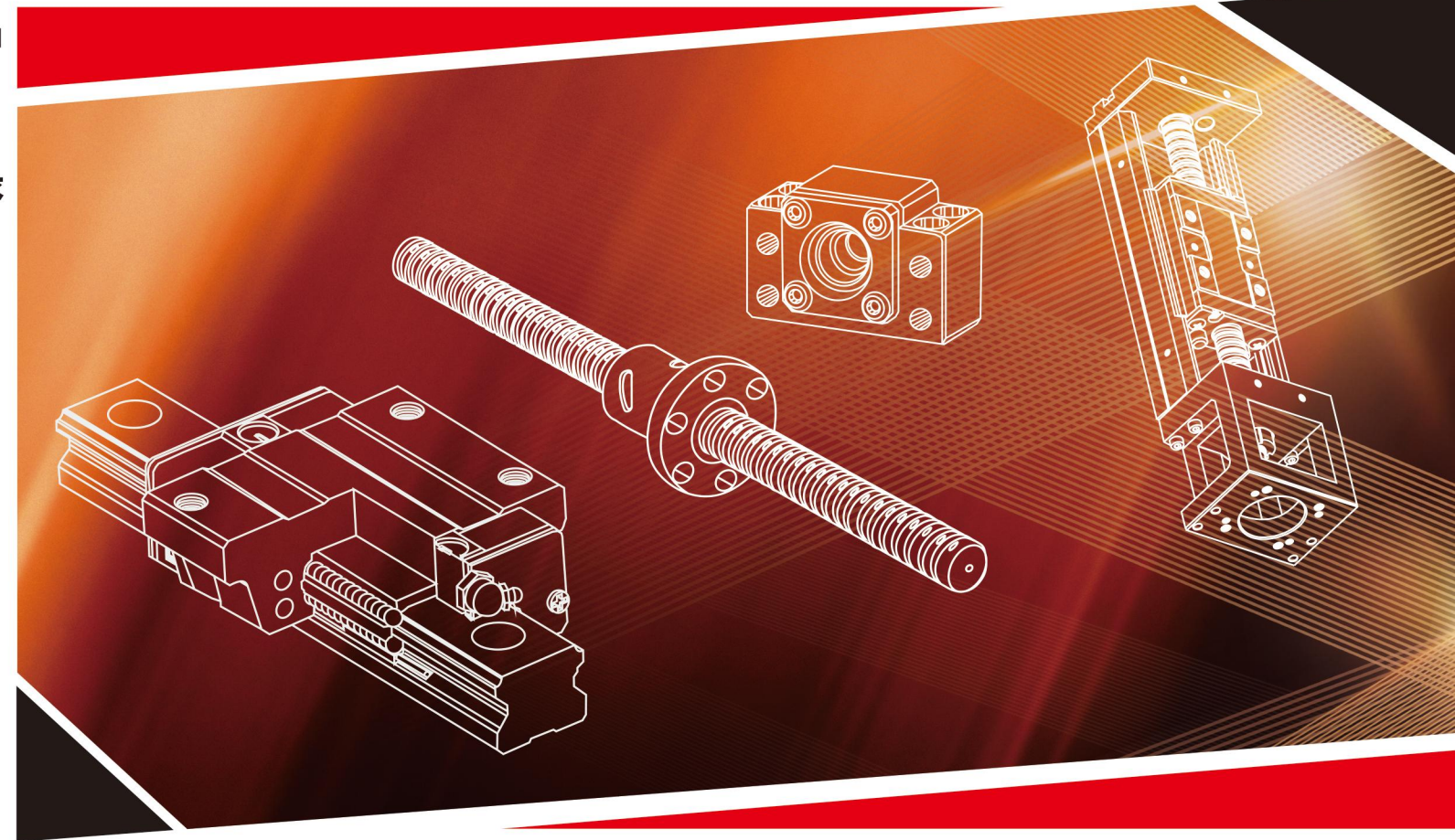




綜合產品目錄

**LINEAR GUIDEWAYS BALL SCREWS**

**SUPPORT UNIT OF BALL SCREW LINEAR MODULE**



線性導軌·滾珠螺桿·螺桿支撐座·線性模組

### Jiangsu Zcf Precision Technology Co.,Ltd

Add: No.83, middle Wanping road,Wanping community, Wujiang, Suzhou,Jiangsu, China-215223

Web: www.js-zcf.com

E-mail: info@js-zcf.com

Tel: 0138-1489 6944

本型录内容仅供参考，如与实物不符，请以实物为准。本公司保留产品尺寸变更或停用之权利。

Note:the appearance and specification may be changed without prior notice only if the requirement improves performance.

