGH 55HA							95	173.8	232	51.9															167.8	348	11.15	10.25	10.25	6.4	
RGH 65CA	90	12	31.5	126	76	25	70	160	232	60.8	15.8	12.9	M16x20	25	15	15	63	53	26	22	18	75	35	M16x50	213	411.6	16.20	11.59	11.59	8.33	20.22
RGH 65HA							120	223	295	67.3															275.3	572.7	22.55	22.17	22.17	11.62	

Note : 1 kgf = 9.81 N

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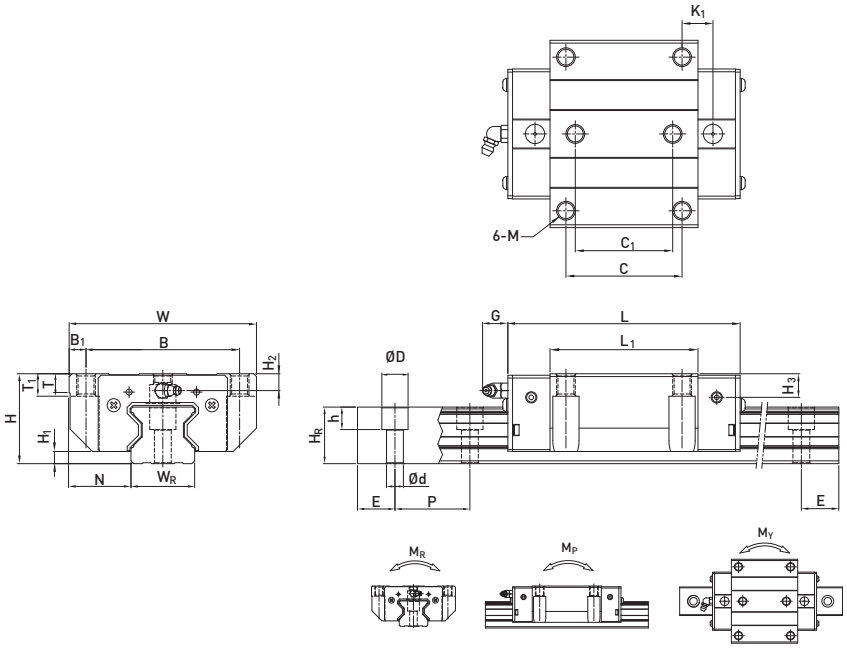
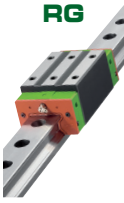
Dimensions

RGW-CC/RGW-HC





Model No	Dimensions of Assembly (mm)			Dimensions of Block (mm)														Dimensions of Rail (mm)							Mounting Bolt for Rail	Basic Dynamic Load Rating	Basic Static Load Rating	Static Rated Moment			Weight	
	H	H_1	N	W	B	B_1	C	C_1	L_1	L	K_1	K_2	G	M	T	T_1	H_2	H_3	W_R	H_R	D	h	d	P	E	(mm)	C (kN)	C_0 (kN)	M_R kN-m	M_P kN-m	M_Y kN-m	Block kg	Rail kg/m
RGW 15CA	24	4	16	47	38	4.5	30	26	45	68	11.4	4.7	5.3	M5	6	6.95	3.6	6.1	15	16.5	7.5	5.7	4.5	30	20	M4x16	11.3	24	0.311	0.173	0.173	0.23	1.8
RGW 20CA	30	5	21.5	63	53	5	40	35	57.5	86	13.8	6	5.3	M6	8	10	4.3	4.3	20	21	9.5	8.5	6	30	20	M5x20	21.3	46.7	0.647	0.46	0.46	0.44	2.76
RGW 20HC									77.5	106	23.8																26.9	63	0.872	0.837	0.837	0.62	
RGW 25CC	36	5.5	23.5	70	57	6.5	45	40	64.5	97.9	15.75	7.25	12	M8	9.5	10	6.2	6	23	23.6	11	9	7	30	20	M6x20	27.7	57.1	0.758	0.605	0.605	0.67	3.08
RGW 25HC									81	114.4	24																33.9	73.4	0.975	0.991	0.991	0.86	
RGW 30CC	42	6	31	90	72	9	52	44	71	109.8	17.5	8	12	M10	9.5	10	6.5	7.3	28	28	14	12	9	40	20	M8x25	39.1	82.1	1.445	1.06	1.06	1.06	4.41
RGW 30HC									93	131.8	28.5																48.1	105	1.846	1.712	1.712	1.42	
RGW 35CC	48	6.5	33	100	82	9	62	52	79	124	16.5	10	12	M10	12	13	9	12.6	34	30.2	14	12	9	40	20	M8x25	57.9	105.2	2.17	1.44	1.44	1.61	6.06
RGW 35HC									106.5	151.5	30.25																73.1	142	2.93	2.6	2.6	2.21	
RGW 45CC	60	8	37.5	120	100	10	80	60	106	153.2	21	10	12.9	M12	14	15	10	14	45	38	20	17	14	52.5	22.5	M12x35	92.6	178.8	4.52	3.05	3.05	3.22	9.97
RGW 45HC									139.8	187	37.9																116	230.9	6.33	5.47	5.47	4.41	
RGW 55CC	70	10	43.5	140	116	12	95	70	125.5	183.7	27.75	12.5	12.9	M14	16	17	12	17.5	53	44	23	20	16	60	30	M14x45	130.5	252	8.01	5.4	5.4	5.18	13.98
RGW 55HC									173.8	232	51.9																167.8	348	11.15	10.25	10.25	7.34	
RGW 65CC	90	12	53.5	170	142	14	110	82	160	232	40.8	15.8	12.9	M16	22	23	15	15	63	53	26	22	18	75	35	M16x50	213	411.6	16.20	11.59	11.59	11.04	20.22
RGW 65HC									223	295	72.3																275.3	572.7	22.55	22.17	22.17	15.75	

Note : 1 kgf = 9.81 N

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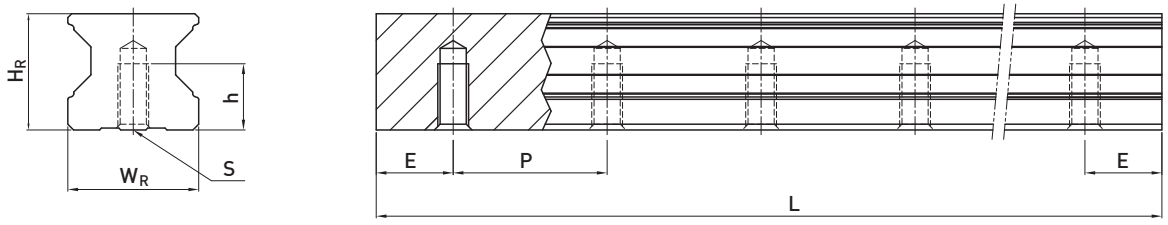
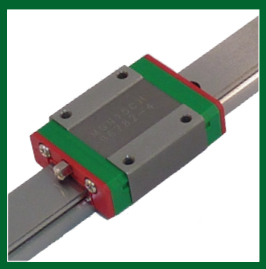
Dimensions

RGR-T (Rail Mounting from Bottom)



Model No.	Dimensions of Rail (mm)						Weight
	W_R	H_R	S	h	P	E	(kg/m)
RGR15T	15	16.5	M5x0.8P	8	30	20	1.86
RGR20T	20	21	M6x1P	10	30	20	2.76
RGR25T	23	23.6	M6×1P	12	30	20	3.36
RGR30T	28	28	M8×1.25P	15	40	20	4.82
RGR35T	34	30.2	M8×1.25P	17	40	20	6.48
RGR45T	45	38	M12×1.75P	24	52.5	22.5	10.83
RGR55T	53	44	M14×2P	24	60	30	15.15
RGR65T	63	53	M20×2.5P	30	75	35	21.24



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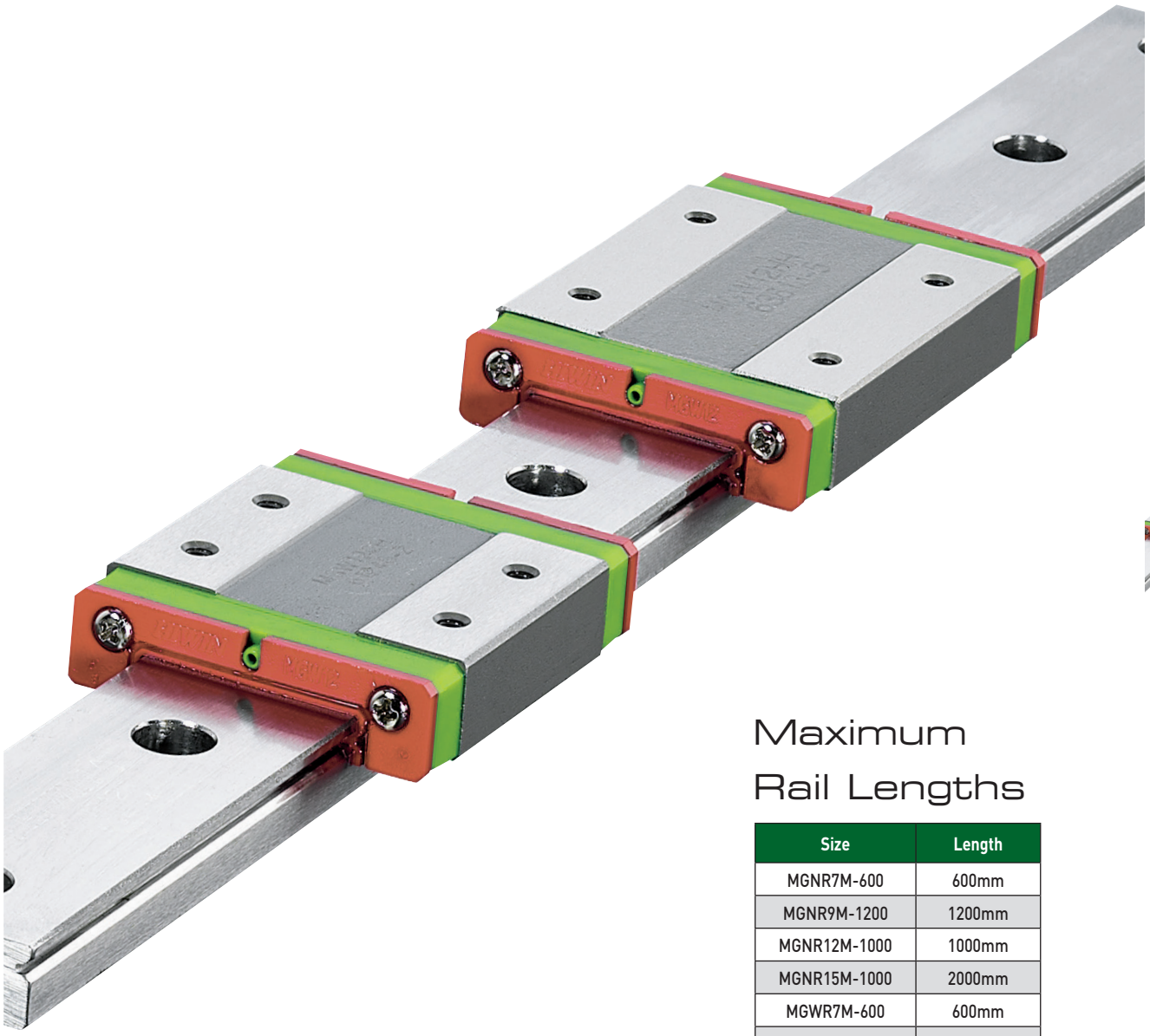
MG Series - MGN

Miniature Linear Guideway



Maximum Rail Lengths

Size	Length
MGNR7M-600	600mm
MGNR9M-1200	1200mm
MGNR12M-1000	1000mm
MGNR15M-1000	2000mm
MGWR7M-600	600mm
MGWR9M-1200	1200mm
MGWR12M-1000	1000mm
MGWR15M-2000	2000mm

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MG Series - MGW

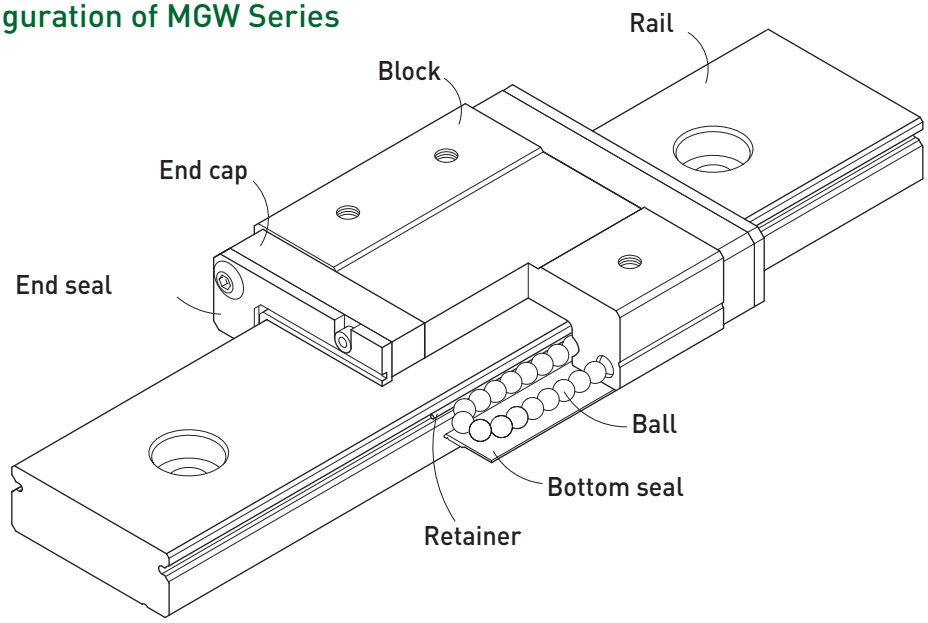
Miniature Linear Guideway

Feature of MGW Series

The design feature of wide type miniature guideway-MGW:

1. The design of enlarged width has increased the capacity of moment load.
2. Gothic arch contact design has high rigidity characteristic in all directions.
3. Steel balls will be held by miniature retainer to avoid the balls from falling out even when the block are removed form the rail installation.
4. All metallic components are made of stainless steel for anti-corrosion purpose.

Configuration of MGW Series



- **Rolling circulation system: Block, rail, end cap and retainer**
- **Lubrication system: The grease nipple is available for MGW15, grease gun can be used for lubricanting.**
- **Dust protection system: End seal, bottom seal (optional size 9,12,15), cap (size12,15)**

Application

MGN/MGW series can be used in many fields, such as semiconductor equipment, PCB assembly equipment, medical equipment, robotics, measuring equipment, office automation equipment, and other miniature sliding mechinery.

Model Number of MGN/MGW Series

MGN and MGW series linear guideway can be classified into non-interchangeable and interchangeable types. The sizes of two types are same. The interchangeable type is more convenient due to rails can be replaced. However, its precision is less than non-interchangeable type. Because of strict dimensional control, the interchangeable type linear guideway is a smart choice for customers when rails don't need to be paired for an axis. The model number contains the information of the size, type, accuracy class, preload class, and more.

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(1) Non-interchangeable type

MGW	12	C	E	2	R1600	E	Z1	P	M	II	+	U

- MGW: MGN / MGW Series
- 12: Model Size : 7, 9, 12, 15
- C: Block Type — C : Standard, H : Long
- E: E : Special Block, None : Standard Block
- 2: No. of Blocks per Rail
- R1600: Rail Length (mm)
- E: E : Rail Special, None : Standard Rail
- Z1: Preload Code : ZF, Z0, Z1
- P: Precision Code : C, H, P
- M: M : Stainless Steel
- II: Bottom Seal Option1
- U: No. of Rails per Axis2

Note: 1. The roman numerals express a matched set of rails. No symbol indicates single rail in an axis.
2. The bottom seal is available for MGN & MGW 9, 12, 15.

(2) Interchangeable type

Interchangeable Block

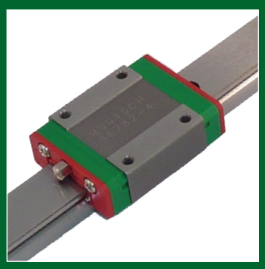
MGN	12	C	E	Z1	P	M	+	U

- MGN: MGN / MGW Series
- 12: Model Size : 7, 9, 12, 15
- C: Block Type — C : Standard, H : Long
- E: E: Special Block, None: Standard Block
- Z1: Preload Code : ZF, Z0, Z1
- P: Precision Code : C, H, P
- M: M: Stainless Steel
- U: Bottom Seal Option1

Interchangeable Rail

MGN	R	12	R1000	E	P	M

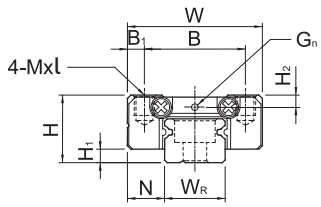
- MGN: MGN / MGW Series
- R: Interchangeable Rail
- 12: Model Size : 7, 9, 12, 15
- R1000: Rail Length (mm)
- E: Rail Special Option
- P: Precision Code : C, H, P
- M: M: Stainless Steel

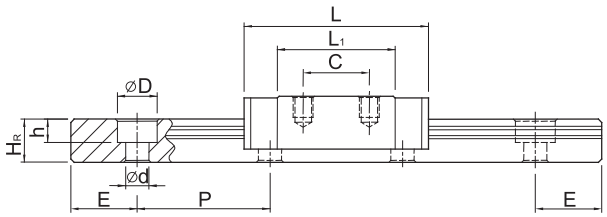


Dimensions

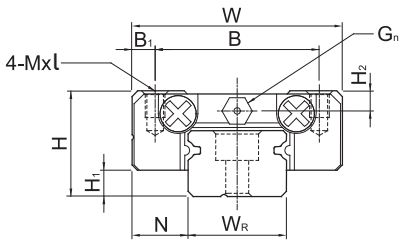
MGN-C/MGN-H

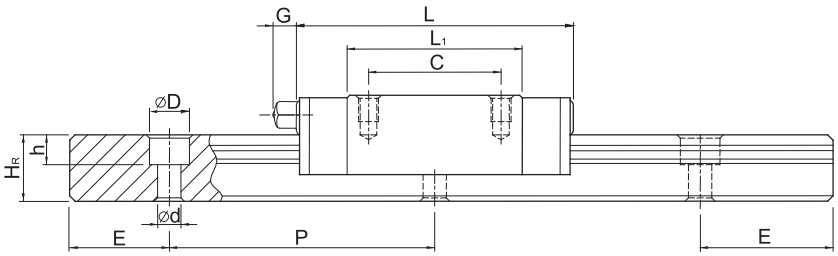
MGN7, MGN9, MGN12

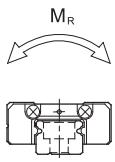


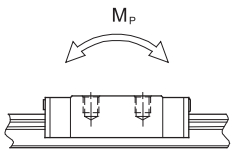


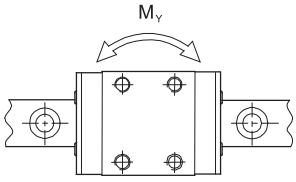
MGN15











Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)										Dimensions of Rail (mm)								Mounting Bolt for Rail	Basic Dynamic Load Rating	Basic Static Load Rating	Static Rated Moment			Weight	
	H	H1	N	W	B	B1	C	L1	L	G	Gn	Mxl	H2	WR	HR	D	h	d	P	E	(mm)	C (kgf)	C0 (kgf)	MR kgf-m	MP kgf-m	MY kgf-m	Block kg	Rail kg/m
MGN 7C	8	1.5	5	17	12	2.5	8	13.5	22.5	-	Ø1.2	M2x2.5	1.5	7	4.8	4.2	2.3	2.4	15	5	M2x6	100	127	0.48	0.29	0.29	0.010	0.22
MGN 7H							13	21.8	30.8													140	200	0.78	0.49	0.49	0.015	
MGN 9C	10	2	5.5	20	15	2.5	10	18.9	28.9	-	Ø1.2	M3x3	1.8	9	6.5	6	3.5	3.5	20	7.5	M3x8	190	260	1.2	0.75	0.75	0.016	0.38
MGN 9H							16	29.9	39.9													260	410	2	1.9	1.9	0.026	
MGN 12C	13	3	7.5	27	20	3.5	15	21.7	34.7	-	Ø1.4	M3x3.5	2.5	12	8	6	4.5	3.5	25	10	M3x8	290	400	2.6	1.4	1.4	0.034	0.65
MGN 12H							20	32.4	45.4													380	600	3.9	3.7	3.7	0.054	
MGN 15C	16	4	8.5	32	25	3.5	20	26.7	42.1	4.5	M3	M3x4	3	15	10	6	4.5	3.5	40	15	M3x10	470	570	4.6	2.2	2.2	0.059	1.06
MGN 15H							25	43.4	58.8													650	930	7.5	5.9	5.9	0.092	

Note : 1 kgf = 9.81 N

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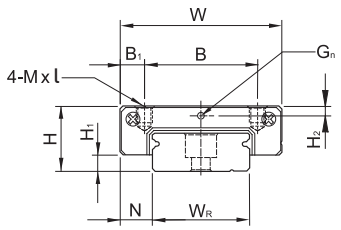
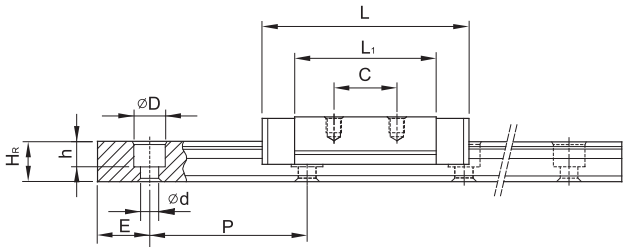
Dimensions

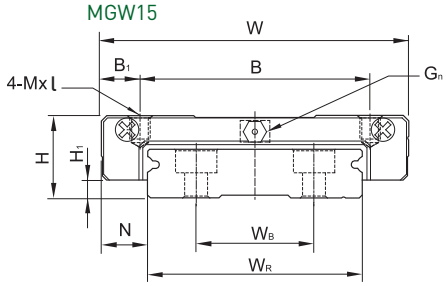
MGW-C/MGW-H

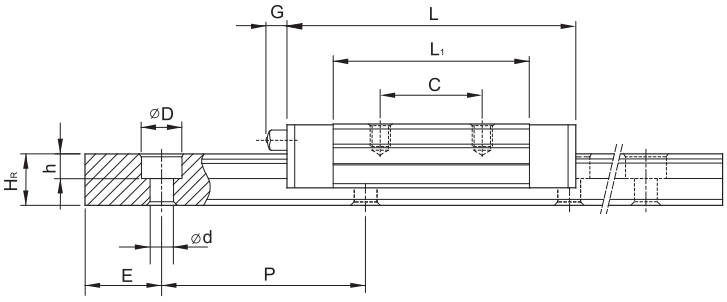
MGW7, MGW9, MGW12

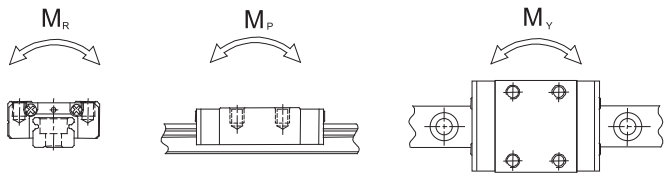




MGW15







MG

Model No.	Dimensions of Assembly (mm)			Dimensions of Block (mm)						Dimensions of Rail (mm)											Mounting Bolt for Rail	Basic Dynamic Load Rating	Basic Static Load Rating	Static Rated Moment			Weight	
	H	H_1	N	W	B	B_1	C	L_1	L	G	G_n	Mxl	H_2	W_R	W_B	H_R	D	h	d	P	E	(mm)	C (kgf)	C_0 (kgf)	M_R kgf-m	M_P kgf-m	M_Y kgf-m	Block kg	Rail kg/m
MGW 7C	9	1.9	5.5	25	19	3	10	21	31.2	-	Ø1.2	M3x3	1.85	14	-	5.2	6	3.2	3.5	30	10	M3x6	140	210	1.6	0.73	0.73	0.020	0.51
MGW 7H							19	30.8	41														180	320	2.39	1.58	1.58	0.029	
MGW 9C	12	2.9	6	30	21	4.5	12	27.5	39.3	-	Ø1.4	M3x3	2.4	18	-	7	6	4.5	3.5	30	10	M3x8	280	420	4.09	1.93	1.93	0.040	0.91
MGW 9H					23	3.5	24	38.5	50.7														350	600	5.56	3.47	3.47	0.057	
MGW 12C	14	3.4	8	40	28	6	15	31.3	46.1	-	Ø1.4	M3x3.6	2.8	24	-	8.5	8	4.5	4.5	40	15	M4x8	400	570	7.17	2.83	2.83	0.071	1.49
MGW 12H							28	45.6	60.4														520	840	10.47	5.85	5.85	0.103	
MGW 15C	16	3.4	9	60	45	7.5	20	38	54.8	5.2	M3	M4x4.2	3.2	42	23	9.5	8	4.5	4.5	40	15	M4x10	690	940	20.32	5.78	5.78	0.143	2.86
MGW 15H							35	57	73.8														910	1410	30.48	12.5	12.5	0.215	

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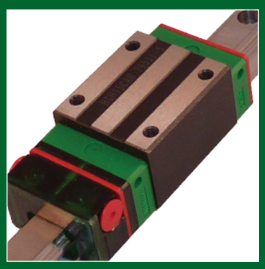


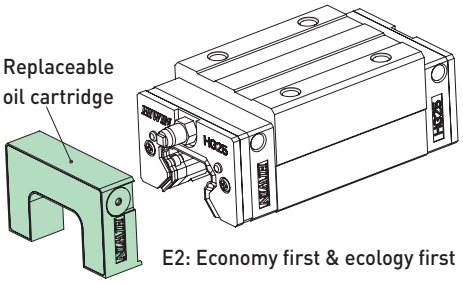
E2 Series

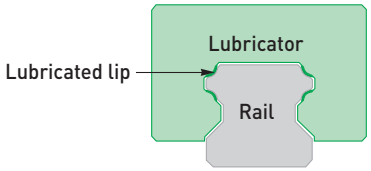
Self Lubrication Kit for Linear Guideways

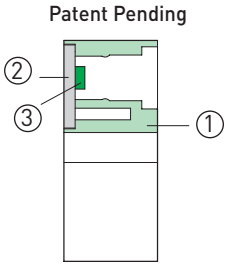
Construction of E2 Type

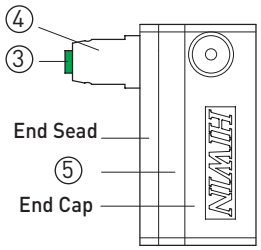
E2 self-lubricating linear guideway contains a lubricator between the end cap and end seal, the outer side of block is equipped with a replaceable oil cartridge, the configuration of which is listed below.

Lubrication oil flows to the lubricator from the replaceable oil cartridge and then lubricates grooves of rails. The Oil cartridge comprises a oil conductor with 3D structure that enables the lubricator to contact oil despite that blocks are placed at a random position or oil flow becomes less, and thus the lubrication oil inside the oil cartridge can be used up via capillary action.









Configuration of the self-lubricant apparatus

- 1. Oil cartridge
- 2. Cartridge cover
- 3. Oil conductor
- 4. Connector
- 5. Lubricator
- 6. Oil

Feature of E2 Type

(1) Cost reduction:
Save costs by reducing oil usage and maintenance.

Table 2.80

Item	Standard Block	E2 (Self-lubricant) Block
Lubricant device	£ XXX	-
Design and installation of lubricant device	£ XXX	-
Cost of oil purchase	0.3cc / hr x 8hrs / day x 280 days / year x 5 year = 3360 cc x cost / cc = £ XXX	10 cc(5 years10000km) x cost/cc= £ XX
Cost of refilling	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:
The linear guideway can be lubricated by E2 self-lubricating module irrespective of mounting directions.

(5) Easy to be assembled and dismantled:
The cartridge can be added or removed from the block even when the guideway is installed on a machine.

(6) Different oils can be selected:
The replaceable oil cartridge can be refilled with any approved lubrication oil depending on different requirements.

(7) Applications for special environments:
Sealing grease into the block leads to better lubrication effects especially in dusty, dirty, or wet environments.

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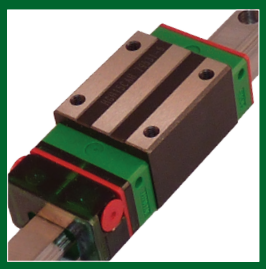

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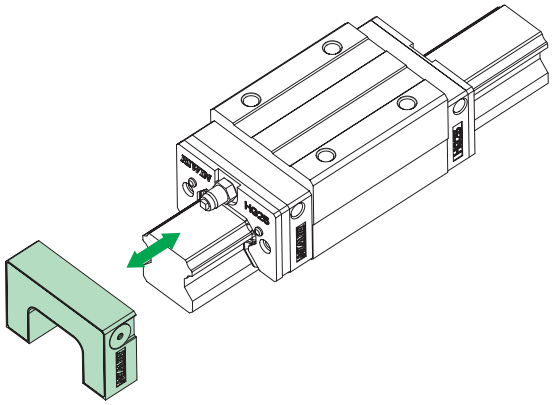
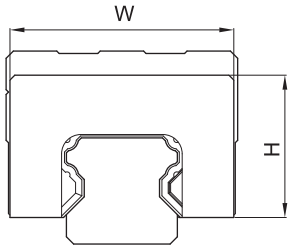
E2 Series

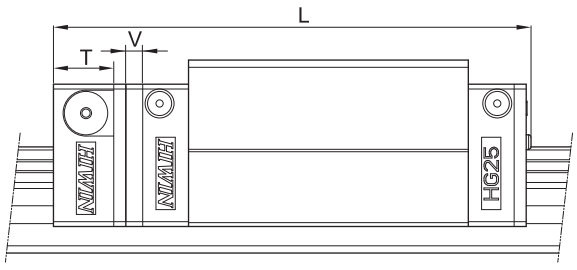
Assembling and Dismantling of Oil Cartridge



Dimensions

HG Series





Model No.	E2 self-lubricating module dimensions				
	W	H	T	V	L
HG 15 C	32.4	19.5	12.5	3	75.4
HG 20 C	43	24.4	13.5	3.5	93.6
HG 20 H					108.3
HG 25 C	46.4	29.5	13.5	3.5	100.5
HG 25 H					121.1
HG 30 C	58	35	13.5	3.5	112.9
HG 30 H					135.9
HG 35 C	68	38.5	13.5	3.5	127.9
HG 35 H					153.7
HG 45 C	82	49	16	4.5	157.2
HG 45 H					189
HG 55 C	97	55.5	16	4.5	183.9
HG 55 H					222
HG 65 C	121	69	16	4.5	219.7
HG 65 H					279.1

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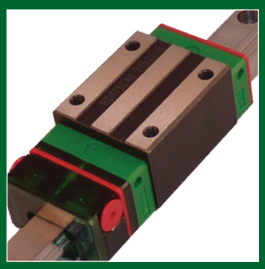
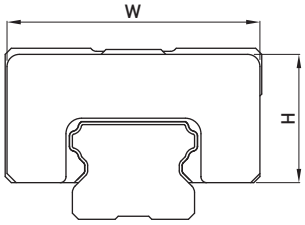
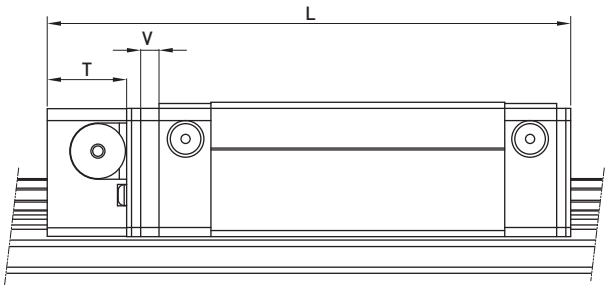
HIWIN®
LinearMotion



Dimensions

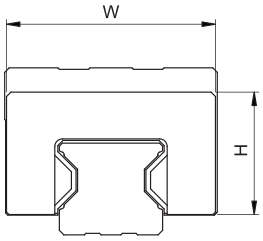
EG Series

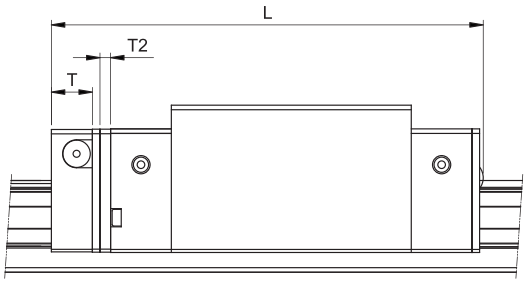




Model No.	E2 self-lubricating module dimensions				
	W	H	T	V	L
EG 15 S	33.3	18.7	11.5	3	54.6
EG 15 C					71.3
EG 20 S	41.3	20.9	13	3	66
EG 20 C					85.1
EG 25 S	47.3	24.9	13	3	75.1
EG 25 C					98.6
EG 30 S	59.3	31	13	3	85.5
EG 30 C					114.1

RG Series





Model No.	E2 self-lubricating module dimensions				
	W	H	T	T2	L
RG 25 C	46.8	29.2	13.5	3.5	114.9
RG 25 H					131.4
RG 30 C	58.8	34.9	13.5	3.5	127.0
RG 30 H					149.0
RG 35 C	68.8	40.3	13.5	3.5	141.0
RG 35 H					168.5
RG 45 C	83.8	50.2	16	4.5	173.7
RG 45 H					207.5
RG 55 C	97.6	58.4	16	4.5	204.2
RG 55 H					252.5
RG 65 C	121.7	76.1	16	4.5	252.5
RG 65 H					315.5

ZIMMER®
TECHNISCHE WERKSTÄTTEN

Zimmer

Clamping and Braking Elements

HK, MK, miniHK

HK
MK

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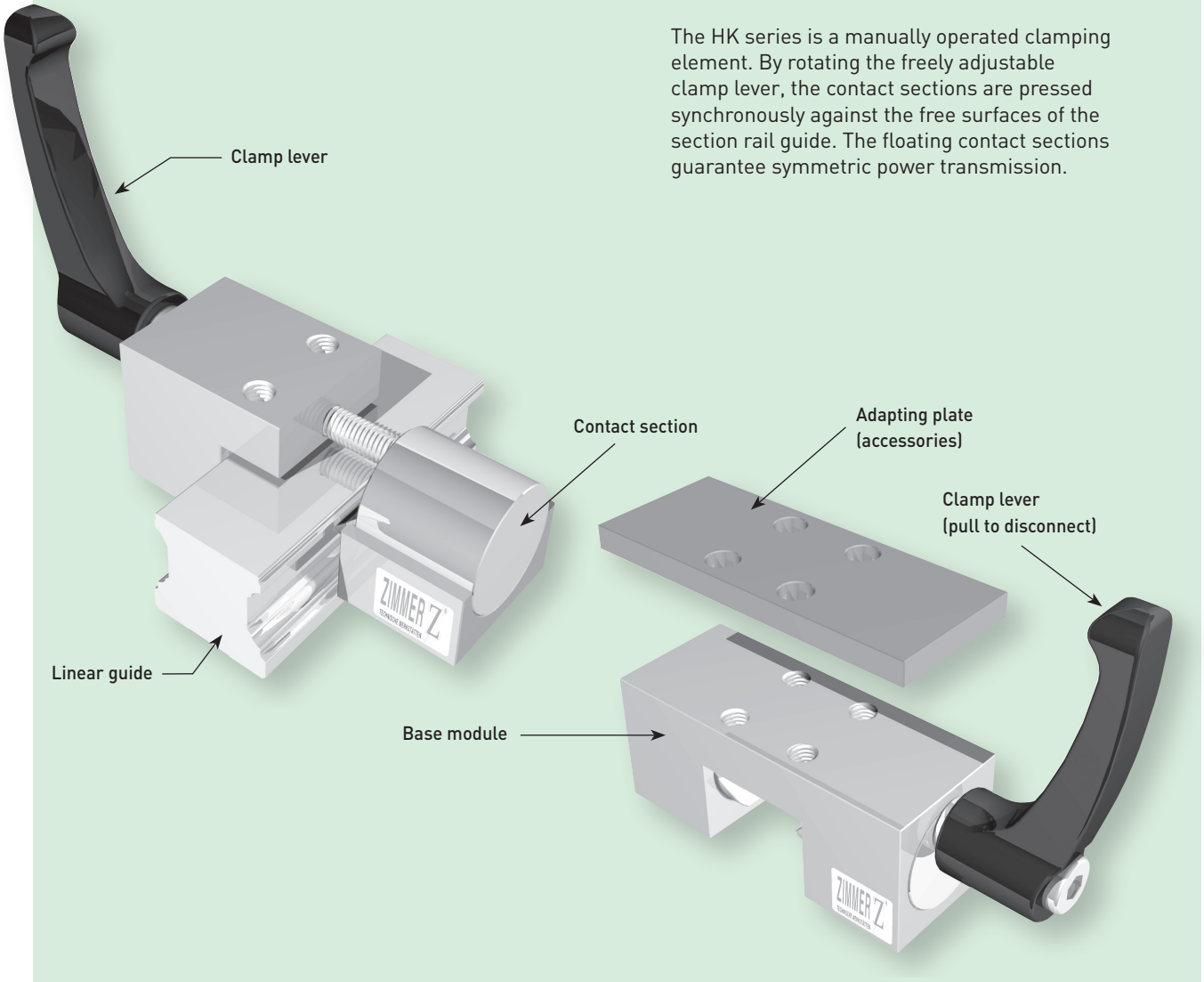
HK Series

Manual Clamping Element - Simple and Reliable



The HK series is a manually operated clamping element. By rotating the freely adjustable clamp lever, the contact sections are pressed synchronously against the free surfaces of the section rail guide. The floating contact sections guarantee symmetric power transmission.

Special Characteristics:

- Simple and safe construction
- Floating supported contact sections
- Exact positioning
- Holding power up to 2,000N

Application scenarios for HK:

- Table traverses and carriages
- Adjustment of width and stops
- Positioning of optic instruments and measuring tables

Variations:

Depending on height of the carriage, an additional adapting plate must be ordered (see table).

Operation:

Standard with hand lever. Other operation options available on request, e.g. a DIN 912 screw.

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Measurements

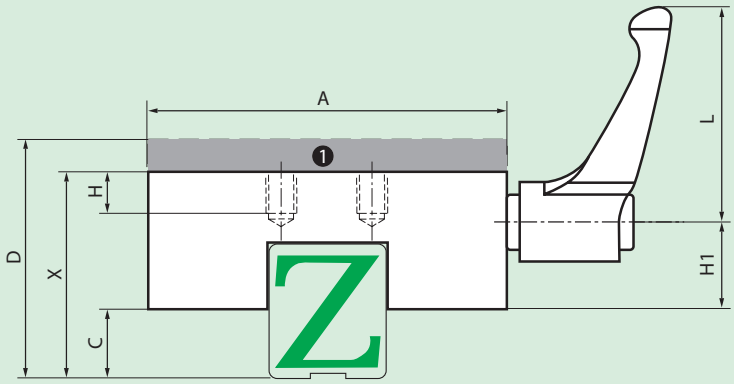
Type of rail	Size	Type of carriage	Item number	Adapting plate *1 (for height compensation)	Measure D (mm)*2	Measure Table (page 105)
LGR..T LGR..R	15	LGW..CC	HK 1501 A		24	3
		LGH..CA	HK 1501 A	PHK 15-4	28	
	20	LGW..CC, LGW..HC, LGH..CA, LGH..HA	HK 2001 A	PHK 20-4	30	6
	25	LGW..CC, LGW..HC	HK 2501 A		36	21
		LGH..CA, LGH..HA	HK 2501 A	PHK 25-4	40	
	30	LGW..CC, LGW..HC	HK 3001 A		42	28
		LGH..CA, LGH..HA	HK 3001 A	PHK 30-3	45	
	35	LGW..CC, LGW..HC	HK 3501 A	PMK 35-4	48	31
		LGH..CA, LGH..HA	HK 3501 A	PMK 35-10	55	32
	45	LGW..CC, LGW..HC	HK 4501 A		60	43
		LGH..CA, LGH..HA	HK 4501 A	PHK 45-10	70	
	55	LGW..CC, LGW..HC	HK 5501 A		70	62
		LGH..CA, LGH..HA	HK 5501 A	PHK 55-10	80	
	65	LGW..CC, LGW..HC,LGH..CA, LGH..HA	HK 6501 A		90	53
HGR..T HGR..R	15	HGW..CC	HK 1501 A		24	3
		HGH..CA	HK 1501 A	PHK 15-4	28	
	20	HGW..CC, HGW..HC, HGH..CA, HGH..HA	HK 2001 A	PHK 20-1	30	63
	25	HGW..CC, HGW..HC	HK 2501 A		36	21
		HGH..CA, HGH..HA	HK 2501 A	PHK 25-4	40	
	30	HGW..CC, HGW..HC	HK 3001 A		42	28
		HGH..CA, HGH..HA	HK 3001 A	PHK 30-3	45	
	35	HGW..CC, HGW..HC	HK 3501 A		48	35
		HGH..CA, HGH..HA	HK 3501 A	PMK 35-7	55	
	45	HGW..CC, HGW..HC	HK 4501 A		60	43
		HGH..CA, HGH..HA	HK 4501 A	PHK 45-10	70	
	55	HGW..CC, HGW..HC	HK 5501 A		70	62
		HGH..CA, HGH..HA	HK 5501 A	PHK 55-10	80	
	65	HGW..CC, HGW..HC, HGH..CA, HGH..HA	HK 6501 A		90	53
EGR..T	15	EGH...SA, EGH...CA, EGW...SC, EGW...CC	HK 1501 A	PHK 15-3	24	36
	20	EGH...SA, EGH...CA, EGW...SC, EGW...CC	HK 2001 A		28	8
	25	EGH...SA, EGH...CA, EGW...SC, EGW...CC	HK 2501 A	PHK 25-1	33	15
	30	EGH...SA, EGH...CA, EGW...SC, EGW...CC	HK 3001 A		42	28
RG..T	25	RGW..CC, RGW..HC	On Request		36	
		RGH..CA, RGH..HA	On Request		40	
	30	RGW..CC, RGW..HC	HK 3001 A		42	28
		RGH..CA, RGH..HA	HK 3001 A		45	29
	35	RGW..CC, RGW..HC	HK 3501 A		48	35
		RGH..CA, RGH..HA	HK 3501 A	PMK 35-7	55	
	45	RGW..CC, RGW..HC	On Request		60	
		RGH..CA, RGH..HA	On Request		70	
	55	RGW..CC, RGW..HC	HK 5501 A		70	62
		RGH..CA, RGH..HA	HK 5501 A	PHK 55-10	80	
	65	RGW..CC, RGW..HC, RGH..CA, RGH..HA	On Request		90	

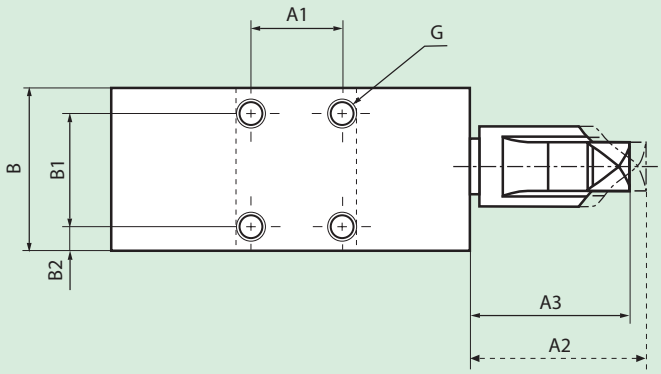
*1 Only required for high carriage design
*2 Supplements the measure table and datasheet

HK
MK

Description

HK Series





Consider measurement C!

❶ Adapting plate (accessories)

X = measure of function to be complied
D = Dimension of installation-linear guide
(if necessary with adapting plate accessories)

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Measure Table	Holding power (N) HK Fastening Torque (Nm)	A (mm)	A1 (mm)	A2 (mm)	A3 (mm)	B (mm)	B1 (mm)	B2 (mm)	C (mm)	X (mm)	G	L (mm)	H (mm)	H1 (mm)
1	1200/5	47	17	33,5	30,5	25	17	4	4,5	22	M4	44	5	12,5
2	1200/4	47	17	33,5	30,5	25	17	4	5	24	M4	44	5	14,3
3	1200/5	47	17	33,5	30,5	25	17	4	6,5	24	M4	44	5	12,5
4	1200/5	60	17	33,5	30,5	25	17	4	3,5	21	M4	44	5	12,5
5	1200/7	47	38	33,5	30,5	29	20	4,5	6,5	24	M5	44	6	13,4
6	1200/7	60	15	41,5	38,5	24	15	4,5	6	26	M5	63	6	13
7	1200/4	60	15	33,5	30,5	24	15	4,5	8	27	M5	44	6	12,5
8	1200/7	60	15	41,5	38,5	24	15	4,5	8	28	M5	63	6	13
9	1200/4	60	15	33,5	30,5	24	15	4,5	9	28	M5	44	6	12,5
10	1200/5	60	15	33,5	30,5	24	15	4,5	7	30	M5	44	6	17,5
11	1200/7	60	15	41,5	38,5	24	15	4,5	10	30	M5	63	6	13
12	1200/4	60	15	33,5	30,5	24	15	4,5	11	30	M5	44	5	12,5
13	1200/7	72	20	41,5	38,5	30	20	5	7	31	M6	63	8	15
14	1200/7	70	20	41,5	38,5	30	20	5	8	31	M6	63	8	15,5
15	1200/7	70	20	41,5	38,5	30	20	5	8	32	M6	63	8	15
16	1200/7	70	20	41,5	38,5	30	20	5	9	32	M6	63	6	15,5
17	1200/7	70	20	41,5	38,5	30	20	5	9	33	M6	63	8	15
18	1200/7	70	20	41,5	38,5	30	20	5	10	33	M6	63	8	15,5
19	1200/7	70	20	41,5	38,5	30	20	5	10	34	M6	63	8	15
20	1200/7	70	20	41,5	38,5	30	20	5	7	36	M6	63	7	22,3
21	1200/7	70	20	41,5	38,5	30	20	5	12	36	M6	63	8	15
22	1200/7	70	20	41,5	38,5	30	20	5	16	40	M6	63	8	15
23	1200/4	77	24	33,5	30,5	24	15	4,5	3	21	M5	44	6	12,5
24	1200/4	80	20	33,5	30,5	30	20	5	4	27	M6	44	6	17
25	2000/15	90	22	50,5	46,5	39	22	8,5	8	38	M6	78	8	21,5
26	2000/15	90	22	50,5	46,5	39	22	8,5	8	42	M6	78	8	21,5
27	2000/15	90	22	50,5	46,5	39	22	8,5	9	42	M6	78	8	25
28	2000/15	90	22	50,5	46,5	39	22	8,5	12	42	M6	78	8	21,5
29	2000/15	90	22	50,5	46,5	39	22	8,5	15	45	M6	78	8	21,5
30	2000/15	100	24	50,5	46,5	39	24	7,5	8	40	M8	78	10	21,5
31	2000/15	100	24	50,5	46,5	39	24	7,5	12	44	M8	78	10	21,5
32	2000/15	100	24	50,5	46,5	39	24	7,5	13	45	M8	78	10	21,5
33	2000/15	100	24	50,5	46,5	39	24	7,5	7	48	M8	78	10	31
34	1200/7	70	20	41,5	38,5	30	20	5	11,5	33	M6	63	8	15
35	2000/15	100	24	50,5	46,5	39	24	7,5	16	48	M8	78	10	21,5
36	1200/5	47	17	33,5	30,5	25	17	4	3,5	21	M4	44	5	12,5
37	1200/7	118	20	41,5	38,5	30	20	5	11	35	M6	63	8	13,5
38	1200/7	120	50	41,5	38,5	39	25	7	5	35	M6	63	11	23,2
39	1200/4	60	17	33,5	30,5	25	17	4	2,5	17	M4	44	5	10
40	2000/15	120	26	50,5	46,5	44	26	9	10	52	M10	78	12,5	26,5
41	2000/15	120	26	50,5	46,5	44	26	9	12	60	M10	78	12,5	35,7
42	2000/15	120	26	50,5	46,5	44	26	9	12	60	M10	78	14	35
43	2000/15	120	26	50,5	46,5	44	26	9	18	60	M10	78	14	26,5
44	2000/18	170	35	61,5	56,5	64	35	14,5	26	90	M16	95	20	38,5
45	2000/15	135	50	50,5	46,5	39	20	9,5	4	35	M8	78	10	20,5
46	2000/22	140	30	61,5	56,5	49	30	9,5	14	63	M14	95	16	31
47	2000/22	140	30	61,5	56,5	49	30	9,5	19	70	M14	95	14	37,5
48	2000/22	140	30	61,5	56,5	49	30	9,5	19	68	M14	95	16	31
49	1200/4	80	15	33,5	30,5	24	15	4,5	4	27	M5	44	10	18,8
50	2000/15	145	60	50,5	46,5	39	20	9,5	11	50	M8	78	11	29,9
51	2000/22	160	35	61,5	56,5	64	35	14,5	24	90	M16	95	20	45,5
52	2000/22	170	35	61,5	56,5	64	35	14,5	15	75	M16	95	21	36
53	2000/22	170	35	61,5	56,5	64	35	14,5	26	90	M16	95	24	36
54	130/3	34	10	33,5	30,5	20	10	5	4,2	24	M3	40	6	12,9
55	250/3	44	12	33,5	30,5	24	12	6	6	30	M4	40	6	16
56	330/3	48	15	33,5	30,5	30	15	7,5	7	36	M5	44	7	19,6
57	2000/15	57	18	50,5	46,5	29	18	5,5	12	33	M6	78	8	13
58	1200/4	32	17	33,5	30,5	25	17	4	7	20	M4	44	5	7,8
59	1200/5	43	15	33,5	30,5	24	15	4,5	8,5	24	M5	44	6	8,8
60	1200/7	47	20	41,5	38,5	30	20	5	11	30	M6	63	7	10
61	2000/15	68	24	50,5	46,5	39	24	7,5	14	38	M8	78	10	15
62	2000/22	140	30	61,5	56,5	49	30	9,5	21	70	M14	95	16	31
63	1200/7	60	15	41,5	38,5	24	15	4,5	9	29	M5	63	6	13
64	2000/15	120	26	50,5	46,5	44	26	9	4	52	M10	78	12,5	35,7

HK
MK

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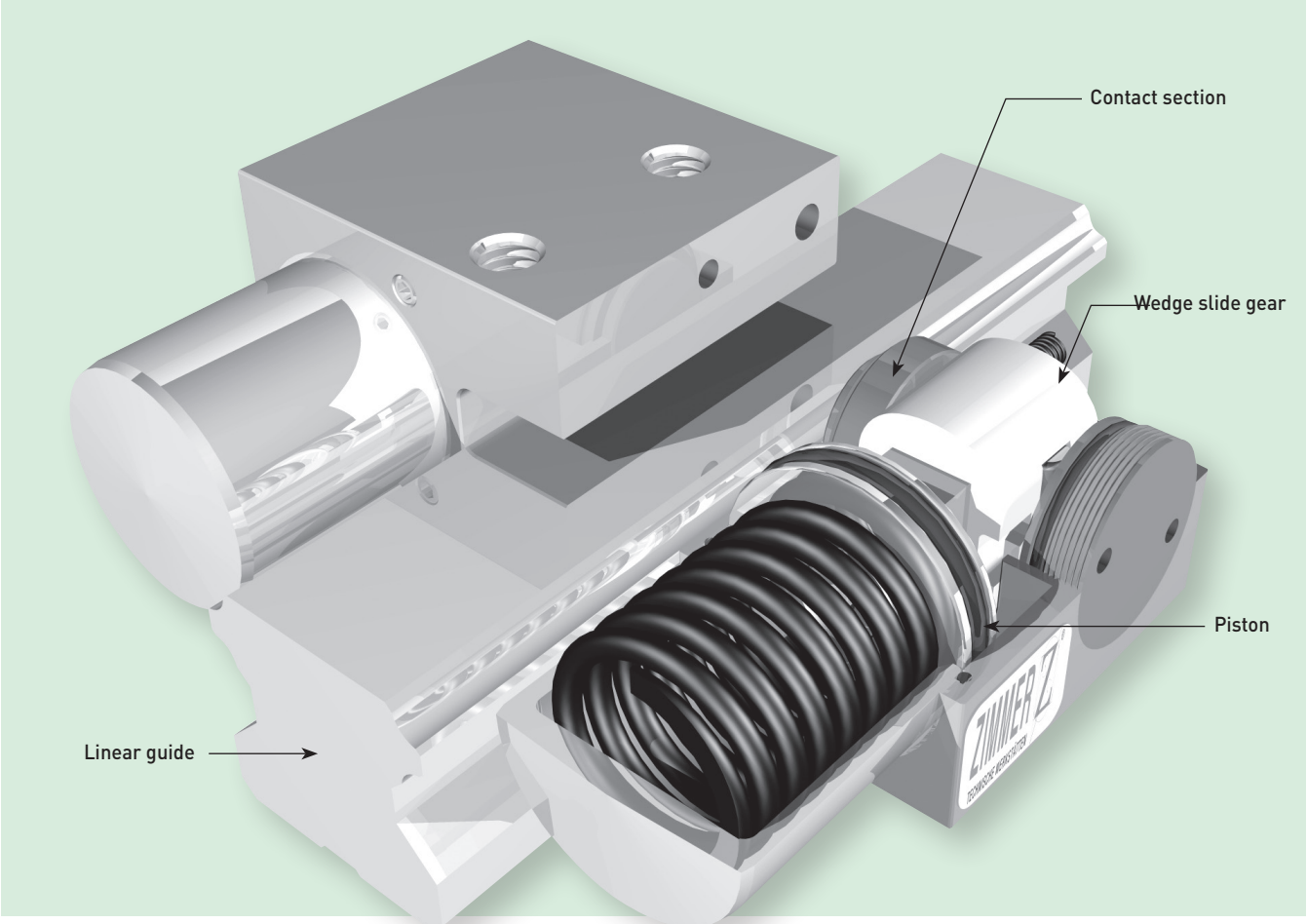
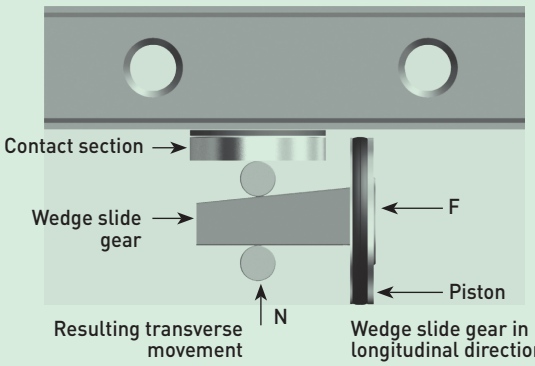
MK Series

The Pneumatic Clamping Element



High holding forces - low cost:

The MK series is the classic Zimmer clamping element. The patented wedge slide gear achieves high supporting forces. The pressure medium moves the wedge slide gear in a longitudinal direction. The resulting transverse movement presses contact section with high force against the free surfaces of the section rail guide. The MK is clamped (closed) by pneumatic pressure. The MKS is clamped (closed) by spring-loaded energy storage and is opened by pneumatic pressure.



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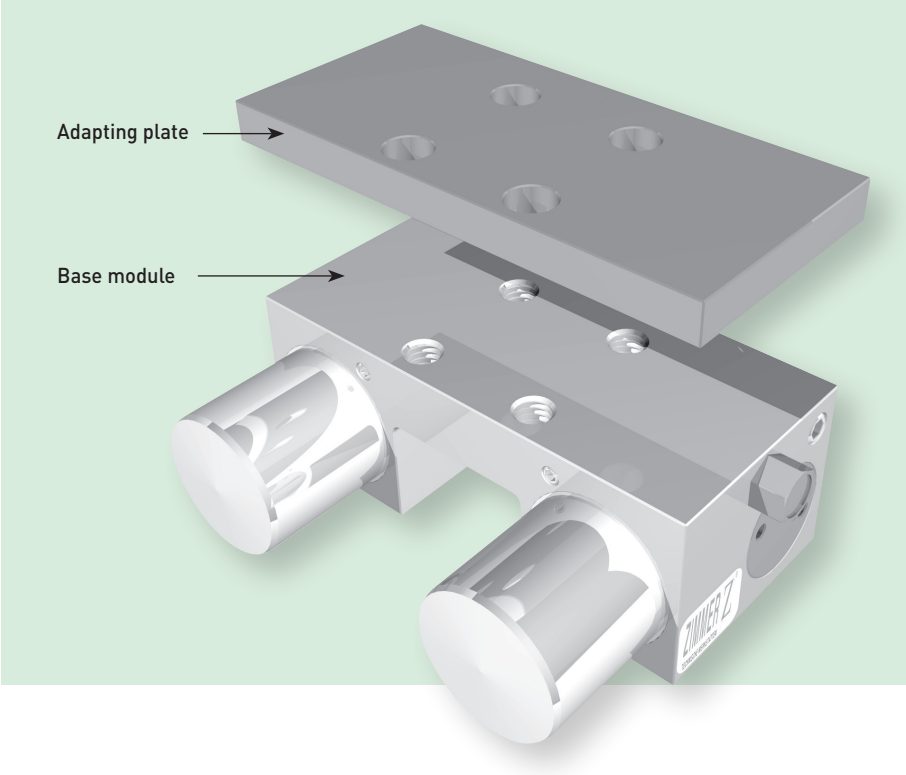
MKS Design



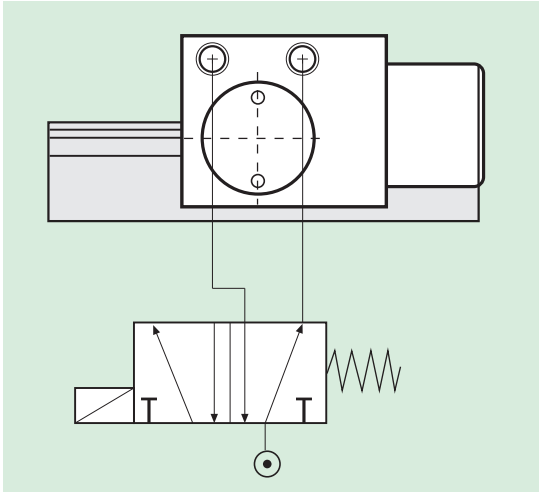
Special characteristics:
- Compact design
- High clamping forces
- Exact positioning
- Strong axial and horizontal rigidity

Application scenarios for MK:
- Positioning of axis
- Fixing of vertical axis
- Positioning of lifting devices
- Clamping of machine tables

Variations:
Depending on the height of the carriage, an additional adapting plate must be ordered (see table).

Connecting options:
The MK/MKS series have air connections on both sides as part of their standard equipment. This means that the air connection and the air –release filter can be moved over to the opposite side.

Higher supporting forces with PLUS connection (MKS):
By using a 5/2 (overflow-free) or 5/3 valve it is possible to support the spring power with pneumatic pressure.
By using the PLUS connection, the stated supporting force will be increased.
When the PLUS connection (MKS only) is being used the air-release filter is replaced by connecting a second pneumatic tube (see drawing).
For further information, please refer to the assembly instructions or visit www.zimmer-gmbh.com.



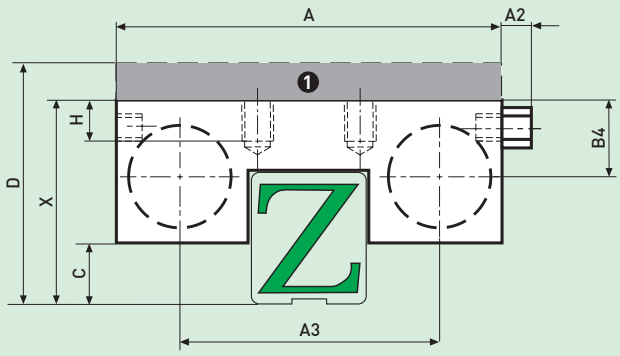
MK Series

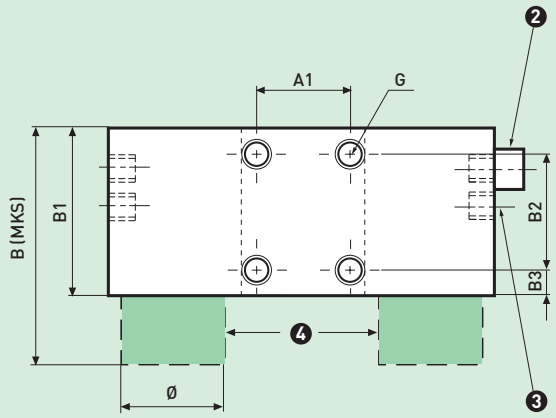
Type of rail	Size	Type of carriage	Item number	Adapting plate *1 (for height compensation)	Measure D (mm)*2	Measure Table (page 110)
LGR..T LGR..R	15	LGW..CC	MK/MKS 1501 A		24	1
		LGH..CA	MK/MKS 1501 A	PHK 15-4	28	
	20	LGW..CC, LGW..HC, LGH..CA, LGH..HA	MK/MKS 2001 A		30	9
	25	LGW..CC, LGW..HC	MK/MKS 2501 A		36	19
		LGH..CA, LGH..HA	MK/MKS 2501 A	PMK 25-4	40	
	30	LGW..CC, LGW..HC	MK/MKS 3001 A		42	29
		LGH..CA, LGH..HA	MK/MKS 3001 A	PHK 30-3	45	
	35	LGW..CC, LGW..HC	MK/MKS 3501 A	PMK 35-4	48	37
		LGH..CA, LGH..HA	MK/MKS 3501 A	PMK 35-11	55	
	45	LGW..CC, LGW..HC	MK/MKS 4501 A	PMK 45-B	60	43
		LGH..CA, LGH..HA	MK/MKS 4501 A	PMK 45-1B	70	
	55	LGW..CC, LGW..HC	MK/MKS 5501 A	PMK 55-4	70	53
		LGH..CA, LGH..HA	MK/MKS 5501 A	PMK 55-14	80	
	65	LGW..CC, LGW..HC,LGH..CA, LGH..HA	MK/MKS 6501 A		90	60
HGR..T HGR..R	15	HGW..CC	MK/MKS 1501 A		24	1
		HGH..CA	MK/MKS 1501 A	PMK 15-4	28	
	20	HGW..CC, HGW..HC, HGH..CA, HGH..HA	MK/MKS 2001 A		30	9
	25	HGW..CC, HGW..HC	MK/MKS 2512 A		36	19
		HGH..CA, HGH..HA	MK/MKS 2512 A	PMK 25-4	40	
	30	HGW..CC, HGW..HC	MK/MKS 3001 A		42	29
		HGH..CA, HGH..HA	MK/MKS 3001 A	PMK 30-3	45	
	35	HGW..CC, HGW..HC	MK/MKS 3501 A		48	38
		HGH..CA, HGH..HA	MK/MKS 3501 A	PMK 35-7	55	
	45	HGW..CC, HGW..HC	MK/MKS 4501 A	PMK 45-2	60	45
		HGH..CA, HGH..HA	MK/MKS 4501 A	PHK 45-12	70	
	55	HGW..CC, HGW..HC	MK/MKS 5501 A	PMK 55-2	70	55
		HGH..CA, HGH..HA	MK/MKS 5501 A	PMK 55-12	80	
	65	HGW..CC, HGW..HC, HGH..CA, HGH..HA	MK/MKS 6501 A		90	60
EGR..T	15	EGH...SA, EGH...CA, EGW...SC, EGW...CC	MK/MKS 1501 A		24	1
	20	EGH...SA, EGH...CA, EGW...SC, EGW...CC	MK/MKS 2001 A		28	7
	25	EGH...SA, EGH...CA, EGW...SC, EGW...CC	MK/MKS 2501 A	PMK 25-2	33	20
	30	EGH...SA, EGH...CA, EGW...SC, EGW...CC	MK/MKS 3001 A	PMK 30-2	42	28
RG..T	25	RGW..CC, RGW..HC	MK/MKS 2512 F		36	14
		RGH..CA, RGH..HA	MK/MKS 2512 F	PMK 25-4	40	
	30	RGW..CC, RGW..HC	MK/MKS 3012 F		42	15
		RGH..CA, RGH..HA	MK/MKS 3012 F	PMK 30-3	45	
	35	RGW..CC, RGW..HC	MK/MKS 3512 F		48	35
		RGH..CA, RGH..HA	MK/MKS 3512 F	PMK 35-7	55	
	45	RGW..CC, RGW..HC	ON REQUEST		60	
		RGH..CA, RGH..HA	ON REQUEST		70	
	55	RGW..CC, RGW..HC	MK/MKS 5501 F	PMK 55-6	70	12
		RGH..CA, RGH..HA	MK/MKS 5501 F	PHK 55-16	80	
	65	RGW..CC, RGW..HC	ON REQUEST		90	
		RGW..CA, RGH..HA	ON REQUEST		90	

*1 Only required for high carriage design
*2 Suppliments the measure table and datasheet

Description

MK





Consider measurement C!

Air connections are located on both sides and can be exchanged according to mounting requirements.
Only one connection is necessary for function.

❶ Adapting plate PMK (accessory)

❷ MK Series: Air filter
MKS: M5 port (air connection)

❸ MK Series: M5 port (air connection)
MKS: Air filter / Plus connection M5

❹ Mounting of spring unit at MKS is omitted at MK

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Measure Table	Holding power (N) MK	Holding power (N) MKS	A (mm)	A1 (mm)	A2 (mm)	A3 (mm)	B (mm)	B1 (mm)	B2 (mm)	B3 (mm)	B4 (mm)	C (mm)	X (mm)	G	H (mm)	Dia.
1	650	400	55	15	6	34	58	39	15	15,5	12	2,5	24	M4	4,5	16
2	650	400	55	15	6	34	58	39	15	15,5	11,6	3,2	24	M4	4,5	16
3	1750	1050	142	22	5	110	68	39	22	8,5	20,5	7	42	M8	10	25
4	650	400	55	15	6	34	58	39	15	15,5	12	6,5	28	M4	4,5	16
5	650	400	60	15	5	39	68	59	25	12	10,5	4,5	24	M5	6	16
6	1000	600	66	20	6	43	61	39	20	5	14,4	1,5	27	M5	5	20
7	1000	600	66	20	6	43	61	39	20	5	14,4	2,5	28	M5	5	20
8	1000	600	66	20	5	43	61	39	20	9	15,5	3	30	M6	6	20
9	1000	600	66	20	6	43	61	39	20	5	14,4	4,5	30	M5	5	20
10	1200	750	70	20	5	47	61	39	20	5	19,5	5	36	M6	8	20
11	460	440	70	15	5	50,6	64	48	15	8,5	8,3	1,2	17	M5	7,5	12
12	1200	750	75	20	5	49	56	35	20	5	15,5	3	31	M6	8	22
13	1000	600	88	20	5	65	61	39	20	5	14,4	4,5	30	M5	5,5	20
14	1200	750	75	20	5	49	56	35	20	5	20	3,5	36	M6	8	22
15	1200	750	90	22	5	64	60	39	22	8,5	24,5	5	42	M8	9	22
16	1200	750	75	20	5	49	56	35	20	5	15,5	4	32	M6	8	22
17	1200	750	75	20	5	49	56	35	20	5	15,5	5	33	M6	8	22
18	1200	750	75	20	6	49	56	35	20	5	15,5	6	34	M6	8	22
19	1200	750	75	20	5	49	56	35	20	5	15,5	8	36	M6	8	22
20	1200	750	75	20	5	49	56	35	20	5	15,5	3.0	31	M6	8	22
21	1200	750	75	20	5	49	56	35	20	5	15,5	12	40	M6	8	22
22	3000	2000	128	30	5	86,8	82	49	30	9,5	40	10	67	M10	15	30
23	1200	750	75	20	5	49	65	54	20	12	12,5	5	30	M6	8	22
24	650	400	77	15	5	56	58	49	15	21,5	9,6	2	21	M5	5	16
25	1000	600	88	20	5	65	65	53	20	19,5	11,5	4	27	M6	6	20
26	1750	1050	90	22	5	58	68	39	22	8,5	20,5	3	38	M8	10	25
27	1750	1050	90	22	5	58	68	39	22	8,5	24	3,5	42	M8	9	25
28	1750	1050	90	22	5	58	68	39	22	8,5	20,5	5	40	M8	10	25
29	1750	1050	90	22	5	58	68	39	22	8,5	20,5	7	42	M8	10	25
30	1750	1050	90	22	5	58	68	39	22	8,5	20,5	10	45	M8	10	25
31	1750	1050	90	22	5	58	78	59	22	13,5	14	5	33	M8	8	25
32	1750	1050	96	20	5	64	73	54	20	10	15,5	8,5	38	M8	10	25
33	2000	1250	100	24	5	68	67	39	24	7,5	20,5	3,5	40	M8	10	28
34	3000	2000	138	30	5	96,8	82	49	30	9,5	43,7	14,5	78	M10	15	30
35	2000	1250	100	24	5	68	67	39	24	7,5	20,5	4	48	M8	10	28
36	2000	1250	100	24	5	68	67	39	24	7,5	20,5	8,5	45	M8	10	28
37	2000	1250	100	24	5	68	67	39	24	7,5	20,5	7,5	44	M8	10	28
38	2000	1250	100	24	5	68	67	39	24	7,5	20,5	11,5	48	M8	10	28
39	3000	2000	138	30	5	96,8	82	49	30	9,5	43,7	11,5	75	M10	15	30
40	3000	2000	128	30	5	86,8	82	49	30	9,5	36,2	10	63	M10	15	30
41	1200	750	120	50	5	94	56	35	20	5	20	2,5	35	M6	8	22
42	2250	1450	120	26	5	78,8	82	49	26	11,5	35,5	8	60	M10	15	30
43	2250	1450	120	26	5	78,8	82	49	26	11,5	26,8	8,5	52	M10	15	30
44	2250	1450	120	26	5	78,8	82	49	26	11,5	26,8	10,5	54	M10	15	30
45	2250	1450	120	26	5	78,8	82	49	26	11,5	26,8	14,5	58	M10	15	30
46	2250	1450	120	26	5	78,8	82	49	26	11,5	26,8	16,5	60	M10	15	30
47	2250	1450	138	30	5	97	82	49	30	9,5	42	16	75	M10	15	30
48	1200	750	75	20	5	49	56	35	20	5	15,3	3,5	31	M6	7,5	22
49	1200	750	121	50	5	95	57	36	20	5	17,5	5	35	M8	10	22
50	3000	2000	128	30	5	86,8	82	49	30	9,5	40	13	70	M10	15	30
51	2250	1450	130	26	5	88,8	82	49	26	11,5	26,8	16,5	60	M10	15	30
52	2250	1450	128	30	5	87	82	49	30	9,5	30,5	14,5	63	M10	18	30
53	2250	1450	128	30	5	87	82	49	30	9,5	30,5	15,5	64	M10	18	30
54	2250	1450	120	26	5	78,8	82	49	26	11,5	27,5	8	52	M10	13,8	30
55	2250	1450	128	30	5	87	82	49	30	9,5	30,5	19,5	68	M10	18	30
56	2250	1450	128	30	5	87	82	49	30	9,5	30,5	21,5	70	M10	18	30
57	650	400	77	15	5	56	58	39	15	21,5	9,6	2	21	M5	5	16
58	650	400	80	20	5	59	58	39	20	15,5	14	3,5	27	M4	4,5	16
59	3000	2000	138	30	5	96,8	82	49	30	9,5	55	16,5	90	M10	20	30
60	2250	1450	138	30	5	96,8	82	49	30	9,5	46	27	90	M10	19	30
61	1200	750	75	20	5	50,4	56	35	20	5	15,5	3	31	M6	8	22
62	2000	1250	156	60	5	124	67	39	20	9,5	29,5	4,5	50	M10	10	28
63	2000	1250	156	60	5	124	70	42	20	9,5	30	4,5	50	M10	10	28
64	650	400	64	15	6	45,4	58	39	15	15,5	12	2,5	24	M4	4,5	16
65	1200	750	84	20	5	58	56	35	20	5	15,5	8	36	M6	8	22
66	1200	750	114	24	5	82	67	39	24	7,5	20,5	11,5	48	M8	10	28

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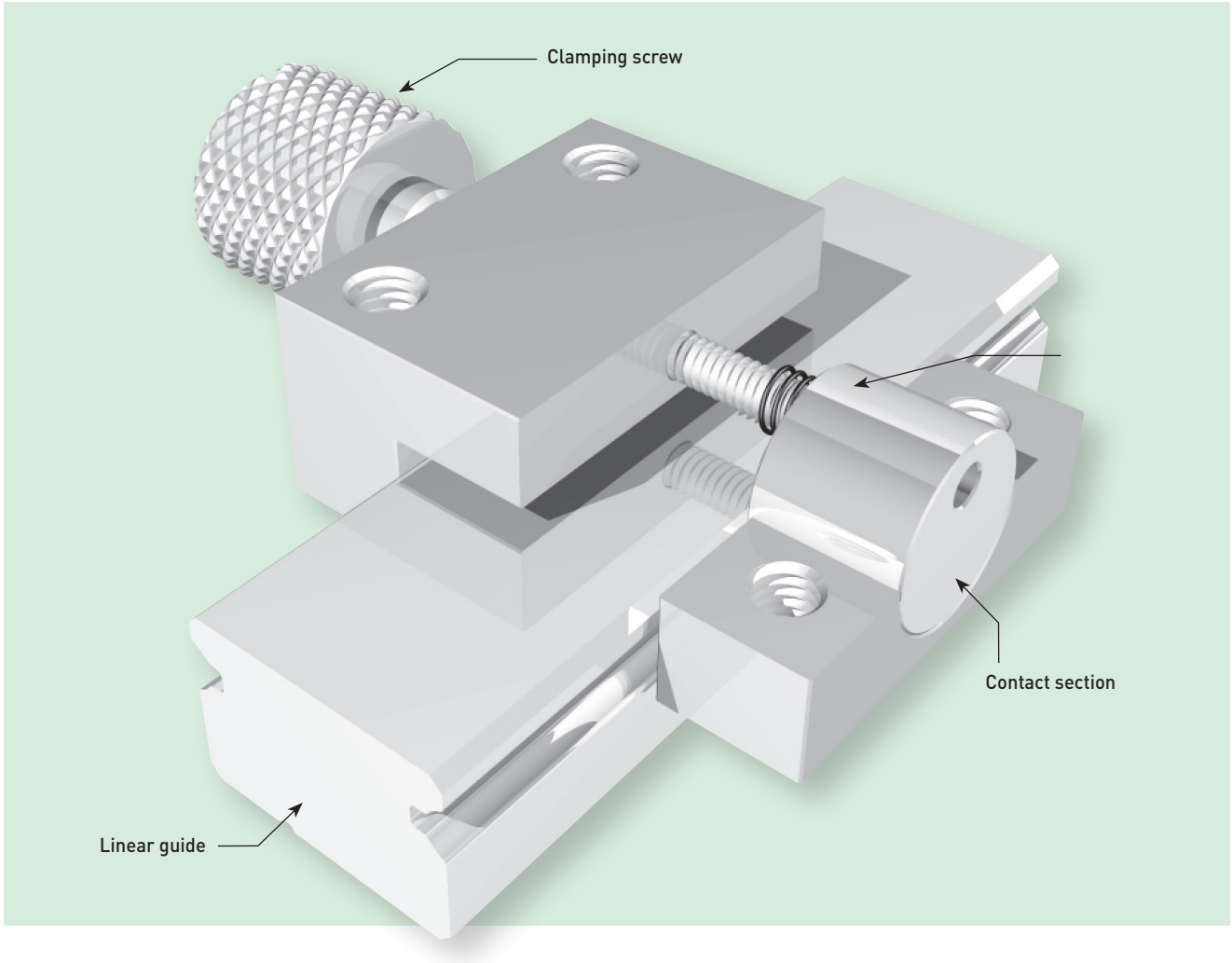
miniHK Series

Minature Manual Clamping



Small and efficient!

The miniHK series is a manually operated clamping element. By tightening the clamping screw, the contact sections are pressed synchronously against the free surfaces of the section rail guide. The floating contact sections guarantee symmetric power transmission.

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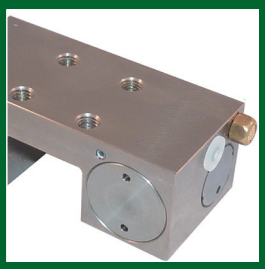
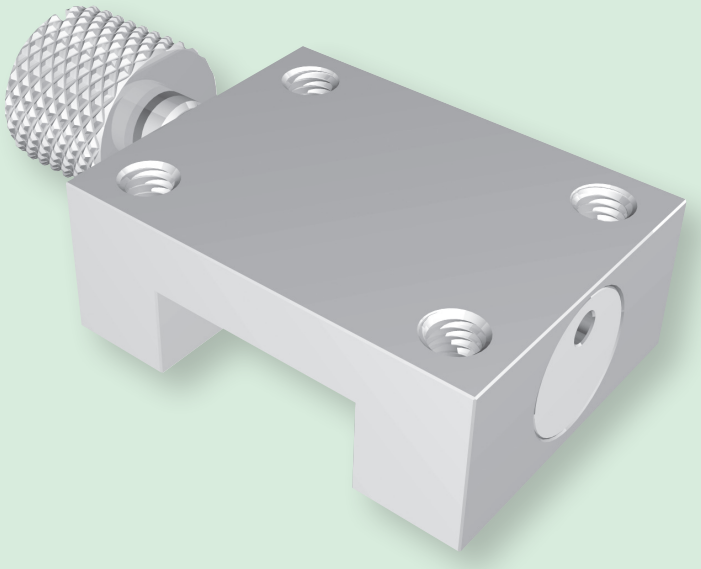


miniHK Design



Special characteristics:
- Simple and safe construction
- Floating supported contact sections
- Exact positioning
- Holding power up to 220N

Application scenarios for miniHK:
- Placement robot
- Measuring instruments
- Assembly aids

Opperation:
With clamping screw.

Rail manufacturer
HIWIN® Lineartechnologie

Type of rail	Size	Type of carriage	Item number
MGN	7	MGN..CCMGN..H	HK 0700 M
	9	MGN..CCMGN..H	HK 0900 M
	12	MGN..CCMGN..H	HK 1200 M
	15	MGN..CCMGN..H	HK 1500 M

HIWIN®
LinearMotion

Single Axis Robot

KK40, KK50, KK60, KK86, KK100 and KK130

KK

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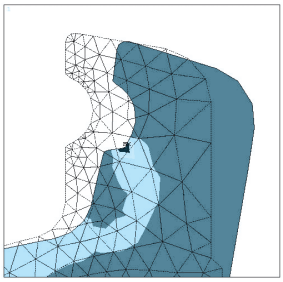
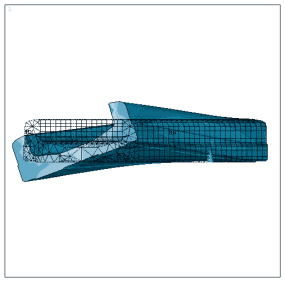
Single Axis Robot

KK Series

Features

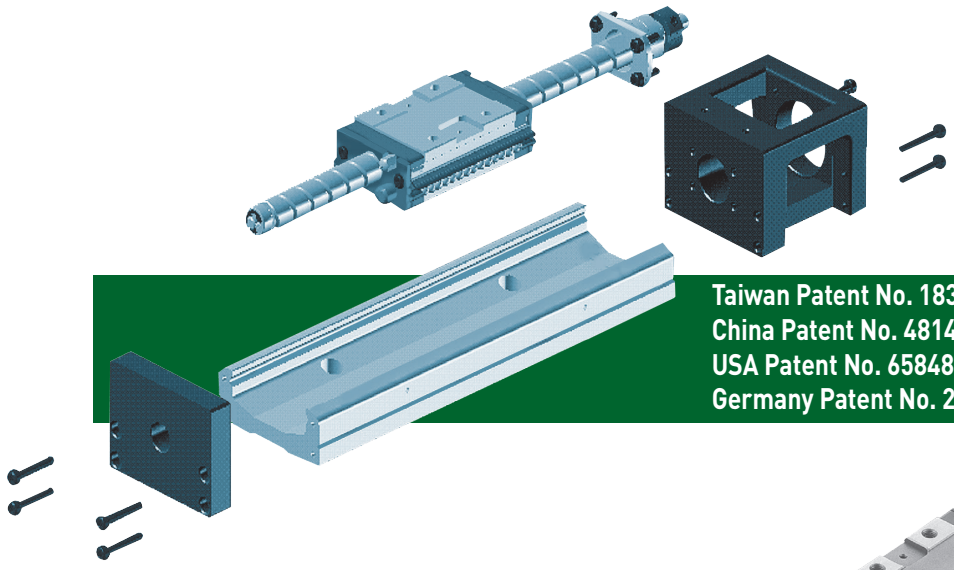
- Easy for system design, installation and maintenance
- Compact and lightweight
- High accuracy
- High stiffness
- Complete selection of accessories for most any application.



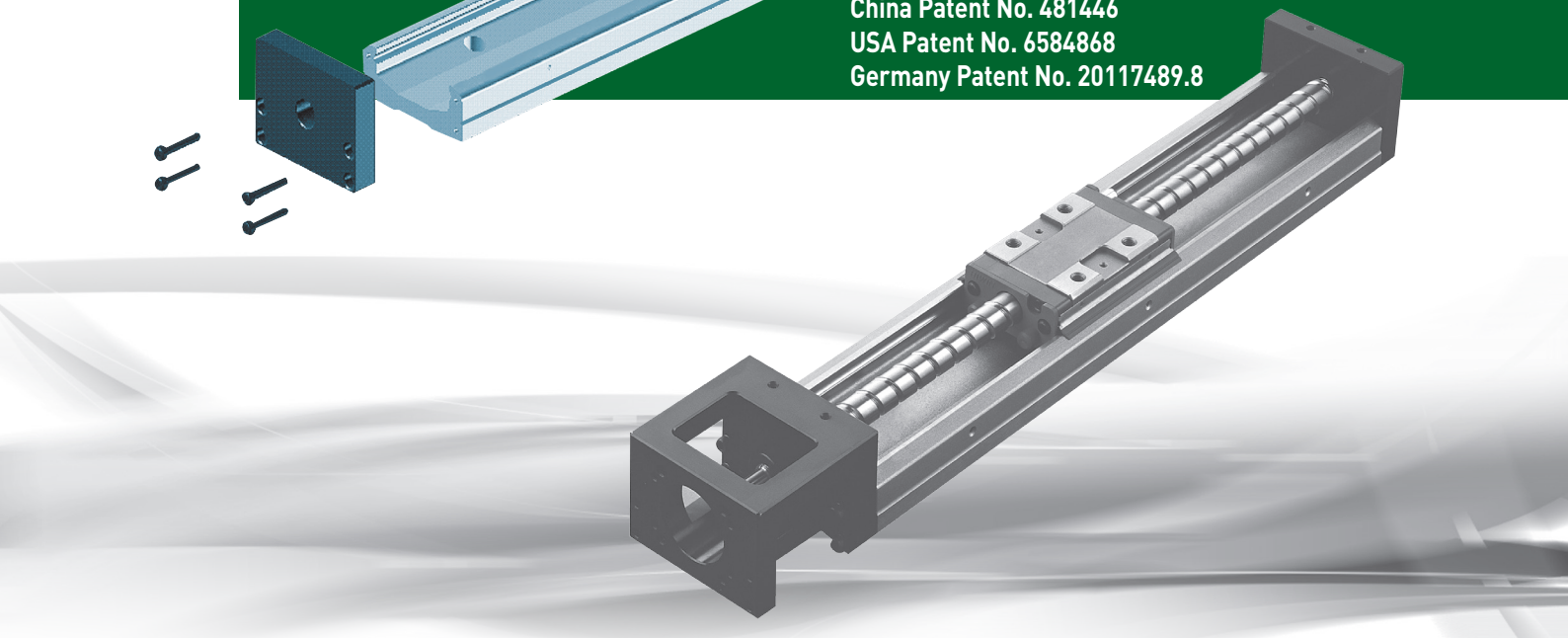


The structure is designed for high stiffness and lightweight. The FEM analysis is shown as follows:

The KK Single Axis Robot features a slider actuated by a motor-driven ballscrew and guided by a linear guideway with a U-shape rail. The slider acts as the ballscrew's nut and the guideway's block.



Taiwan Patent No. 183022
China Patent No. 481446
USA Patent No. 6584868
Germany Patent No. 20117489.8



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LinearMotion

Model Number

KK Series

Example: KK6010P-400A1-F1CS0

KK	60	10	P	E	-	400	E	A	2	E	-	F0	C	S0

KK Stage

Nominal Width:
40, 50, 60, 86,
100, 130

Ballscrew Lead
KK 40 : 1
KK 50 : 2
KK 60 : 5, 10
KK 86 : 10, 20
KK 100 : 20
KK 130 : 25

Accuracy Grade:
P: Precision, C: Normal

E: Ballscrew Special Order;
None: Normal Type

Rail Length (unit : mm)
KK40 : 100, 150, 200
KK50 : 150, 200, 250, 300
KK60 : 150, 200, 300, 400, 500, 600
KK86 : 340, 440, 540, 640, 740, 940
KK100 : 980, 1080, 1180, 1280, 1380
KK130 : 980, 1180, 1380, 1680

E: Rail Special Order;
None: Normal Type

Sensor
S0: Sensor Rail Only
S1: Omron SX671
S2: Omron SX674
S3: Inductive Proximity
None:No Sensor and Rail

C: Cover Type;
B: Bellows
None: Normal Type

Motor Adaptor Flange

E: Block Special Order
None: Normal Type

Number of Block: 1 or 2

Block Type:
A-Normal;
S - Short

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Max Speed Limit

Model	Ballscrew Lead (mm)	Rail Length (mm)	Speed (mm/sec)	
			Precision	Normal
KK40	01	100	190	190
		150	190	190
		200	190	190
KK50	02	150	270	270
		200	270	270
		250	270	270
		300	270	270
KK60	05	150	550	390
		200	550	390
		300	550	390
		400	550	390
		500	550	390
		600	340	340
	10	150	1100	790
		200	1100	790
		300	1100	790
		400	1100	790
		500	1100	790
		600	670	670
KK86	10	340	740	520
		440	740	520
		540	740	520
		640	740	520
		740	740	520
		940	610	430
	20	340	1480	1050
		440	1480	1050
		540	1480	1050
		640	1480	1050
		740	1480	1050
		940	1220	870
KK100	20	980	1120	800
		1080	980	800
		1180	750	750
		1280	510	630
		1380	440	530
KK130	25	980	1120	800
		1180	1120	800
		1380	830	800
		1680	550	550

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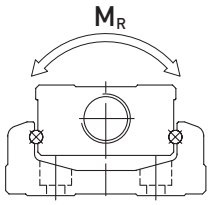
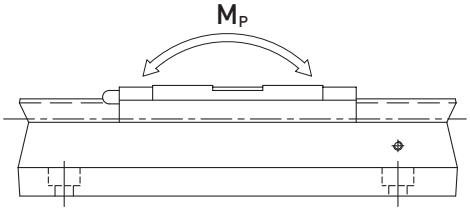
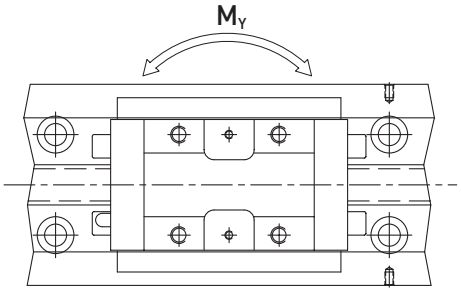
LinearMotion

Specifications

KK Series







Model No.		Ballscew				Guideway															
		Nominal (mm)	Lead (mm)	Basic Dynamic load (N)	Basic Static Load (N)	Basic Dynamic Load Rating (N)		Basic Static Load Rating (N)		Static Rated Moment											
										Allowable Static Moment M_P (N-m) (pitching)				Allowable Static Moment M_Y (N-m) (yawing)				Allowable Static Moment M_R(N-m) (rolling)			
						Block A	Block S	Block A	Block S	Block A1	Block A2	Block S1	Block S2	Block A1	Block A2	Block S1	Block S2	Block A1	Block A2	Block S1	Block S2
KK4001	Precision	8	1	735	1538	3920	-	6468	-	33	182	-	-	33	182	-	-	81	162	-	-
	Normal			676	1284																
KK5002	Precision	8	2	2136	3489	8007	-	12916	-	116	278	-	-	116	278	-	-	222	444	-	-
	Normal			1813	2910																
KK6005	Precision	12	5	3744	6243	13230	7173	21462	11574	152	348	72	205	152	348	72	205	419	838	241	482
	Normal			3377	5625																
KK6010	Precision		10	2410	3743																
	Normal			2107	3234																
KK8610	Precision	15	10	7144	12642	31458	-	50674	-	622	3050	-	-	622	3050	-	-	1507	3014	-	-
	Normal			6429	11387																
KK8620	Precision		20	4645	7655																
	Normal			4175	6889																
KK10020	Precision	20	20	7046	12544	39200	-	63406	-	960	4763	-	-	960	4763	-	-	2205	4410	-	-
	Normal			4782	9163																
KK13025	Precision	25	25	7897	15931	48101	-	84829		1536	7350	-	-	1536	7350	-	-	3885	7770	-	-
	Normal			7092	14352																

Accuracy Grade

KK Series

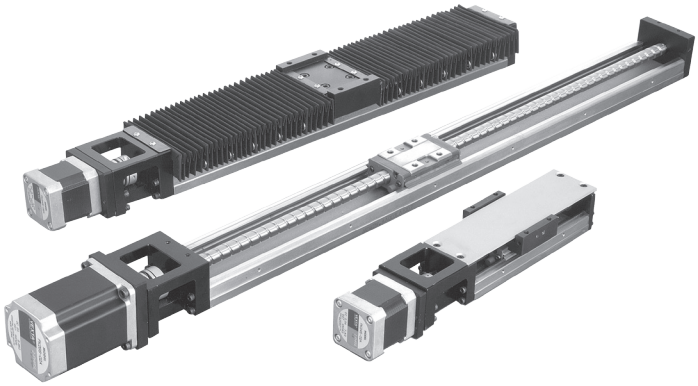
Model	Rail Length	Repeatability		Accuracy		Running Parallelism		Starting Torque(N-cm)	
		Precision	Normal	Precision	Normal	Precision	Normal	Precision	Normal
KK40	100	±0.003	±0.01	0.020	-	0.010	-	1.2	0.8
	150								
	200								
KK50	150	±0.003	±0.01	0.020	-	0.010	-	4	2
	200								
	250								
	300								
KK60	150	±0.003	±0.01	0.020	-	0.010	-	15	7
	200								
	300								
	400								
	500	±0.003	±0.01	0.025	-	0.015	-	15	7
	600								
KK86	340	±0.003	±0.01	0.025	-	0.015	-	15	10
	440								
	540								
	640								
	740	±0.003	±0.01	0.030	-	0.020	-	17	10
	940	±0.003	±0.01	0.040	-	0.030	-	25	10
KK100	980	±0.005	±0.01	0.035	-	0.025	-	17	12
	1080								
	1180	±0.005	±0.01	0.040	-	0.03	-	20	12
	1280	±0.005	±0.01	0.045	-	0.035	-	23	15
	1380			0.05		0.04		25	
KK130	980	±0.005	±0.01	0.035	-	0.025	-	25	15
	1180			0.04		0.03		25	15
	1380								
	1680	±0.007	±0.012	0.05	-	0.04	-	27	18

HIWIN®
LinearMotion

Motor & Adapter Flange

KK Series with Motor

Model Number of KK Type with Motor



KK 2 - 60 10 P - 300 A 2 - M1 D1 G E - F0 C S0

KK Model

Type
None: Standard
1. Motor
2: Motor & Driver
3. Motor, Driver &Controller

Nominal Width:
40, 50, 60, 86, 100, 130

Ballscrew Lead:
KK 40 : 01
KK 50 : 02
KK 60 : 05, 10
KK 86 : 10, 20
KK 100 : 20
KK 130 : 25

Accuracy Grade
P : Precision
C : Normal

Rail Standard Length (mm)
KK40 : 100, 150, 200
KK50 : 150, 200, 250, 300
KK60 : 150, 200, 300, 400, 500, 600
KK86 : 340, 440, 540, 640, 740, 940
KK100: 980, 1080,1180, 1280, 1380
KK130: 980, 1180, 1380, 1680

Slider Type:
A : Normal
S : Short

Number of Slider: 1 or 2

Motor:
M1: Stepping
M2: Servo

Driver
D1: Stepping
D2: Servo

4 Axes Control Card
None: No Card

E: Block Special Order
None: Standard

Flange Type
(ref. P.6~P.10)

Cover
C: Aluminum
B: Bellows
None: No Cover

Sensor
S0: Sensor Rail Only
S1: Omron SX671
S2: Omron SX674
S3: Inductive Proximity
4 : SUNX GL-12F
5 : SUNX GL-N12F-PX10
None:No Sensor and Rail

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Motor and motor adaptor flange

Model / Motor			KK40	KK50	KK60	KK86	KK100	KK130
AC Servo Motor	Panasonic	MSM3AZ(30W)	F2	F2	F2	F3		
		MSM5AZ(50W)						
		MSM01(100W)						
		MSM02(200W)				F1		
		MSM04(400W)						
		MSM08(750W)				F4	F2	F4
	MHI	HC-PQ033(30W)	F1	F1	F1	F2		
		HC-PQ053(50W)						
		HC-PQ13(100W)						
		HC-KFS053(50W)	F1	F1	F1	F2		
		HC-KFS13(100W)						
		HC-KFS23(200W)				F0	F0	F1
		HC-KFS43(400W)						
		HC-MF73(750W)					F1	F2
	Yaskawa	SGMAH-A3(30W)		F1	F1	F2		
		SGMAH-A5(50W)						
		SGMAH-01(100W)						
		SGMPH-01(100W)				F0	F0	F1
		SGMAH-02(200W)						
		SGMAH-04(400W)						
		SGMPH-02(200W)						F0
		SGMPH-04(400W)						
		SGMAH-08(750W)					F1	F2
	Nema17		F3	F3	F5			
	Nema23			(F-E2)	F4	F6		
	Nema34						F4	
Stepping Motor	VEXTA	PK24	F3	F3	F5			
		PK26		(F-E2)	F4	F6		
		PK29					F4	F3
		PK54		F3	F5			
		PK56		(F-E1)		F5		
		PK59					F3	
	Nema17		F3	F3	F5			
	Nema23			(F-E2)	F4	F6		
	Nema34						F4	

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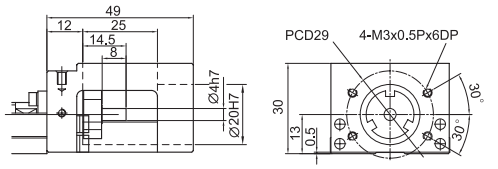
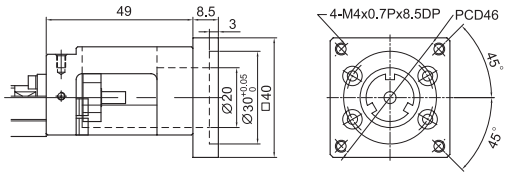
KK40 Dimensions

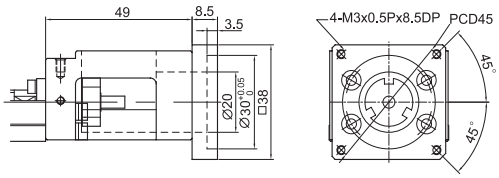
Motor Adaptor Flange F0



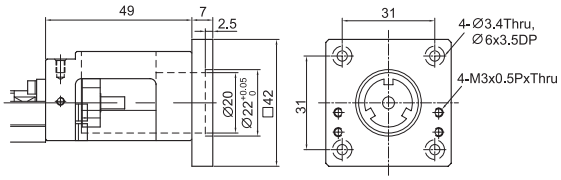
Motor Adaptor Flange F1



Motor Adaptor Flange F2

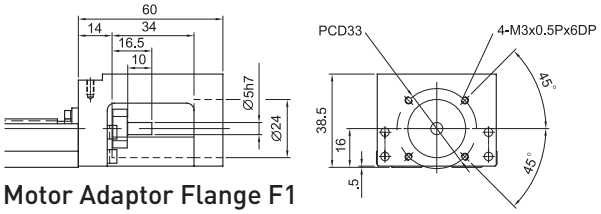


Motor Adaptor Flange F3

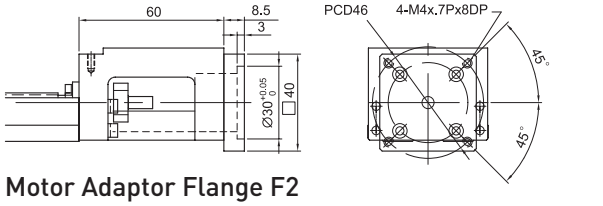


KK50 Dimensions

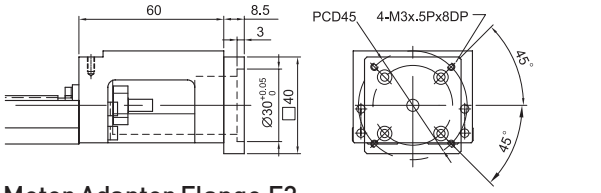
Motor Adaptor Flange F0



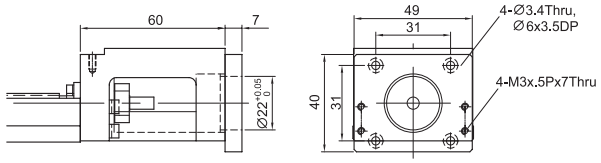
Motor Adaptor Flange F1



Motor Adaptor Flange F2

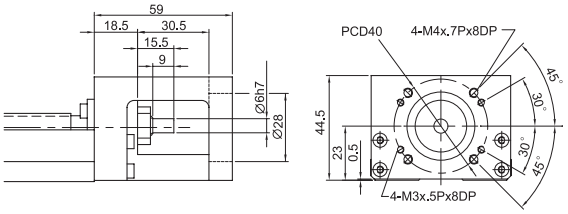


Motor Adaptor Flange F3

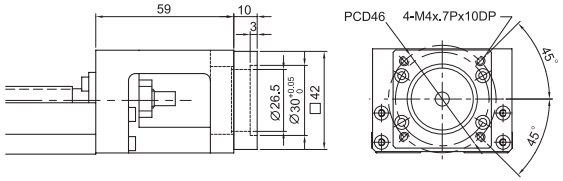


KK60 Dimensions

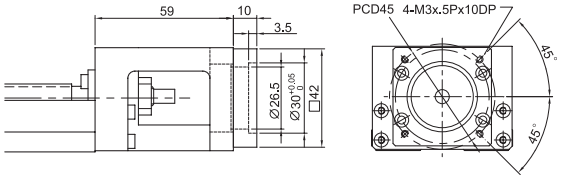
Motor Adaptor Flange F0



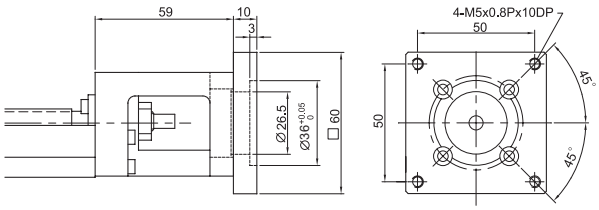
Motor Adaptor Flange F1



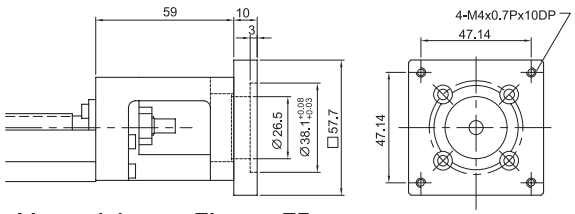
Motor Adaptor Flange F2



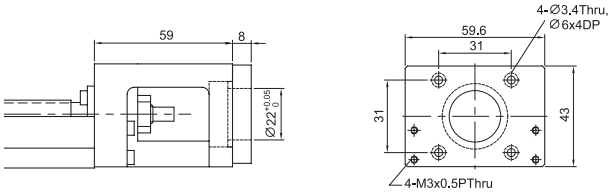
Motor Adaptor Flange F3



Motor Adaptor Flange F4



Motor Adaptor Flange F5



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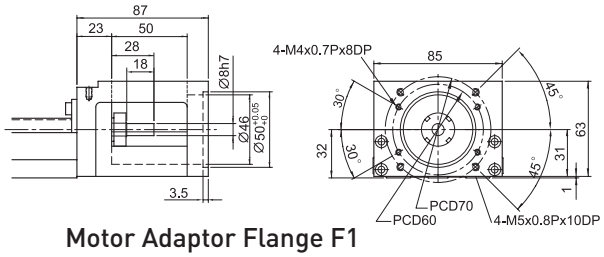
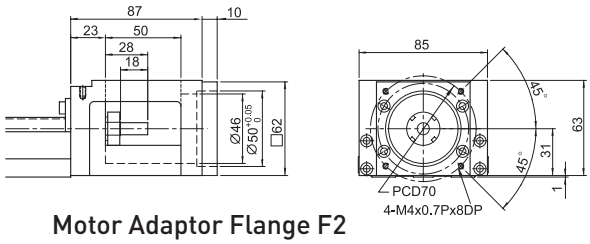
KK86 Dimensions

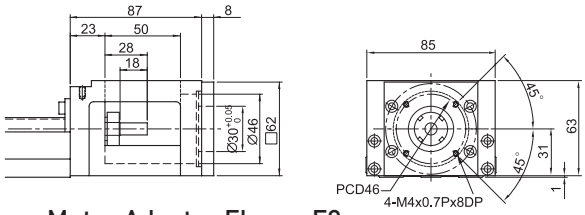
Motor Adaptor Flange F0



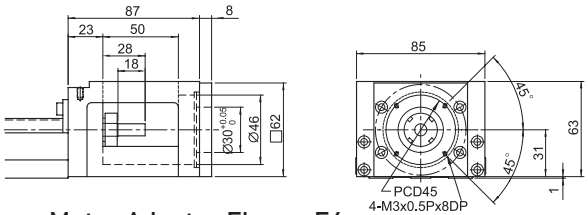
Motor Adaptor Flange F1



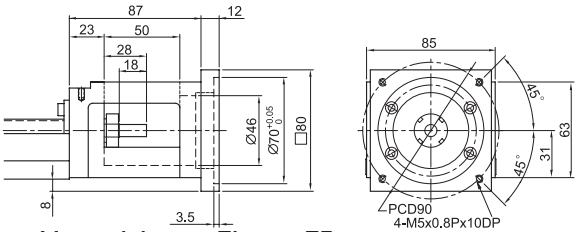
Motor Adaptor Flange F2



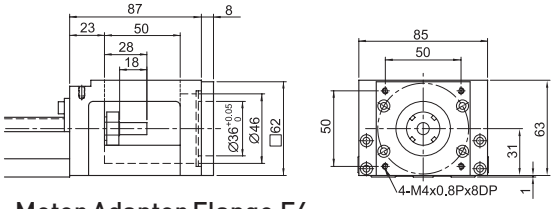
Motor Adaptor Flange F3



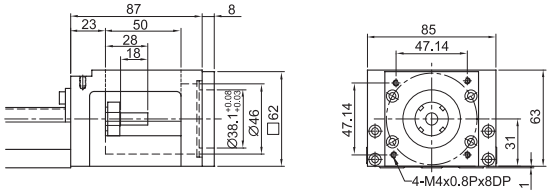
Motor Adaptor Flange F4



Motor Adaptor Flange F5

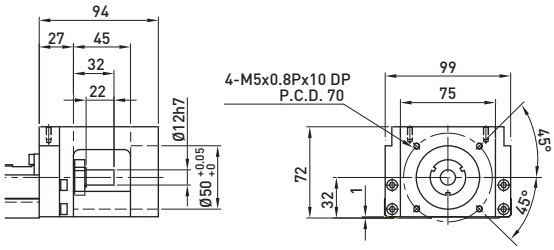


Motor Adaptor Flange F6

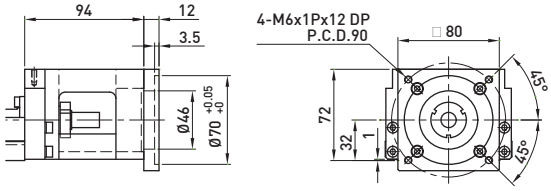


KK100 Dimensions

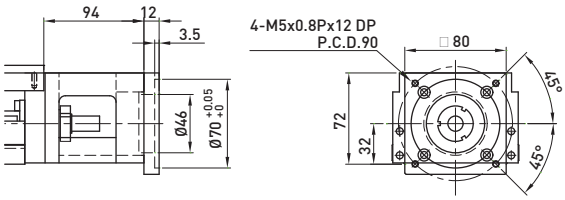
Motor Adaptor Flange F0



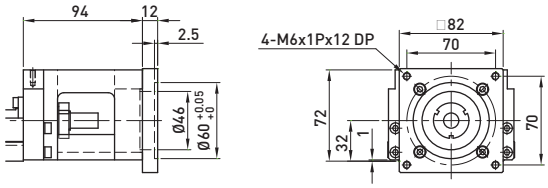
Motor Adaptor Flange F1



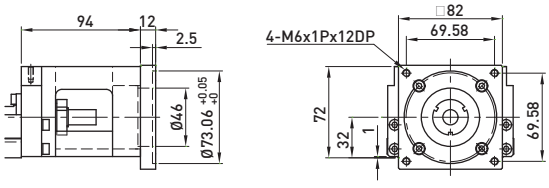
Motor Adaptor Flange F2



Motor Adaptor Flange F3



Motor Adaptor Flange F4



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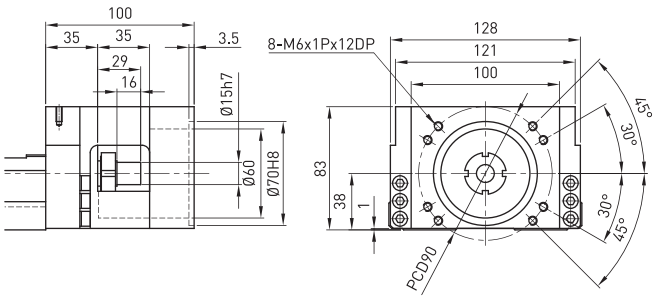
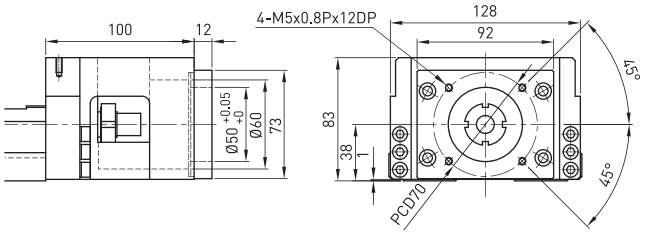
KK130 Dimensions

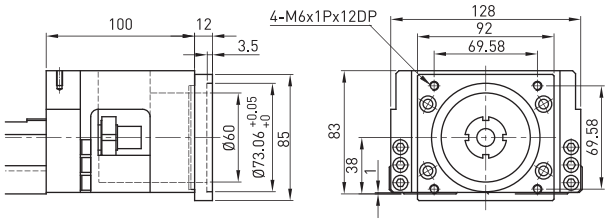
Motor Adaptor Flange F0



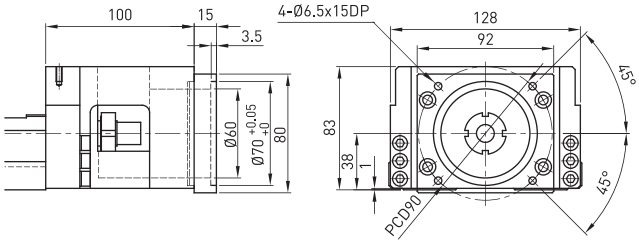
Motor Adaptor Flange F1



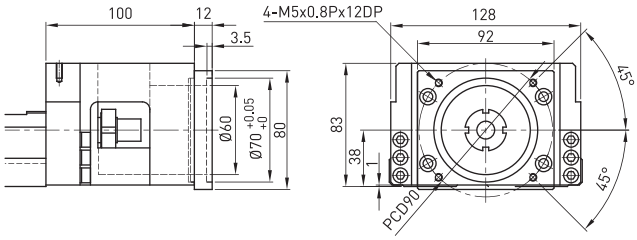
Motor Adaptor Flange F3



Motor Adaptor Flange F2

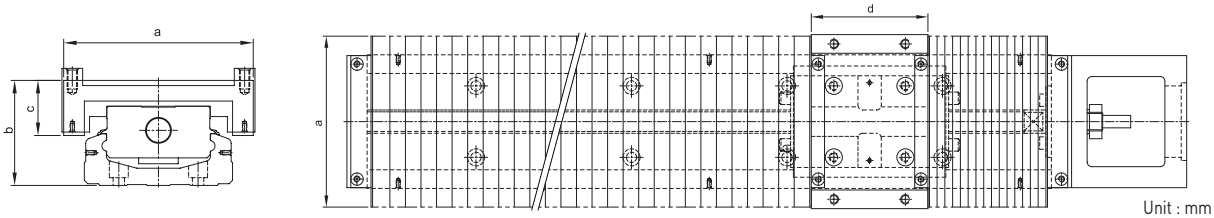


Motor Adaptor Flange F4



Optional Accessories

Bellows

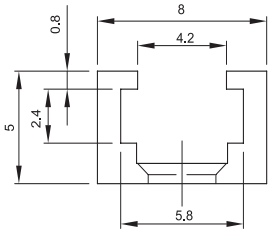


Unit : mm

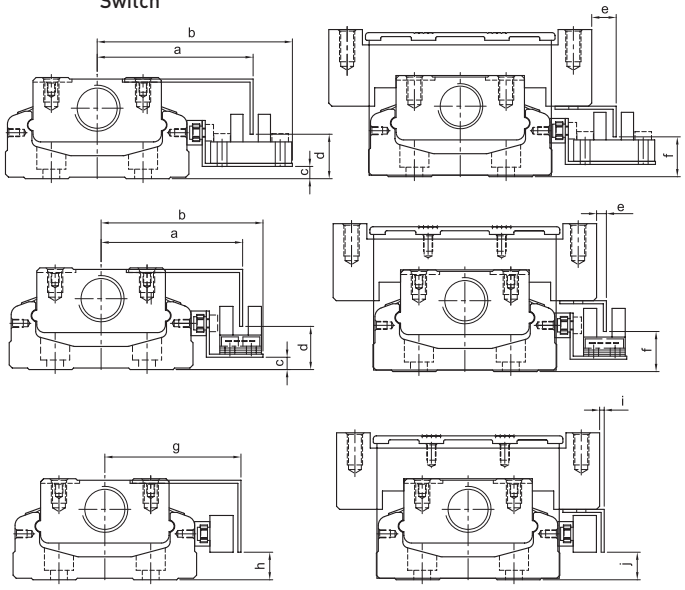
Nominal Width	Rail Length	Stroke	Min.	Max.	a	b	c	d
KK60	150	56	16	80	84	45.5	24	54
	200	106	20	126				
	300	166	40	206				
	400	234	56	290				
	500	306	70	376				
	600	366	90	456				
KK86	340	188	36	224	110	61	32	75
	440	260	50	310				
	540	336	62	398				
	640	408	76	484				
	740	480	90	570				
	940	640	110	750				

Switch

Switch rail



Switch



Nominal Width	a	b	c	d	e	f
KK50	45.5	59	1	10	15	11
KK60	51	63.8	4	14.5	8	13
KK86	63.5	76.7	8	18	8	18
KK100	71	84	10	20	9	20

Switch 1 : Omron EE-SX671

Nominal Width	a	b	c	d	e	f
KK50	41.3	48	1	10.5	10.2	11
KK60	46.2	52.8	4	14	3.2	13
KK86	59	65.7	8	18	3	18
KK100	66	73	10	20	4.2	20

Switch 2 : Omron EE-SX674

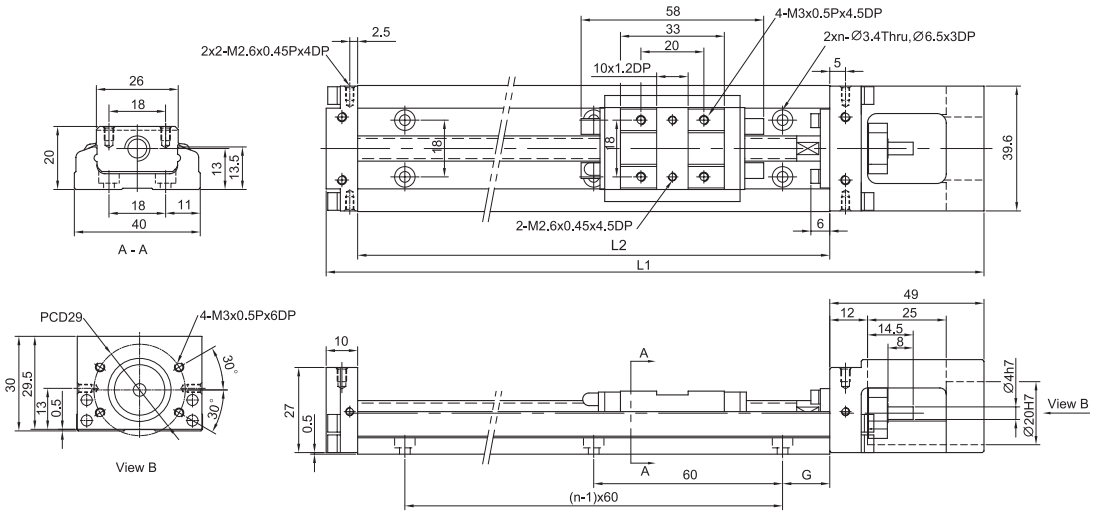
Nominal Width	g	h	i	j
KK50	39.5	5.7	7	19.5
KK60	44.5	9	2	9
KK86	57	13	1	13
KK100	64.5	15	2.5	15

Switch 3, 4 : SUNX GL-12F, GL-N12F-PX10

HIWIN®
LinearMotion

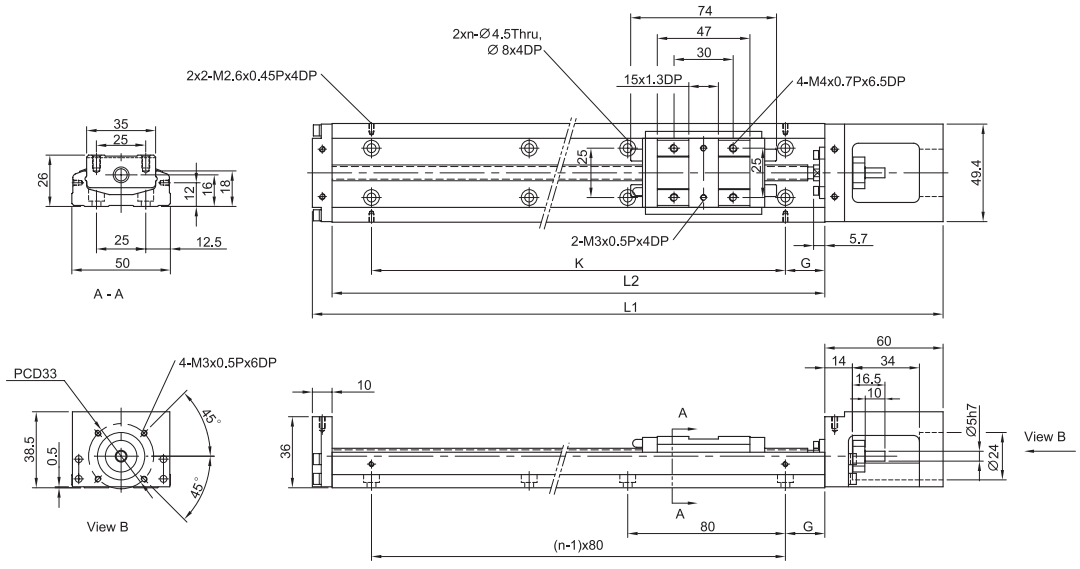
Dimensions

KK40 Without Cover



Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		G (mm)	n (mm)	Mass (kg)	
		A1 Block	A2 Block			A1 Block	A2 Block
100	159	36	-	20	2	0.48	-
150	209	86	34	15	3	0.6	0.67
200	259	136	84	40	3	0.72	0.79

KK50 Without Cover



Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		G (mm)	K (mm)	n	Mass (kg)	
		A1 Block	A2 Block				A1 Block	A2 Block
150	220	70	-	35	80	2	1	-
200	270	120	55	20	160	3	1.2	1.4
250	320	170	105	45	160	3	1.4	1.6
300	370	220	155	30	240	4	1.6	1.8

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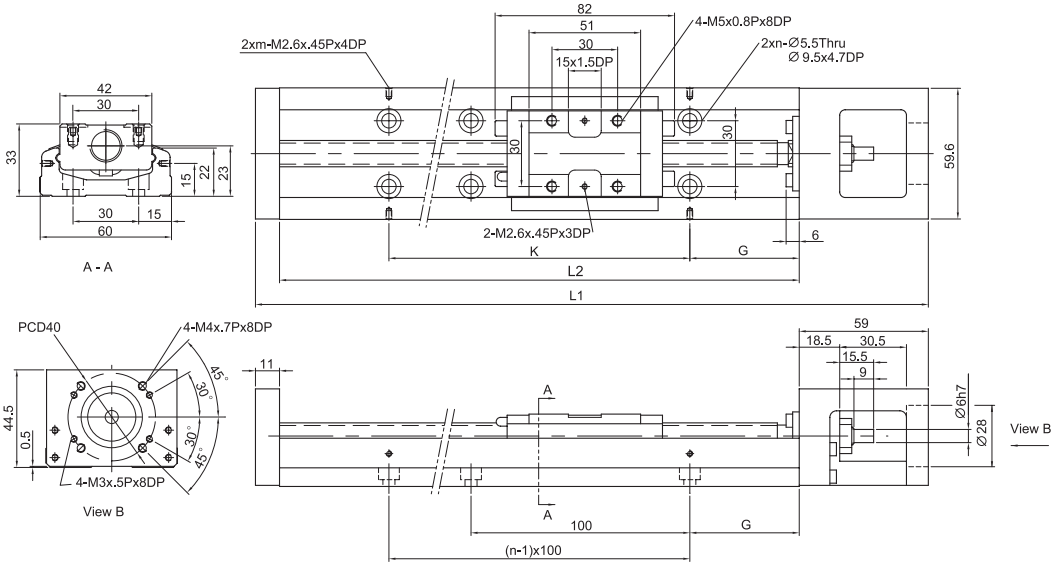
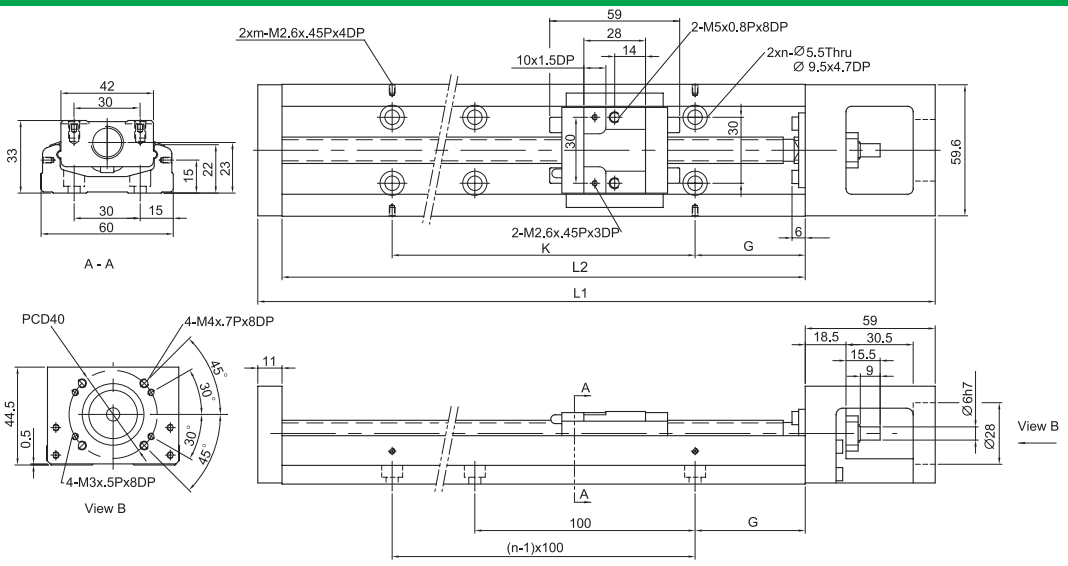
KK60 (Standard) Without Cover



Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		G (mm)	K (mm)	n	m	Mass (kg)	
		A1 Block	A2 Block					A1 Block	A2 Block
150	220	60	-	25	100	2	2	1.5	-
200	270	110	-	50	100	2	2	1.8	-
300	370	210	135	50	200	3	2	2.4	2.7
400	470	310	235	50	100	4	4	3	3.3
500	570	410	335	50	200	5	3	3.6	3.9
600	670	510	435	50	100	6	6	4.2	4.6

KK60 (Light Duty) Without Cover



Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		G (mm)	K (mm)	n	m	Mass (kg)	
		S1 Block	S2 Block					S1 Block	S2 Block
150	220	85	34	25	100	2	2	1.4	1.6
200	270	135	184	50	100	2	2	1.7	1.9
300	370	235	184	50	200	3	2	2.3	2.5
400	470	335	284	50	100	4	4	2.9	3.1
500	570	435	384	50	200	5	3	3.5	3.7
600	670	535	484	50	100	6	6	4.1	4.3

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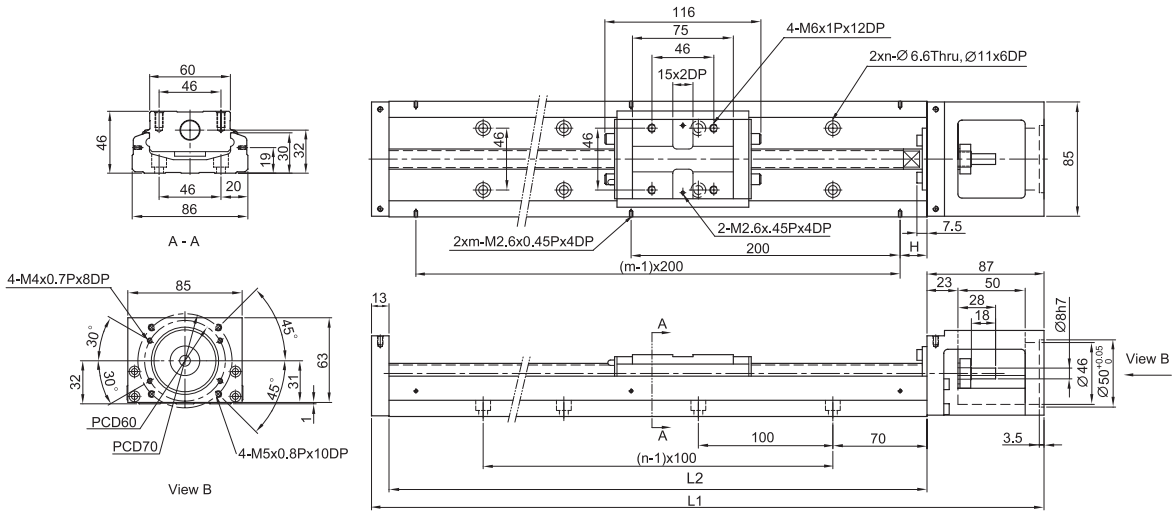
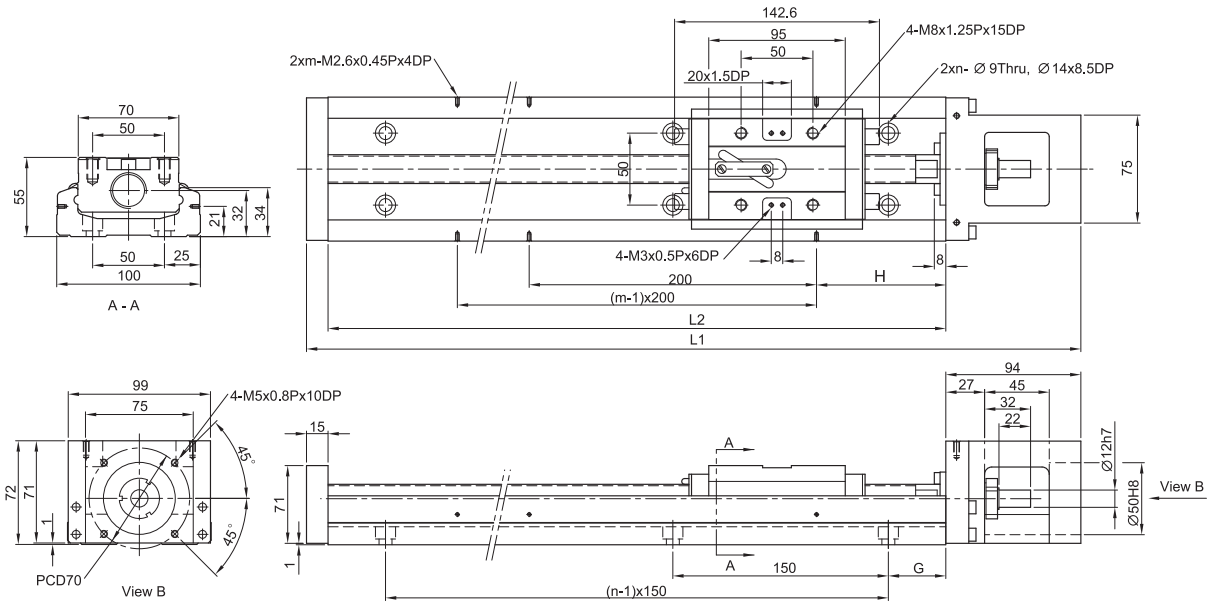
LinearMotion

KK86 Without Cover



Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		H (mm)	n	m	Mass (kg)	
		A1 Block	A2 Block				A1 Block	A2 Block
340	440	210	100	70	3	2	5.7	6.5
440	540	310	200	20	4	3	6.9	7.7
540	640	410	300	70	5	3	8.0	8.8
640	740	510	400	20	6	4	9.2	10.0
740	840	610	500	70	7	4	10.4	11.2
940	1040	810	700	70	9	5	11.6	12.4

KK100 Without Cover



Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		G (mm)	H (mm)	n	m	Mass (kg)	
		A1 Block	A2 Block					A1 Block	A2 Block
980	1089	828	700	40	90	7	5	18.6	20.3
1080	1189	928	800	15	40	8	6	20.3	22.0
1180	1289	1028	900	65	90	8	6	22.0	23.7
1280	1389	1128	1000	40	40	9	7	23.6	25.3
1380	1489	1228	1100	15	90	10	7	25.3	27.0

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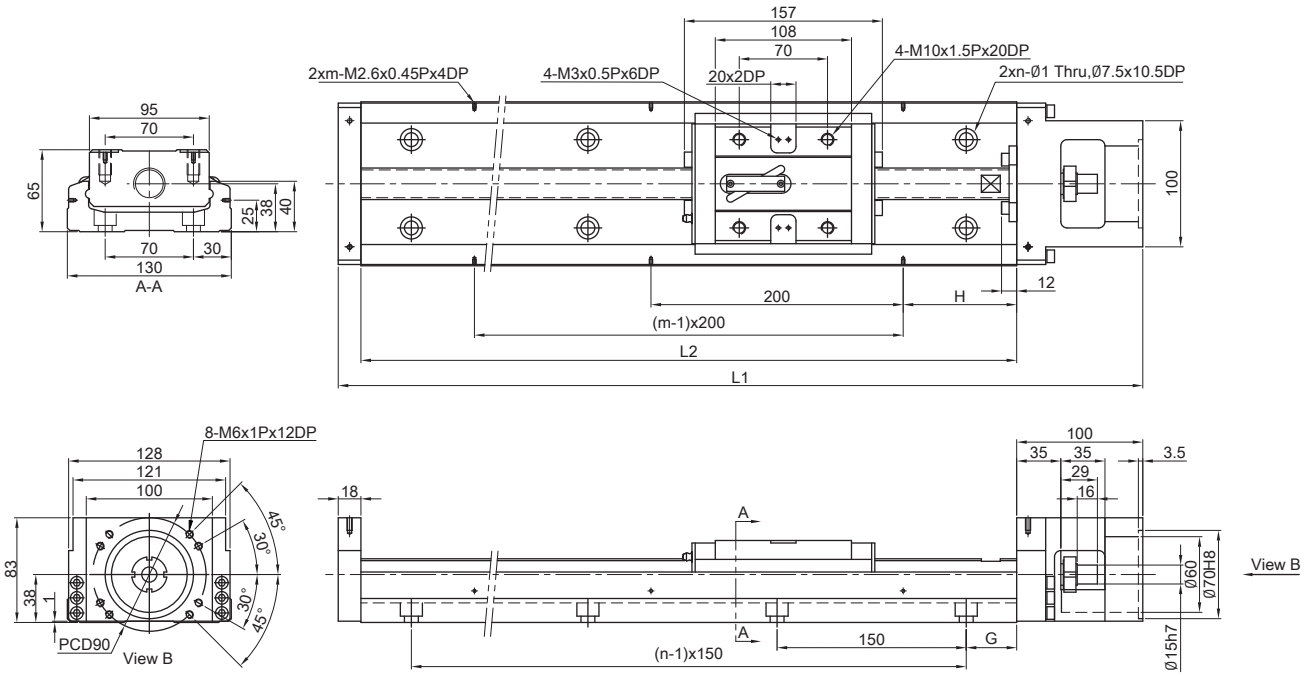
KK130 Without Cover

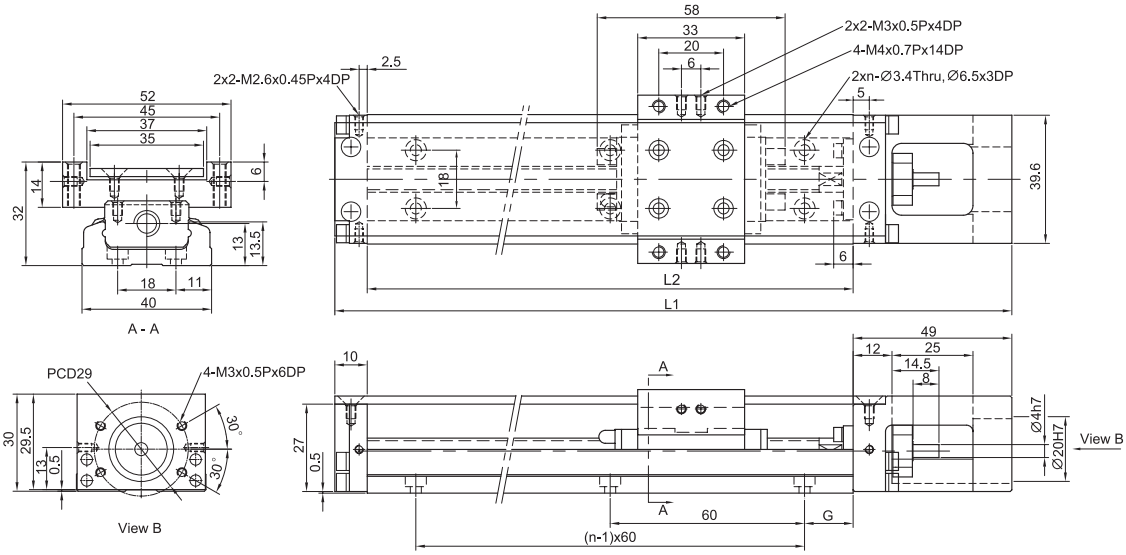


Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		G (mm)	H (mm)	n	m	Mass (kg)	
		A1 Block	A2 Block					A1 Block	A2 Block
980	1098	811	659	40	90	7	5	-	-
1180	1298	1011	859	65	90	8	6	-	-
1380	1498	1211	1059	90	90	9	7	-	-
1680	1798	1511	1359	90	40	11	9	-	-

HIWIN®
LinearMotion

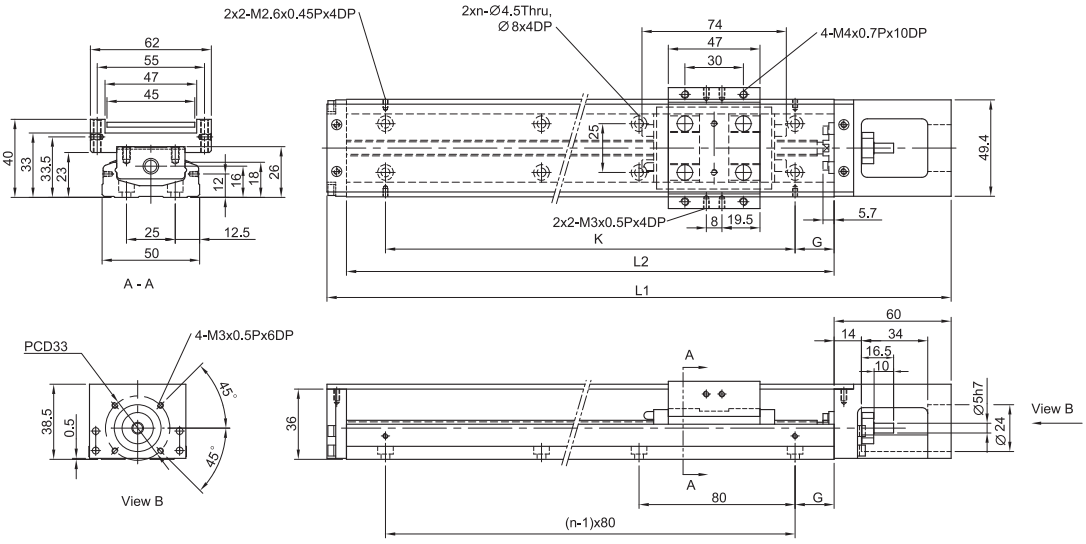
Dimensions

KK40 With Cover



Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		G (mm)	n	Mass (kg)	
		A1 Block	A2 Block			A1 Block	A2 Block
100	159	36	-	20	2	0.55	-
150	209	86	34	15	3	0.68	0.76
200	259	136	84	40	3	0.82	0.89

KK50 With Cover



Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		G (mm)	K (mm)	n	Mass (kg)	
		A1 Block	A2 Block				A1 Block	A2 Block
150	220	70	-	35	80	2	1.1	-
200	270	120	55	20	160	3	1.3	1.5
250	320	170	105	45	160	3	1.6	1.8
300	370	220	155	30	240	4	1.8	2.0

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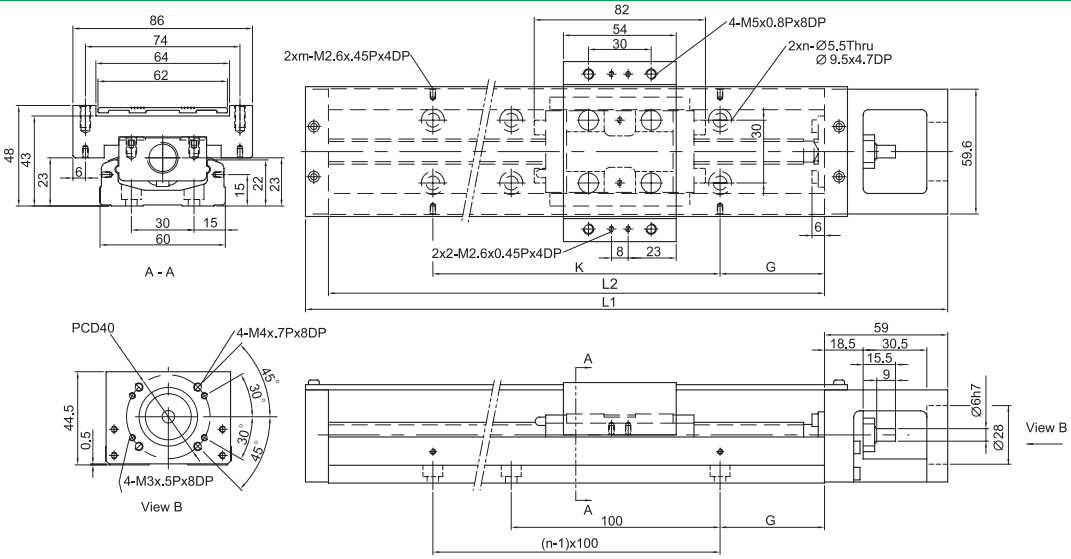
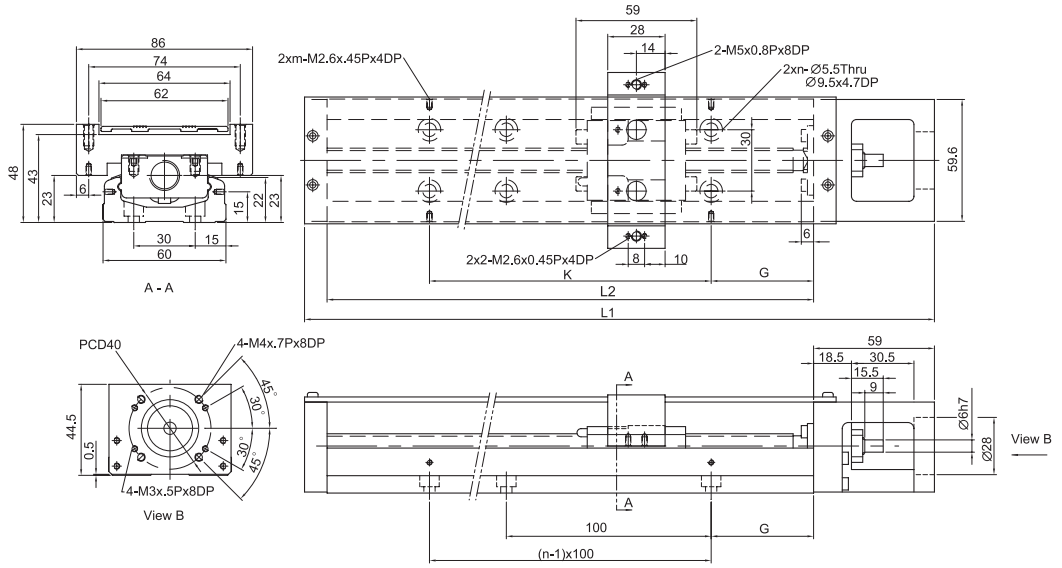
LinearMotion

KK60 (Standard) With Cover



Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		G (mm)	K (mm)	n	m	Mass (kg)	
		A1 Block	A2 Block					A1 Block	A2 Block
150	220	60	-	25	100	2	2	1.7	-
200	270	110	-	50	100	2	2	2.1	-
300	370	210	135	50	200	3	2	2.7	3.0
400	470	310	235	50	100	4	4	3.3	3.6
500	570	410	335	50	200	5	3	3.9	4.2
600	670	510	435	50	100	6	6	4.6	5.0

KK60 (Light Duty) With Cover



Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		G (mm)	K (mm)	n	m	Mass (kg)	
		S1 Block	S2 Block					S1 Block	S2 Block
150	220	85	34	25	100	2	2	1.6	1.8
200	270	135	184	50	100	2	2	1.9	2.1
300	370	235	184	50	200	3	2	2.5	2.7
400	470	335	284	50	100	4	4	3.1	3.3
500	570	435	384	50	200	5	3	3.7	3.9
600	670	535	484	50	100	6	6	4.4	4.6

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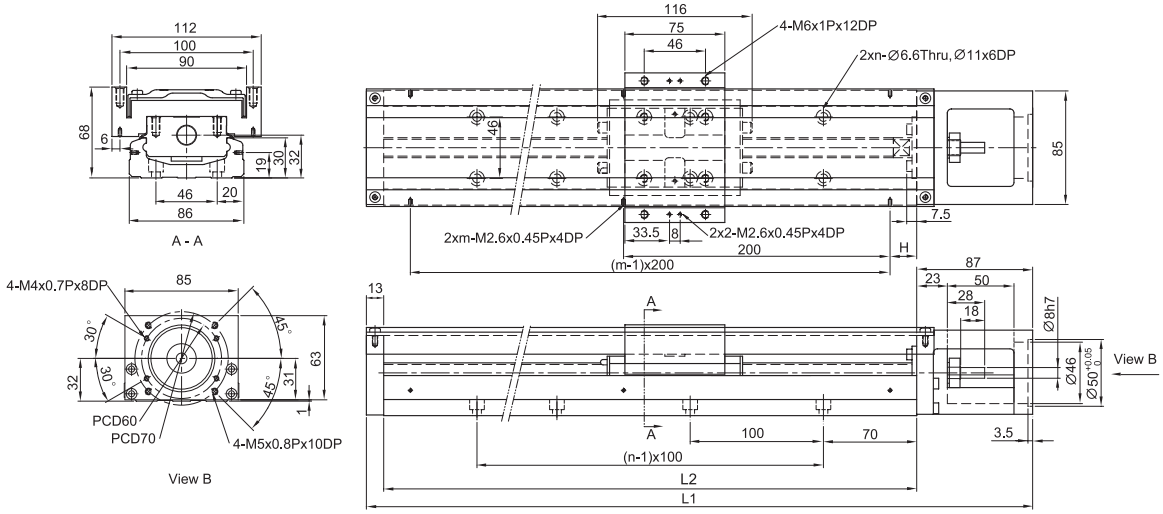
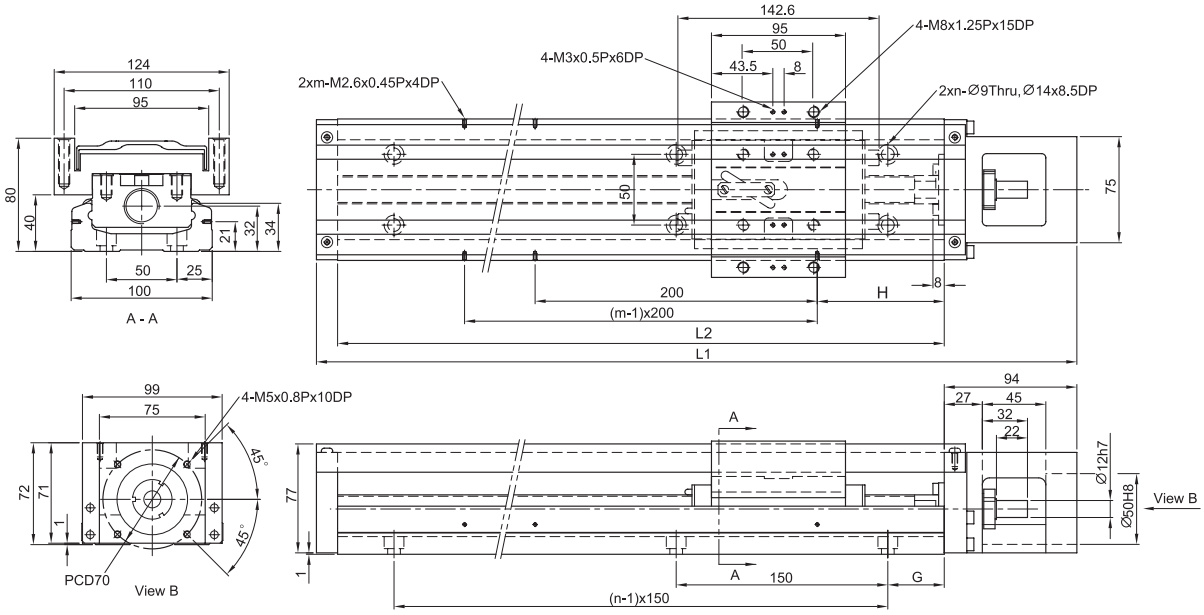
KK86 With Cover



Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		H (mm)	n	m	Mass (kg)	
		A1 Block	A2 Block				A1 Block	A2 Block
340	440	210	100	70	3	2	6.5	7.3
440	540	310	200	20	4	3	7.8	8.6
540	640	410	300	70	5	3	9.0	9.8
640	740	510	400	20	6	4	10.3	11.3
740	840	610	500	70	7	4	11.6	12.4
940	1040	810	700	70	9	5	13.0	13.8

KK100 With Cover



Rail Length L2 (mm)	Total Length L1 (mm)	Maximum Stroke (mm)		G (mm)	H (mm)	n	m	Mass (kg)	
		A1 Block	A2 Block					A1 Block	A2 Block
980	1089	828	700	40	90	7	5	20.4	22.1
1080	1189	928	800	15	40	8	6	22.2	23.9
1180	1289	1028	900	65	90	8	6	24.0	25.7
1280	1389	1128	1000	40	40	9	7	25.7	27.4
1380	1489	1228	1100	15	90	10	7	27.5	29.2

HIWIN®
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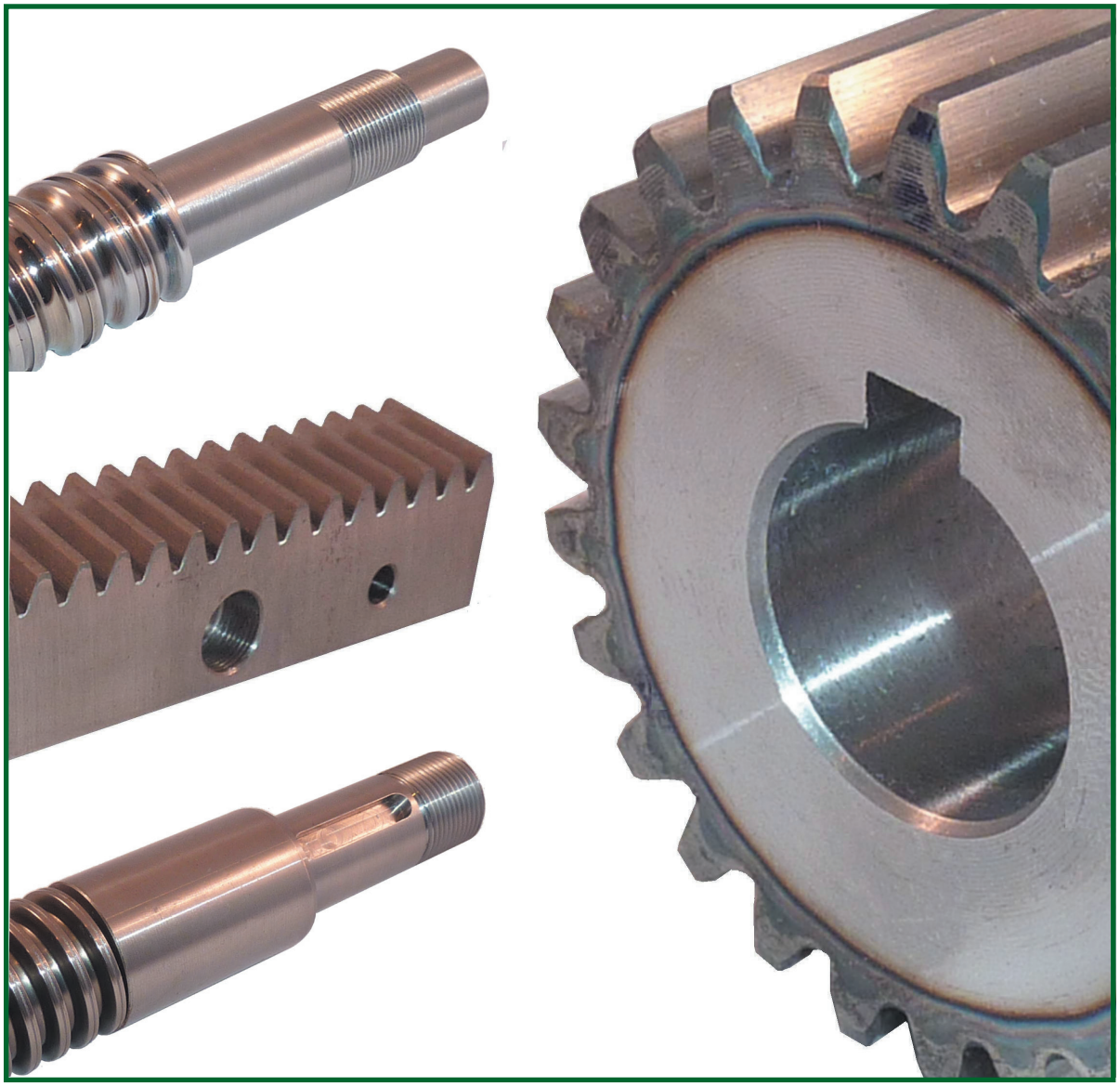
WMH MACHINE SHOP

WE CAN MODIFY OUR STANDARD PRODUCTS OR MANUFACTURE SPECIALS TO CUSTOMER DESIGN



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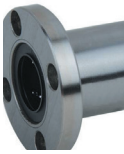
HIWIN®

LinearMotion

Linear Bearings

UB, UBM, JB, JBM, JBL, JBF & JBK, JBFL & JBKL

UB
JB



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HIWIN®
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Linear Bearings

Characteristics

- **HIWIN linear bearings** enable high precision linear motion on round shafts by utilizing recirculating ball pathways.
- The patented recirculation curve enables HIWIN's linear bearing to sustain heavy loads with low noise and high stiffness.
- HIWIN's diverse line of linear bearings perform under almost any environmental conditions and load capacities to satisfy a wide range of applications.

Description

JB F L 25 A WW

Type

Code	Description
JB	Japanese Spec. (metric system)
UB	European Spec. (metric system)

Usage

Code	Description
none	Standard
M	Heavy Duty
K	Square Flange
F	Round Flange

Lengthened Type

Shaft Diameter

Assembly

Code	Description
A	Standard Closed Type
AJ	Clearance Adjustable Type
OP	Open Type

Wiper

Code	Description
none	No Wiper
W	Single Side Wiper
WW	Double Side Wiper

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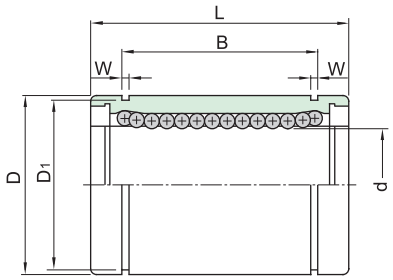
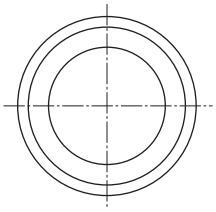
Dimensions - UB

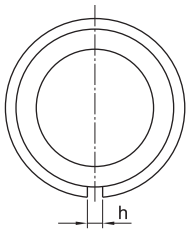
Metric Dimensions Used Most Frequently in Europe



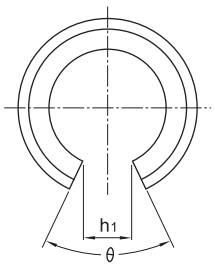
UB - * * A
(Standard Closed Type)



UB - * * AJ
(Clearance Adjustable Type)



UB - * * OP
(Open Type)

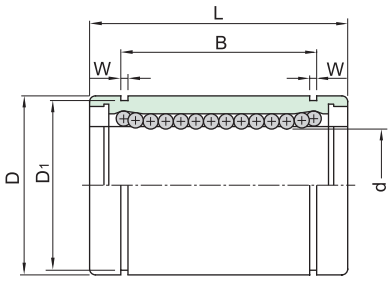


Shaft Diameter d mm	Model						Major Dimensions and Tolerance													Load Capacity	
	Standard Closed Type	Ball Circuit	Clearance Adjustable Type	Ball Circuit	Open Type	Ball Circuit	d mm	d Tolerance μm	D mm	D Tolerance μm	L mm	L Tolerance μm	B mm	B Tolerance μm	W mm	D1 mm	h mm	h1 mm	Ð	Basic Dynamic Load Rating C(N)	Basic Static Load Rating Co(N)
8	UB-08A	4	UB-08AJ	4	-	-	8	+8 0	16	0 -8	25	0 -200	16.5	0 -200	1.1	15.2	1	-	-	280	420
12	UB-12A	5	UB-12AJ	5	UB-120P	4	12		22	0 -9	32		22.9		1.3	21	1.5	7	54°	640	950
16	UB-16A	5	UB-16AJ	5	UB-160P	4	16	+9 -1	26		36		24.9		1.3	24.9	1.5	9.6	60°	720	1120
20	UB-20A	5	UB-20AJ	5	UB-200P	4	20		32	0 -11	45		31.5		1.6	30.3	2	11.7	60°	920	1480
25	UB-25A	6	UB-25AJ	6	UB-250P	5	25	+11 -1	40		58	0 -300	44.1	0 -300	1.85	37.5	2	12.5	60°	1070	1670
30	UB-30A	6	UB-30AJ	6	UB-300P	5	30		47		68		52.1		1.85	44.5	2	16.9	60°	1630	2850
40	UB-40A	6	UB-40AJ	6	UB-400P	5	40	+13 -2	62	0 -13	80		60.6		2.15	59	3	22	60°	2250	4200
50	UB-50A	6	UB-50AJ	6	UB-500P	5	50		75		100		77.6		2.65	72	3	21	50°	3950	8200

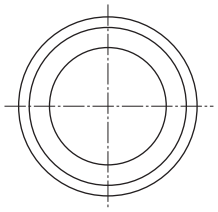
Note: 1. Linear bearing with single side wiper (UB.....W) or with double side wiper (UB.....WW) are available.
2. 1 Kgf=9.81 N=2.2046 Lbf
3. The tolerances stated above are valid for the "Standard Closed Type".

Dimensions - UBM

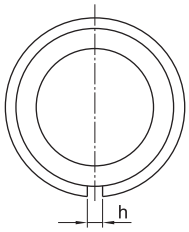
Metric Dimensions Used Most Frequently in Europe



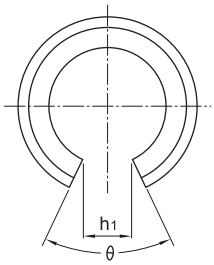
UBM - * * A
(Standard Closed Type)



UBM - * * AJ
(Clearance Adjustable Type)



UBM - * * OP
(Open Type)



Shaft Diameter d mm	Model						Major Dimensions and Tolerance												Load Capacity	
	Standard Closed Type	Ball Circuit	Clearance Adjustable Type	Ball Circuit	Open Type	Ball Circuit	d mm	d Tolerance μm	D mm	D Tolerance μm	L mm	L Tolerance μm	B mm	B Tolerance μm	W mm	D1 mm	h mm	h1 mm	Đ	Basic Dynamic Load Rating C(N)	Basic Static Load Rating Co(N)
12	UBM-12A	6	UBM-12AJ	6	UBM-120P	4	12	+8 0	22	0 -9	32	0 -200	22.9	0 -200	1.3	21	1.5	10	90°	660	1310
16	UBM-16A	6	UBM-16AJ	6	UBM-160P	4	16	+9 -1	26		36		24.9		1.3	24.9	1.5	13.5	100°	800	1480
20	UBM-20A	6	UBM-20AJ	6	UBM-200P	4	20		32	0 -11	45		31.5		1.6	30.3	2	16.8	100°	1050	2280
25	UBM-25A	8	UBM-25AJ	8	UBM-250P	6	25	+11 -1	40		58	0 -300	44.1	0 -300	1.85	37.5	2	16.9	74°	1370	3470
30	UBM-30A	8	UBM-30AJ	8	UBM-300P	6	30		47	0 -13	68		52.1		1.85	44.5	2	21.1	80°	2100	5920
40	UBM-40A	8	UBM-40AJ	8	UBM-400P	6	40	+13 -2	62		80		60.6		2.15	59	3	27.8	80°	3820	9250

Note: 1. Linear bearing with single side wiper (UBM.....W) or with double side wiper (UBM.....WW) are available.
2. 1 Kgf=9.81 N=2.2046 Lbf
3. The tolerances stated above are valid for the "Standard Closed Type".

HIWIN®
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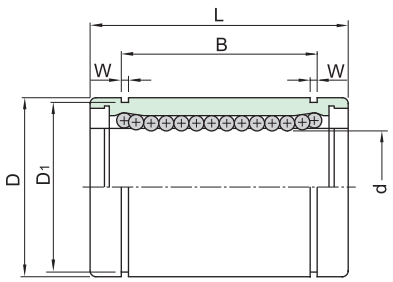
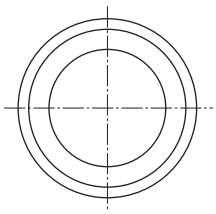
Dimensions - JB

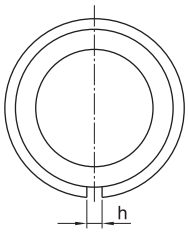
Metric Dimensions Used Most Frequently in Japan



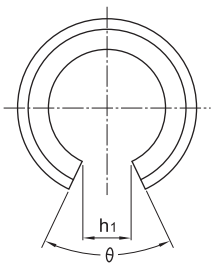
JB - * * A
(Standard Closed Type)



JB - * * AJ
(Clearance Adjustable Type)

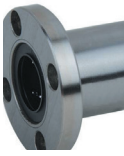


JB - * * OP
(Open Type)



Shaft Diameter d mm	Model						Major Dimensions and Tolerance														Load Capacity	
	Standard Closed Type	Ball Circuit	Clearance Adjustable Type	Ball Circuit	Open Type	Ball Circuit	d mm	d Tolerance μm Precision	d Tolerance μm General	D mm	D Tolerance μm	L mm	L Tolerance μm	B mm	B Tolerance μm	W mm	D1 mm	h mm	h1 mm	Đ	Basic Dynamic Load Rating C(N)	Basic Static Load Rating Co(N)
6	JB-06A	4	-	-	-	-	6	0 -6	0 -9	12	0 -11	19	0 -200	13.5	0 -200	1.1	11.5	-	-	-	206	265
8	JB-08A	4	JB-08AJ	4	-	-	8			15		24		17.5		1.1	14.3	1	-	-	274	392
10	JB-10A	4	JB-10AJ	4	-	-	10			19	0 -13	29		22		1.3	18	1	-	-	372	549
12	JB-12A	4	JB-12AJ	4	JB-120P	3	12			21		30		23		1.3	20	1.5	9.1	80°	412	598
16	JB-16A	4	JB-16AJ	4	JB-160P	3	16			28		37		26.5		1.6	27	1.5	11.7	80°	782	1176
20	JB-20A	5	JB-20AJ	5	JB-200P	4	20	0 -7	0 -10	32	0 -16	42	0 -300	30.5	0 -300	1.6	30.5	1.5	11.6	60°	882	1382
25	JB-25A	6	JB-25AJ	6	JB-250P	5	25			40		59		41		1.85	38	2	12.5	60°	980	1568
30	JB-30A	6	JB-30AJ	6	JB-300P	5	30			45		64		44.5		1.85	43	2.5	16.8	60°	1568	2744
35	JB-35A	6	JB-35AJ	6	JB-350P	5	35	0 -8	0 -12	52	0 -19	70		49.5		2.1	49	2.5	17	50°	1666	3136
40	JB-40A	6	JB-40AJ	6	JB-400P	5	40			60		80		60.5		2.1	57	3	22	60°	2156	4018
50	JB-50A	6	JB-50AJ	6	JB-500P	5	50			80		100		74		2.6	76.5	3	25	50°	3820	7938

Note: 1. Linear bearing with single side wiper (JB.....W) or with double side wiper (JB.....WW) are available.
2. 1 Kgf=9.81 N=2.2046 Lbf
3. The tolerances stated above are valid for the "Standard Closed Type".



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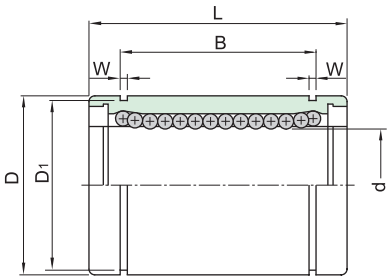
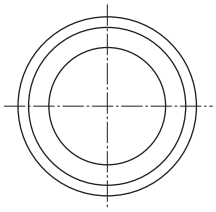
Dimensions - JBM

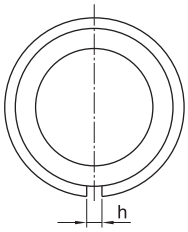
Metric Dimensions Used Most Frequently in Japan



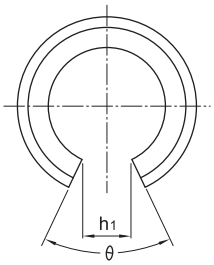
JBM - * * A
(Standard Closed Type)



JBM - * * AJ
(Clearance Adjustable Type)



JBM - * * OP
(Open Type)



Shaft Diameter d mm	Model						Major Dimensions and Tolerance														Load Capacity	
	Standard Closed Type	Ball Circuit	Clearance Adjustable Type	Ball Circuit	Open Type	Ball Circuit	d			D		L		B		W mm	D1 mm	h mm	h1 mm	Ð	Basic Dynamic Load Rating C(N)	Basic Static Load Rating Co(N)
							mm	Tolerance µm Precision	Tolerance µm General	mm	Tolerance µm	mm	Tolerance µm	mm	Tolerance µm							
10	JBM-10A	6	JBM-10AJ	6	-	-	10	0 -6	0 -9	19	0 -13	29	0 -200	22	0 -200	1.3	18	1	-	-	451	970
12	JBM-12A	6	JBM-12AJ	6	JBM-12OP	4	12			21		30		23		1.3	20	1.5	10.4	100°	500	1049
16	JBM-16A	6	JBM-16AJ	6	JBM-16OP	4	16			28		37		26.5		1.6	27	1.5	13.5	100°	941	2068
20	JBM-20A	6	JBM-20AJ	6	JBM-20OP	4	20	0 -7	0 -10	32	0 -16	42	0 -300	30.5	0 -300	1.6	30.5	1.5	16.6	100°	1049	2421
25	JBM-25A	8	JBM-25AJ	8	JBM-25OP	6	25			40		59		41		1.85	38	2	17.9	80°	1176	2754
30	JBM-30A	8	JBM-30AJ	8	JBM-30OP	6	30			45		64		44.5		1.85	43	2.5	21	80°	1882	4822
40	JBM-40A	8	JBM-40AJ	8	JBM-40OP	6	40	0 -8	0 -12	60	0 -19	80		60.5		2.1	57	3	27.8	80°	2587	7056

Note: 1. Linear bearing with single side wiper (JBM.....W) or with double side wiper (JBM.....WW) are available.
2. 1 Kgf=9.81 N=2.2046 Lbf
3. The tolerances stated above are valid for the "Standard Closed Type".

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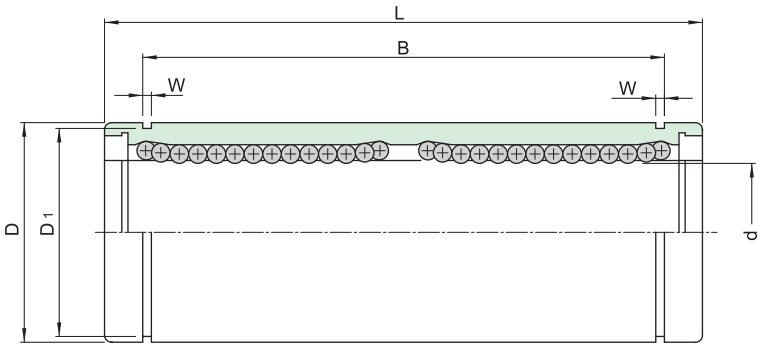
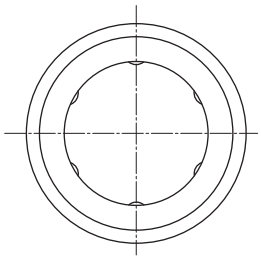
Dimensions - JBL

Metric Dimensions Used Most Frequently in Japan



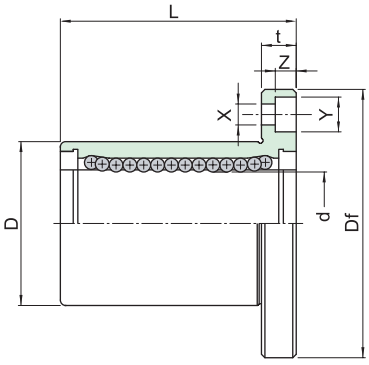


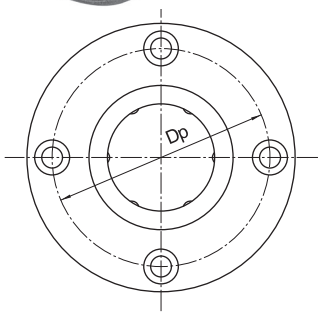
Shaft Diameter d mm	Model JBL Type	Major Dimensions and Tolerance								W mm	D1 mm	Load Capacity	
		d		D		L		B					
		mm	Tolerance μm	mm	Tolerance μm	mm	Tolerance μm	mm	Tolerance μm			Basic Dynamic Load Rating C(N)	Basic Static Load Rating Co(N)
8	JBL-08A	8	0 -9	15	0 -11	45	0 -200	35	0 -200	1.1	14.3	441	804
10	JBL-10A	10		19	0 -13	55		44		1.3	18	608	1127
12	JBL-12A	12		21		57		46		1.3	20	823	1588
16	JBL-16A	16		28		70		53		1.6	27	1245	2352
20	JBL-20A	20	0 -10	32	0 -16	80		61		1.6	30.5	1401	2764
25	JBL-25A	25		40		112	0 -300	82	0 -300	1.85	38	1558	3136
30	JBL-30A	30		45		123		89		1.85	43	2450	5488
35	JBL-35A	35	0 -12	52	0 -19	135		99		2.1	49	2646	6272
40	JBL-40A	40		60		151		121		2.1	57	3479	8232

Note: 1. Linear bearing with single side wiper (JBL.....W) or with double side wiper (JBL.....WW) are available.
2. 1 Kgf=9.81 N=2.2046 Lbf

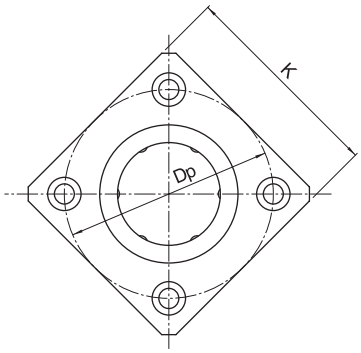
Dimensions - JBF & JBK

Metric Dimensions Used Most Frequently in Japan





JBF TYPE



JBK TYPE

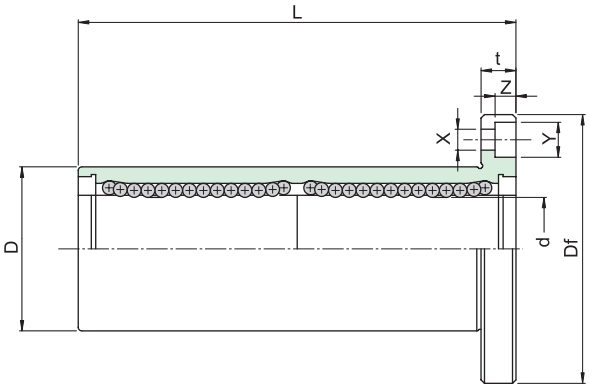
Shaft Diameter d mm	Model		Major Dimensions and Tolerance														Load Capacity	
	JBF Type	JBK Type	d mm	d Tolerance µm	D mm	D Tolerance µm	L mm	L Tolerance µm	Df mm	K mm	t mm	Dp mm	X mm	Y mm	Z mm	Concentricity µm	Perpendicularity µm	Basic Dynamic Load Rating C(N)	Basic Static Load Rating Co(N)
8	JBF-08A	JBK-08A	8	0 -9	15	0 -11	24	±300	32	25	5	24	3.5	6	3.1	12	12	274	392
10	JBF-10A	JBK-10A	10		19	0 -13	29		40	30	6	29	4.5	7.5	4.1			372	549
12	JBF-12A	JBK-12A	12		21		30	0 -200	42	32	6	32	4.5	7.5	4.4			412	598
16	JBF-16A	JBK-16A	16		28		37		48	37	6	38	4.5	7.5	4.1			782	1176
20	JBF-20A	JBK-20A	20	0 -10	32	0 -16	42	0 -300	54	42	8	43	5.5	9	5.1	15	15	882	1382
25	JBF-25A	JBK-25A	25		40		59		62	50	8	51	5.5	9	5.1			980	1568
30	JBF-30A	JBK-30A	30		45		64		74	58	10	60	6.6	11	6.1			1568	2744
35	JBF-35A	JBK-35A	35	0 -12	52	0 -19	70		82	64	10	67	6.6	11	6.1	20	20	1666	3136
40	JBF-40A	JBK-40A	40		60		80		96	75	13	78	9	14	8.1			2156	4018

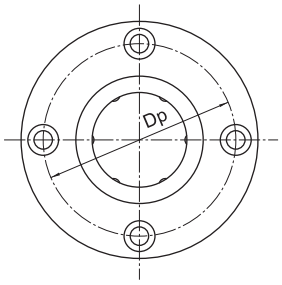
Note: 1. Linear bearing with single side wiper (JBF/JBK.....W) or with double side wiper (JBF/JBK.....WW) are available.
2. 1 Kgf=9.81 N=2.2046 Lbf

HIWIN®
LinearMotion

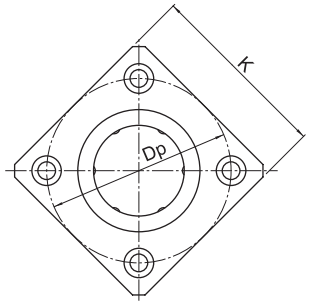
Dimensions - JBFL & JBKL

Metric Dimensions Used Most Frequently in Japan





JBFL TYPE

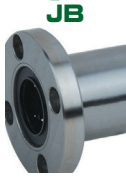


JBKL TYPE

Shaft Diameter d mm	Model		Major Dimensions and Tolerance															Load Capacity	
	JBFL Type	JBKL Type	d mm	d Tolerance µm	D mm	D Tolerance µm	L mm	L Tolerance µm	Df mm	K mm	t mm	Dp mm	X mm	Y mm	Z mm	Concentricity µm	Perpendicularity µm	Basic Dynamic Load Rating C(d)	Basic Static Load Rating Co(d)
8	JBFL-08A	JBKL-08A	8	0 -9	15	0 -11	45	±300	32	25	5	24	3.5	6	3.1	12	12	441	804
10	JBFL-10A	JBKL-10A	10		19	0 -13	55		40	30	6	29	4.5	7.5	4.1			608	1127
12	JBFL-12A	JBKL-12A	12		21		57	0 -200	42	32	6	32	4.5	7.5	4.4			823	1588
16	JBFL-16A	JBKL-16A	16		28		70		48	37	6	38	4.5	7.5	4.1			1245	2352
20	JBFL-20A	JBKL-20A	20	0 -10	32	0 -16	80	0 -300	54	42	8	43	5.5	9	5.1	15	15	1401	2764
25	JBFL-25A	JBKL-25A	25		40		112		62	50	8	51	5.5	9	5.1			1558	3136
30	JBFL-30A	JBKL-30A	30		45		123		74	58	10	60	6.6	11	6.1			2450	5488
35	JBFL-35A	JBKL-35A	35	0 -12	52	0 -19	135		82	64	10	67	6.6	11	6.1	20	20	2646	6272
40	JBFL-40A	JBKL-40A	40		60		151		96	75	13	78	9	14	8.1			3479	8232

Note: 1. Linear bearing with single side wiper (JBFL/JBKL.....W) or with double side wiper (JBF/JBK.....WW) are available.
2. 1 Kgf=9.81 N=2.2046 Lbf

UB
JB



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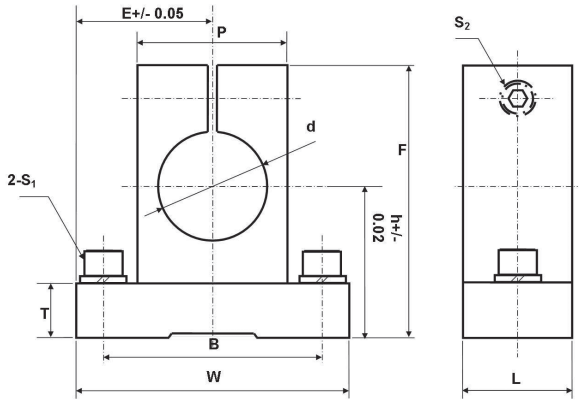
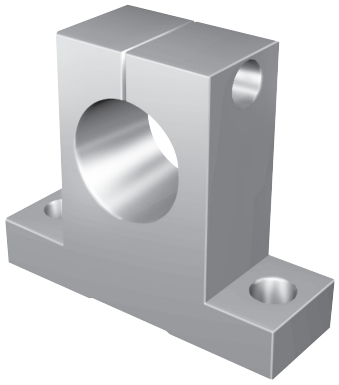
Dimensions

Linear Shaft Supports - WK & STU

WK End Supports

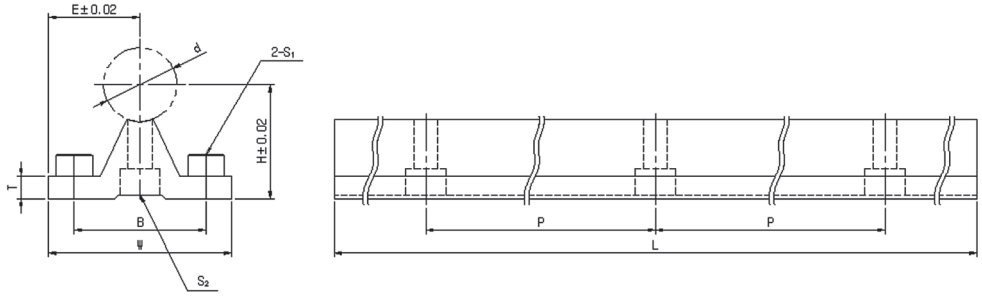




Part No.	Shaft d	Dimensions								Thightening up bolt S1	Holding down bolt S2
		h	E	W	L	F	T	P	B		
WK 16	16	27	24	48	16	44	8	25	38	M5	M4
WK 20	20	31	30	60	20	51	10	30	45	M6	M5
WK 25	25	35	35	70	24	60	12	38	56	M6	M6
WK 30	30	42	42	84	28	70	12	44	64	M8	M6
WK 35	35	50	49	98	32	82	15	50	74	M10	M8
WK 40	40	60	57	114	36	96	15	60	90	M10	M8

Material : AL 6061

STU Support Rails



Part No.	Shaft d	Dimensions							Mounting Dimensions			
		H	E	W	L	T	h1	Đ	B	P	S1	S2
STU16	16	27	21	42	Max length 3m - Effective for long stroke applications	6	7	50°	31	150	M5	M5
STU20	20	31	25	50		6	7	50°	36	150	M6	M6
STU25	25	36	26.5	53		7	9	50°	39	200	M6	M6
STU30	30	43	33.5	67		8	11	50°	49	200	M8	M8
STU40	40	55	37	74		11	14	50°	56	300	M8	M8

Linear Shafts available from stock - h6 tolerance up to 6000mm long

HIWIN®

LinearMotion

Linear Actuators

LAS Series

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Sizing and Installation

Linear Actuator

Sizing of a HIWIN Linear Actuator

Step 1: Determine the load and speed
Consider the operating environment, compare the specifications of various types of Hiwin Linear Actuators and select the most appropriate model.

Step 2: Stroke and retracted length sizing
Consider the dimensions of the operating area and select the appropriate actuator.

Step 3: Duty cycle
Duty cycles should not exceed 10%. If the duty cycle exceeds 10%, the life of the actuator can be reduced. Users should make sure that no torsion or impact forces are acting upon the actuator.

Step 4: Controller sizing
The controller selection should be made according to the power requirements of the actuator. Other considerations include the number of axes, type of limit switches and the series of keypad.

Installation of a HIWIN Linear Actuator

1. Please ensure that the extension tube is at the "lowest position". The term "lowest position" refers to the position where there is no further movement towards the DC motor while the actuator is powered on.
2. The front and end joints of the linear actuator should be mounted onto two fixed positions on the main chasis. Locations of these fixed positions should be chosen according to the stroke length of the linear actuator.
3. After the fixed positions have been selected, install the fixtures onto these selected positions of the main chasis. These fixtures are used to fix the front and end joints of the linear actuator.
4. Assemble the front and end joints of the linear actuator onto the two fixtures using fixture bolts. Please ensure that the fixture bolts rotate freely when this step is completed. Also, please ensure that the fixture bolts do not become "loose" and fall off during operation.
5. The chasis of the linear actuator should be mounted in the horizontal direction if it is going to be operated in this direction and likewise for vertical operation. Damages could occur to the actuator if these instructions are not followed.
6. Make sure that:
   - The travel distance of the actuator matches the design requirements.
   - The upper and lower limit switches are functioning.
   - The motor stops when the extension tube reaches the upper and lower limit switches.

* If the actuator does not operate as described above, please repeat steps 2 thru 4 to make sure that the installation is correct.
** All HIWIN linear actuators and control boxes have to be grounded.

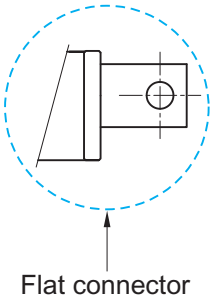
HIWIN®
LinearMotion

LAS Series (1)

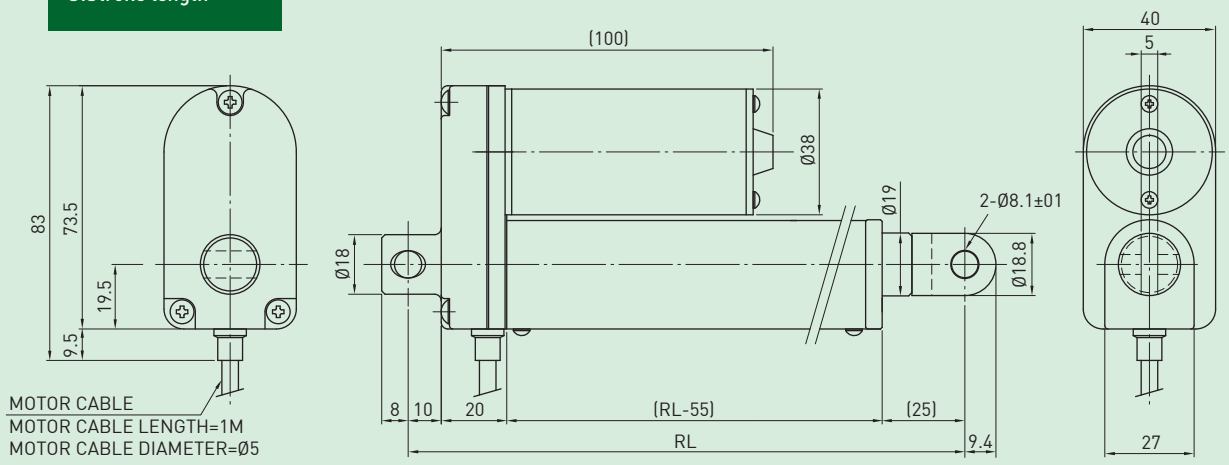
Linear Actuator

Screw type	ACME
Weight*	1.04kg
Protection	IP54
Compatible controller	Compatible with all controllers (*Notice the type of connector: Audio/DIN 4pin)
Working temp.	+5oC~40oC

* Stroke length 200mm
* Option: (1) IP65
(2) Gear box housing turned 90o
(3) Rod end with flat connector (RL=S+110)
(4) 36VDC motor
(5) External reed switches
(6) Plastic gear (Max. load: 800N)



Ð RL=S+119
Stroke↖250
RL=S+169
Stroke→250
RL:Retracted length
S:Stroke length



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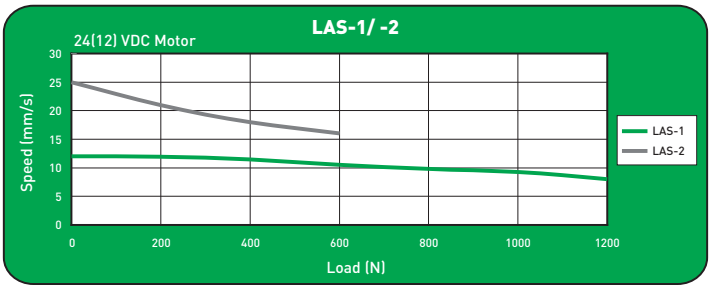
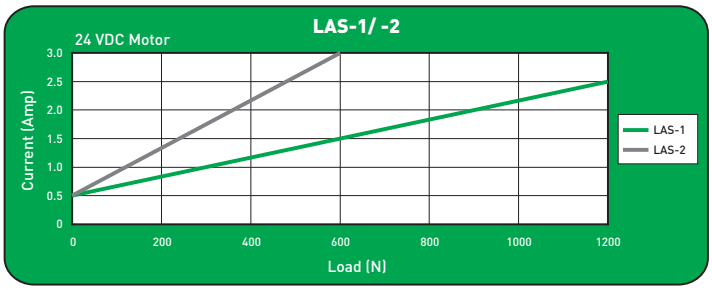
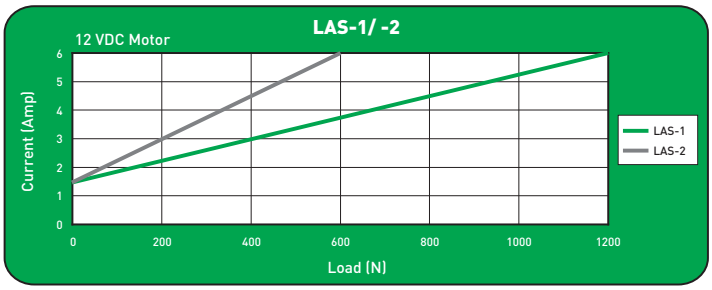
Specification - LAS1

Model	Thrust max. (N)	Pulling max. (N)	Holding max. (N)	Speed (mm/s) Load=Max./Load=0		Standard stroke (mm) : S					Duty cycle %	Current max. (A)	
												12VDC	24VDC
LAS-1	1200	1200	800	8	12	50	100	150	200	250	10	6	2.5
LAS-2	600	600	300	16	25	50	100	150	200	250	10	6	3





**Note: The test results are obtained by using the 24VDC power supply.



**Note: The test results are obtained by using the 12VDC power supply.

Ordering Information

LAS – 1 – 1 – 200 – 24 G E

Model number

0: Without internal limit switches
1: Basic model complete with internal limit switches

Stroke length

Special models according to the customer's requirement (Ignore this part of the serial number if not available)

Color
B: Black
G: Gray (Standard)

Voltage

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LAS3 Series

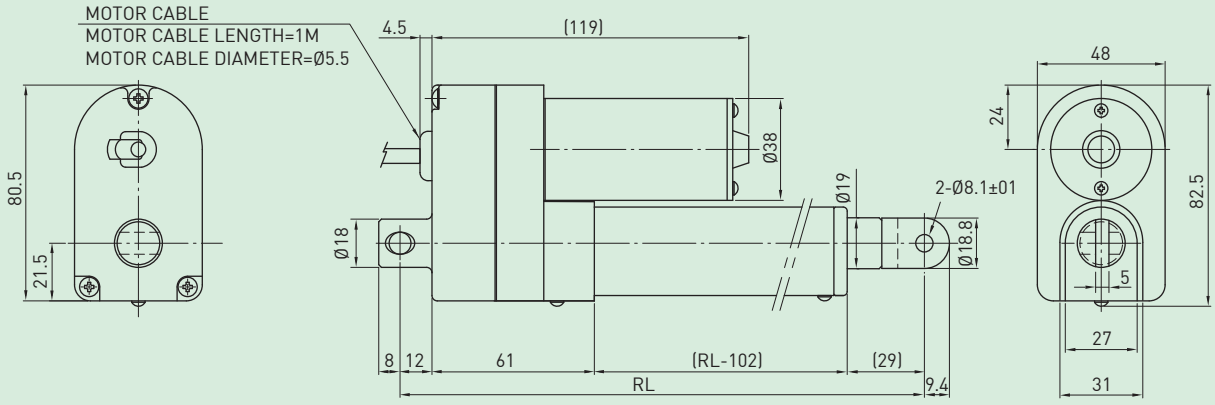
Linear Actuator

Screw type	ACME
Weight*	1.27kg
Protection	IP54
Compatible controller	Compatible with all controllers (*Notice the type of connector: Audio/DIN 4pin)
Working temp.	+5oC~40oC

Position feedback specifications (Optical Sensor)			
Supply voltage	24VDC	12VDC	5VDC
Output	High level 24VDC Low level 0.2V/40mA PNP* PS. Open collector	High level 12VDC Low level 0.2V/40mA PNP* PS. Open collector	TTL

* Stroke length 200mm
* Option: (1) IP65
(2) Position feedback
1: Potentiometer 10k ohm (RL=S+154)
2: Optical sensor: PNP (standard), NPN. TTL
(3) 36VDC motor
(4) Back fixture turned 90o

Ð RL=S+146
Stroke≤250
RL=S+196
Stroke>250
RL:Retracted length
S:Stroke length



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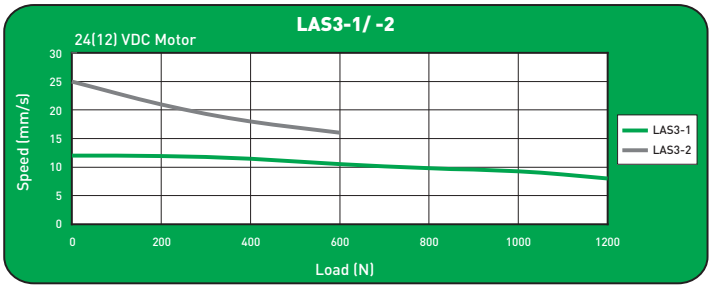
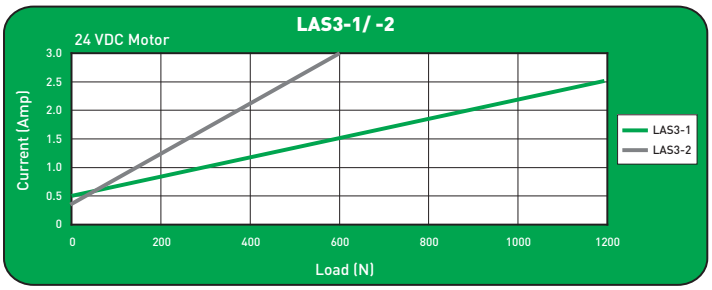
HIWIN®
LinearMotion

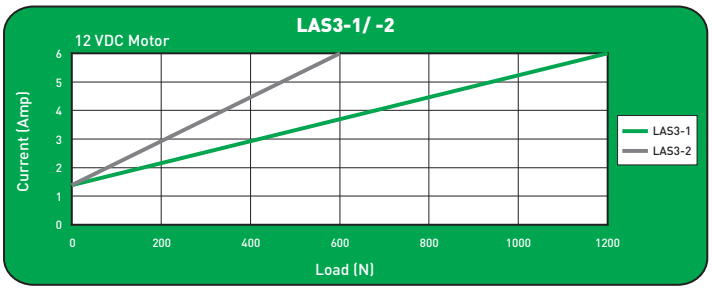
Specification - LAS3

Model	Thrust max. (N)	Pulling max. (N)	Holding max. (N)	Speed (mm/s) Load=Max./ Load=0		Standard stroke (mm) : S					Duty cycle %	Current max. (A)		Optical Sensor Resolution (mm/pulse)	Potentiometer Resolution (Ohm/mm)
												12VDC	24VDC		
LAS3-1	1200	1200	800	8	12	50	100	150	200	250	10	6	2.5	0.3175	21
LAS3-2	600	600	300	16	25	50	100	150	200	250	10	6	3	0.635	10.5





**Note: The test results are obtained by using the 24VDC power supply.



**Note: The test results are obtained by using the 12VDC power supply.

Ordering Information

LAS3 – 1 – 1 – 200 – 24 G E

Model number

0: Without internal limit switches
1: Basic model complete
with internal limit switches

Stroke length

Special models according to the customer's requirement (Ignore this part of the serial number if not available)

Color
B: Black
G: Gray (Standard)

Voltage

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LAS4 Series

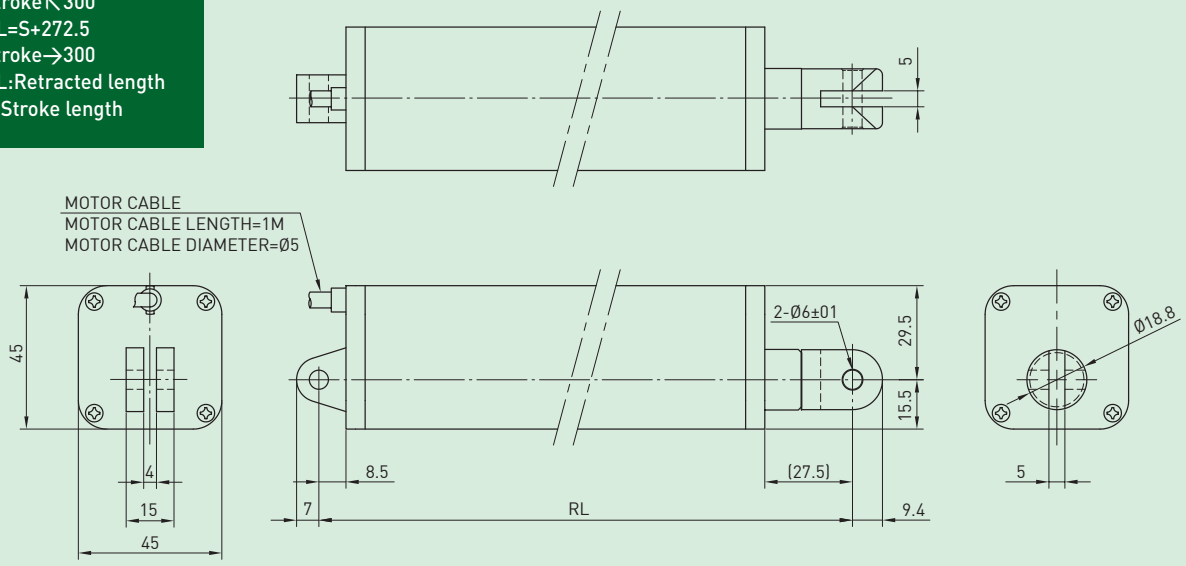
Linear Actuator

Screw type	ACME
Weight*	1.36kg
Protection	IP54
Compatible controller	Compatible with all controllers (*Notice the type of connector: Audio/DIN 4pin)
Working temp.	+5oC~40oC

Position feedback specifications (Hall Sensor)			
Supply voltage	24VDC	12VDC	5VDC
Output	High level 24VDC Low level 0.2V/10mA sink (NPN)	High level 12VDC Low level 0.2V/10mA sink (NPN)	TTL

* Stroke length 200mm
* Option: (1) IP65
(2) Hall sensor (RL=S+226)

Ð RL=S+222.5
Stroke↖300
RL=S+272.5
Stroke→300
RL:Retracted length
S:Stroke length



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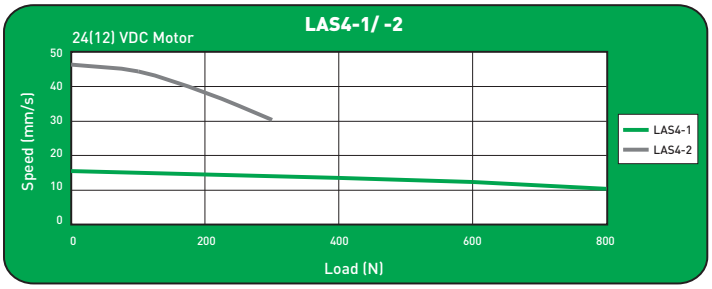
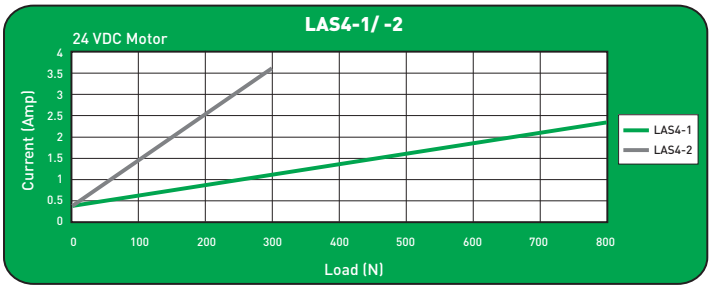
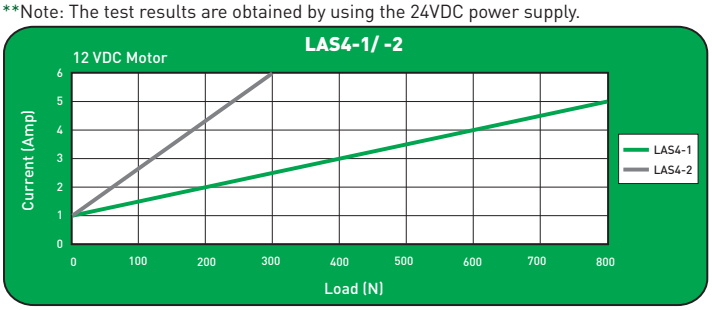
Specification - LAS4

Model	Thrust max. (N)	Pulling max. (N)	Holding max. (N)	Speed (mm/s) Load=Max./ Load=0		Standard stroke (mm) : S					Duty cycle %	Current max. (A)		Hall Sensor Resolution (mm/pulse)
												12VDC	24VDC	
LAS4-1	800	800	600	10	15	100	150	200	250	300	10	5	2.3	0.0085
LAS4-2	300	300	200	30	46	100	150	200	250	300	10	6	3.6	0.02



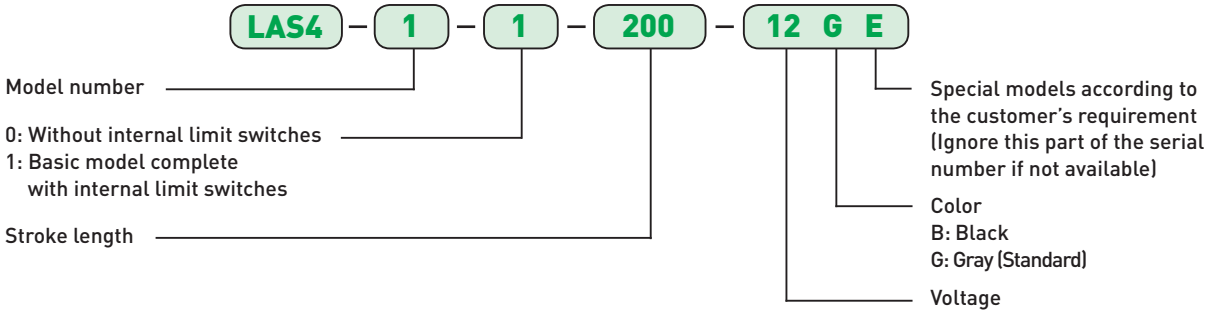


**Note: The test results are obtained by using the 24VDC power supply.



**Note: The test results are obtained by using the 12VDC power supply.

Ordering Information



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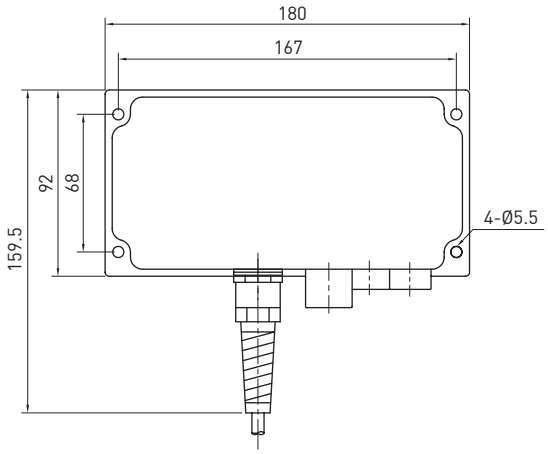
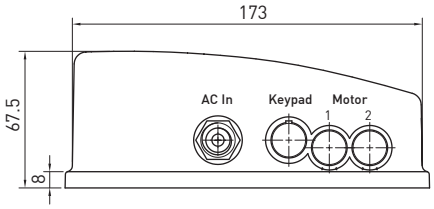
2-Axis Controller

LAK2 - Linear Actuator





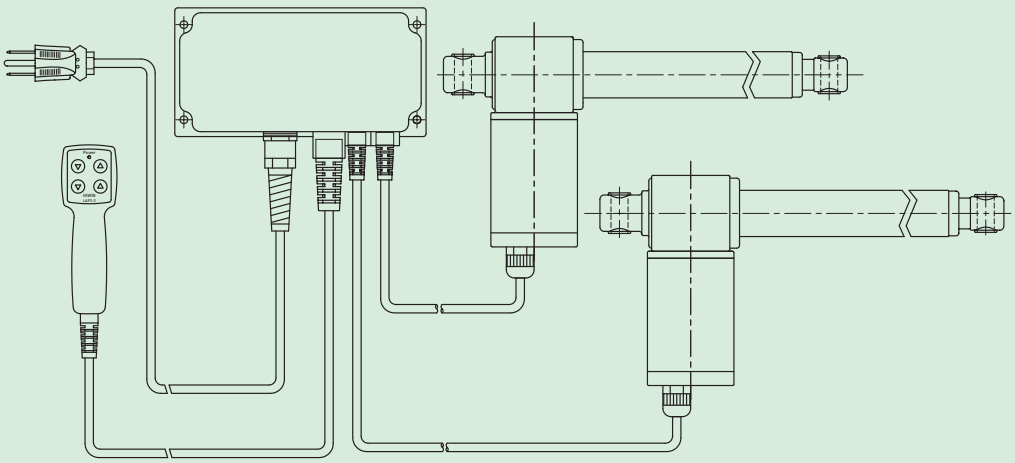
Input voltage	AC 100/110/220/230V
Output power	108VA(24VDC)max
Duty cycle	10%
Working temp.	+5oC~40oC
Protection*	IP54

* Option: (1) IP66
(2) DC 12V In & Out
(3) DC 24V In & Out

Features of LAK2

- Control 1 or 2 Linear Actuators
- Over load protection
- Standard cable length: AC:4M/DC:1M
- Electronic protection of the relays

For Series LAS, LAS3, LAS4, LAM, LAN1, LAN2



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Ordering Information

LAK2

LAK2 - B 0 - 110 - B E

Special models according to Client's requirement	None E=Special requirement
Color	B: Black G: Gray
Input Voltage	100: AC100V; 110: AC110V 220: AC220V; 230: AC230V
Actuator No. 2	0: None A: LAS4-1 B: LAS-1; LAS3-1 C: LAS-2; LAS3-2; LAS4-2 E: LAN4 G: LAM-1/-2/-1A; LAN2
Actuator No. 1	A: LAS4-1 B: LAS-1; LAS3-1 C: LAS-2; LAS3-2; LAS4-2 E: LAN4 G: LAM-1/-2/-1A; LAN2

LAK2 - E 0 - 12 - B E

Special models according to Client's requirement	None E=Special requirement
Color	B: Black G: Gray
Input Voltage	12: 12VDC 24: 24VDC
Actuator No. 2	0: None A: LAS4-1 B: LAS-1; LAS3-1 C: LAS-2; LAS3-2; LAS4-2 E: LAS-1(12V); LAS3-1(12V/); LAS4-1(12V) F: LAS-2(12V); LAS3-2(12V) G: LAM-1/-2/-1A; LAN2 L: LAN1-1/-2/-3(12V); LAM-1/-2/-1A)
Actuator No. 1	A: LAS4-1 B: LAS-1; LAS3-1 C: LAS-2; LAS3-2; LAS4-2 E: LAS-1(12V); LAS3-1(12V); LAS4-1(12V) F: LAS-2(12V); LAS3-2(12V) G: LAM-1/-2/-1A; LAN2 L: LAN1-1/-2/-3(12V); LAM-1/-2/-1A

* Standard cable: 1M in length with 3 flying lead termination.

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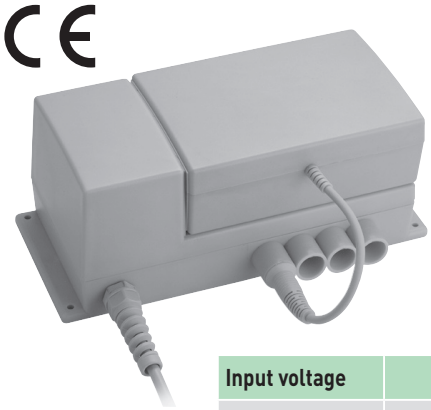
2-Axis Controller

LAK2BN - Linear Actuator



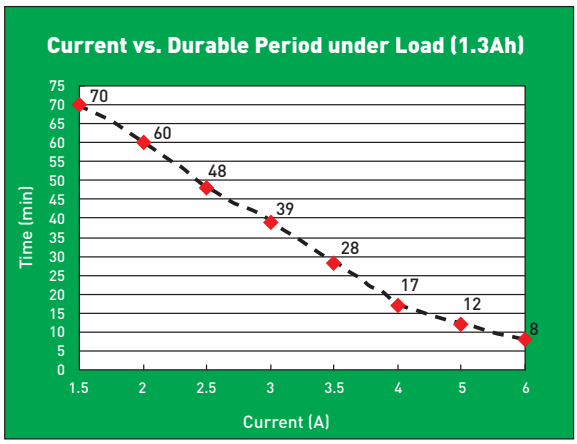
Input voltage	AC 100/110/220/230V
Output power	144VA(24VDC)max
Duty cycle	10%
Working temp.	+5oC~40oC
Protection*	IP54

* Option: (1) IP66
(2) Custom program
(3) Two axes move simultaneously
(4) Two axes move synchronously (Actuators must have feedback)

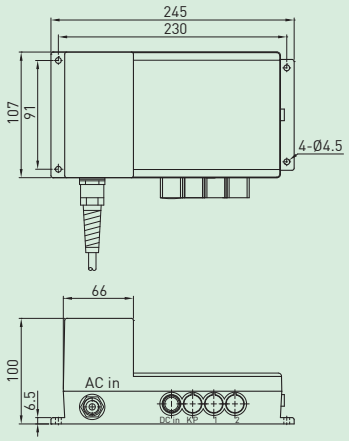
Features of LAK2BN

- Control 1 or 2 Linear Actuators
- Compact size
- Over load protection
- Soft - start / stop
- Standard cable length: 4M
- Rechargeable Battery
- Low battery indicator (alarm)
- Battery capacity: 1.3Ah (12VDCx2)
  (Option: 2.9Ah, 12VDCx2)

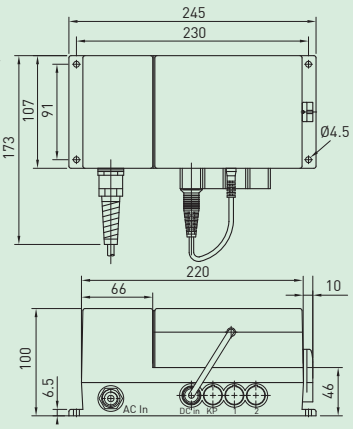
*Note: Please charge battery for at least 8 hours before initial use.



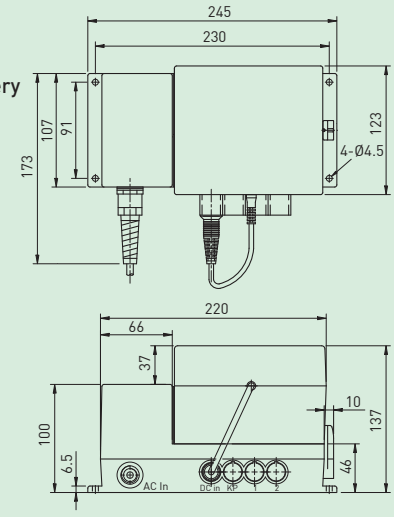
0 No Battery box



1 For 1.3Ah Battery



3 For 2.9Ah Battery



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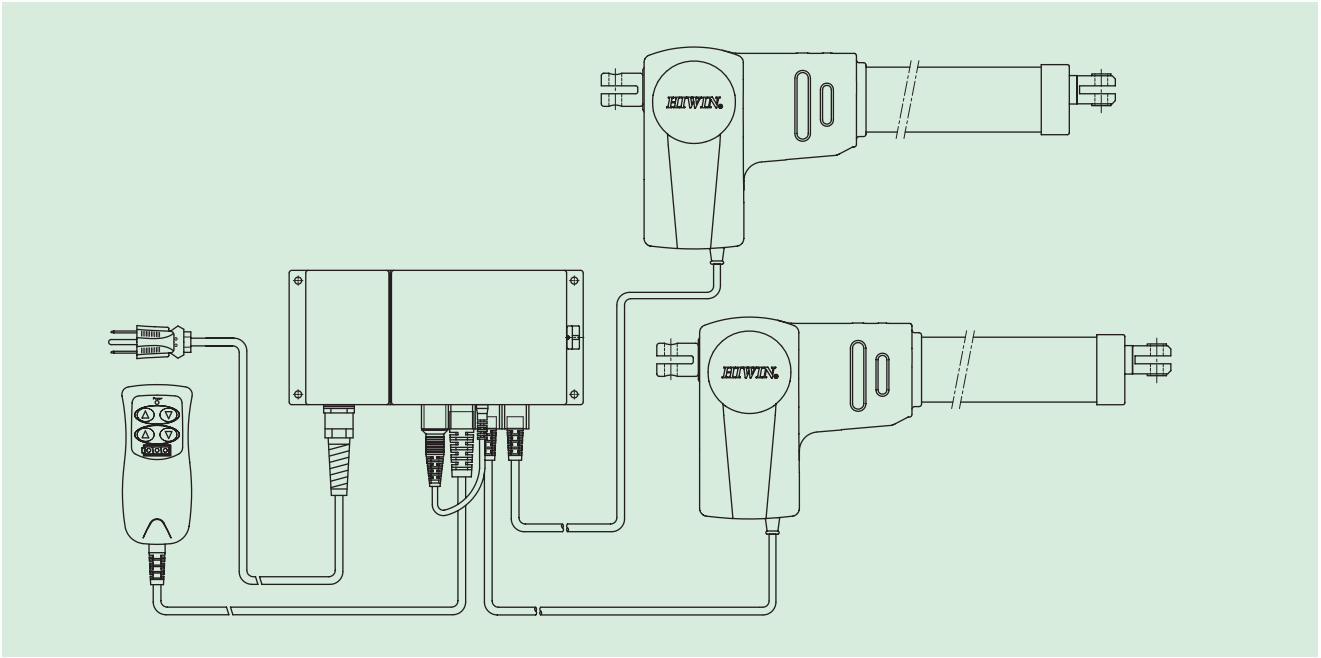
For Series LAS4, LAN1 and LAM3



Ordering Information

LAK2BN

LAK2BN - 1 - D 0 - 110 - B E

Special models according to Client's requirement	None E=Special requirement
Color	B: Black G: Gray
Input Voltage	100: AC100V; 110: AC110V 220: AC220V; 230: AC230V
Actuator No. 2	0: None A: LAS4-1 B: LAS-1; LAS3-1 C: LAS-2; LAS3-2; LAS4-2 D: LAN1-1/-2; LAM3-3/-4 E: LAM3-2; LAN4; LAC3-1
Actuator No. 1	A: LAS4-1 B: LAS-1; LAS3-1 C: LAS-2; LAS3-2; LAS4-2 D: LAN1-1/-2; LAM3-3/-4 E: LAM3-2; LAN4; LAC3-1
Battery	0: None Battery box 1: 1.3Ah 2: 2.9Ah

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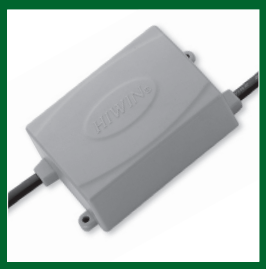


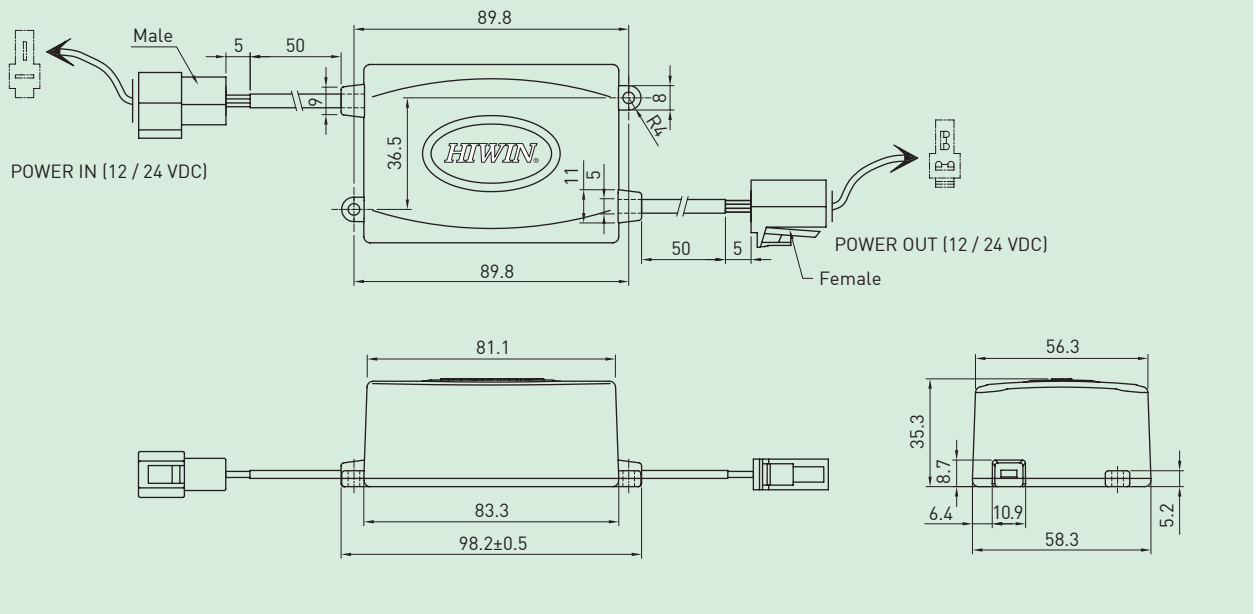
HIWIN®
LinearMotion

Over Current Protection Box

LAKC-1 - Linear Actuator

Input voltage	12/24VDC
Output voltage	12/24VDC
Duty cycle	10%
Working temp.	+5oC~40oC
Protection*	IP54

* Option: IP66



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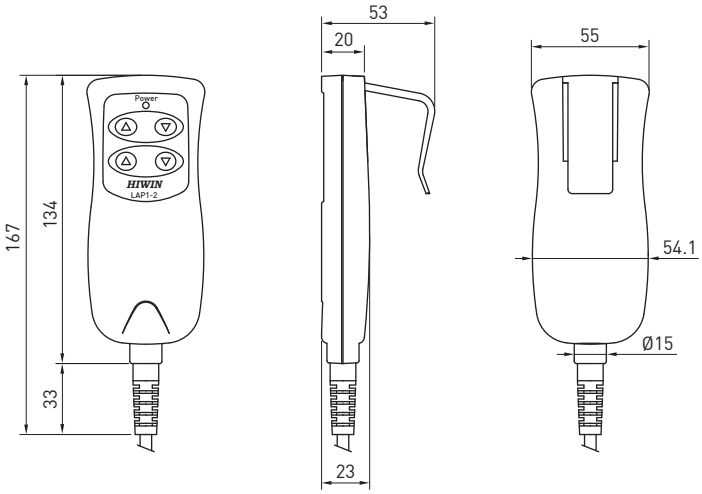
Keypad Series

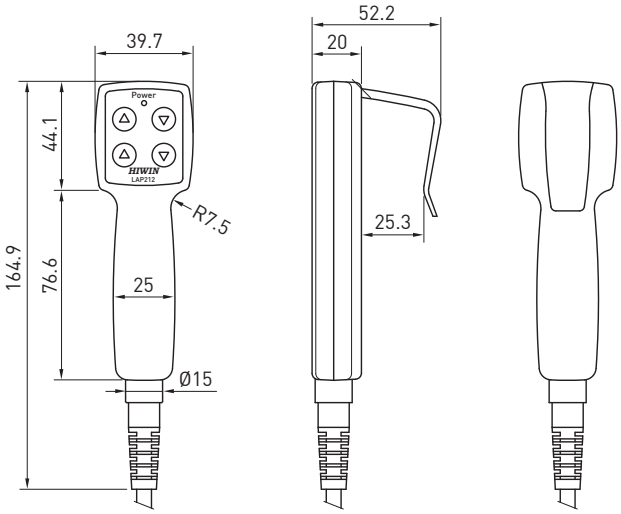
LAP1



Features of the LAP1

- Controls a maximum of 2 Actuators
- Compatible with the LAK2, LAK4, LAK2LR, & the LAK2D
- Ergonomic design
- Standard cable length: coil 600mm; total 1100mm
- Protection: IP66

LAP2



Features of the LAP2

- Controls a maximum of 2 Actuators
- Compatible with the LAK2, LAK4, & the LAK2D
- Ergonomic design and small size
- Standard cable length: coil 600mm; total 1100mm
- Protection: IP66

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Notes

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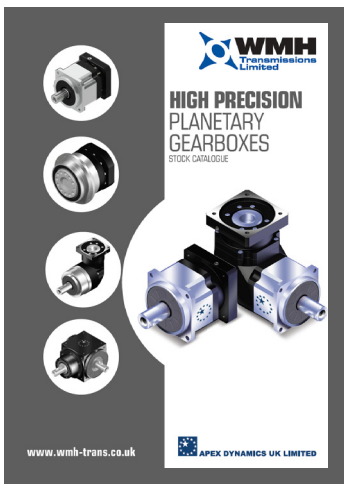

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