**Jiangsu Zcf Precision Technology Co.,Ltd**



集 思 · 精 研 · 勤 工 · 創 新

# INDEX

## **LINEAR GUIDEWAYS**

<b>General Information</b>	-1-
1-1 Advantages and Features of ZCF Linear Guideways	-1-
1-2 Rules of Selection	-2-
1-3 Rated Load	-3-
1-4 Service Life of Linear Guideways	-4-
1-5 Operating Load	-5-
1-6 Friction	-9-
1-7 Lubrication	-10-
1-8 Joint of Rail	-10-
1-9 Configuration of Linear Guideways	-11-
1-10 Installation of Linear Guideways	-12-
<b>ZCF Product Series</b>	-17-
2-1 CH Series - Ball Type Linear Guideway	-18-
2-2 CE Series - Low Profile Ball Type Linear Guideway	-39-
2-3 CGN/CGW Series - Miniature Linear Guideway	-55-

## **BALL SCREWS**

<b>Selection of ball screw</b>	-64-
滾珠螺絲規格定義	-65-
1.1Ball screws FSU	-66-
1.2Ball screws FDU	-67-
1.3Ball screws FSI	-68-
1.4Ball screws FDI	-69-

1.5Ball screwsFSC	-70-
1.6Ball screwsFSE	-71-
1.7Ball screwsFSB	-71-
1.8Ball screwsFSK	-72-
1.9Ball screwsRSK	-72-
1.0Ball screwsRSY	-73-

## **SUPPORT UNIT OF BALL SCREW**

Fixing end BK.FK.EK	-74-
Support end FF.EF.BF	-75-
Support end FF.EF.BF	-75-
FKFixing end.FFSupport end.BKFixing end BFSupport end.EKFixing end.EFSupport end	-76-

## **LINEAR MODULE**

<b>Comprehensive Explanation of single Axis Robot</b>	-79-
CF type	-82-
1.1 Characteristic	-82-
1.2 OPTIONS	-84-
1.3 MODEL NO.	-85-
1.4 Specification	-86-
1.5 Level of Accuracy	-87-
1.6Maximum Speed	-88-
1.7 Life Calculations	-89-
1.8 Lubrication	-89-
1.9 Products of CF series:	-90-
1.10 Motor base and motor mounting flange	-92-
1.11 Telescopic Sheath	-98-
1.12 Limit switch	-99-
<b>Interchangeable Specification among Brands</b>	-100-



## Linear Guideways CH Series

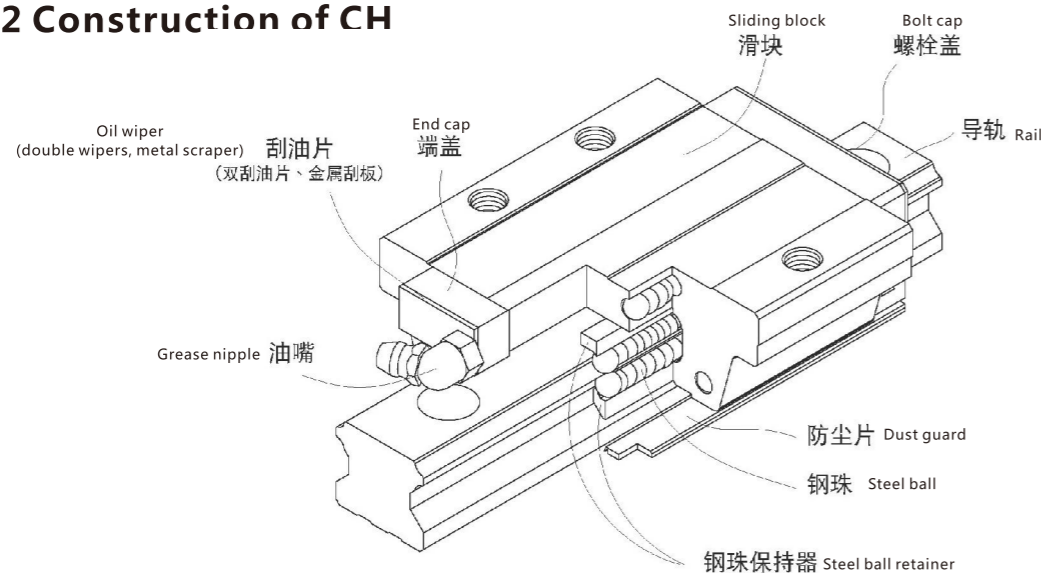
### 2-1 CH Series – Ball Type Linear Guideway

The CH series linear guideway is a four-row linear guideway with single-arc-thread contact and designed to be a super heavy-duty precision linear guideway based on the integrated optimization of construction. It has higher load capacity and rigidity than other linear guideways. Featuring four-way equal load and self-aligning, it can absorb the installation error of the mounting surface and obtain a higher accuracy. As the concept of higher speed, load capacity, rigidity and precision has become the development trend of world industrial products in the future, the ZCF four-row super heavy-duty linear guideway has been developed based on this concept.

#### 2-1-1 Features of CH Series Linear Guideway

- (1) Self-aligning ability**  
The DF (45°-45°) combination of the arc groove facilitates the sliding block of the linear guideway to absorb the error, if any, of the mounting surface through the elastic deformation of the steel balls and the shift of the contact points during installation. The self-aligning ability thus incurred contributes to highly accurate and stable smooth motion.
- (2) Interchangeability**  
Thanks to the strict control of the accuracy of manufacture, the dimensions of the linear guideway is kept within a certain range and the sliding block is designed with a retainer to prevent the steel balls from falling out. As this series is interchangeable, customers can order rails or sliding blocks as required or separately store the rails and sliding blocks to reduce the storage space.
- (3) High rigidity in all directions**  
The four-row arc groove combined with the 45° contact angle of four-row steel balls makes the steel balls obtain the ideal two-point contact, so that the loads in up, down, right and left directions can be carried. If necessary, preload can be applied to enhance the rigidity.

#### 2-1-2 Construction of CH

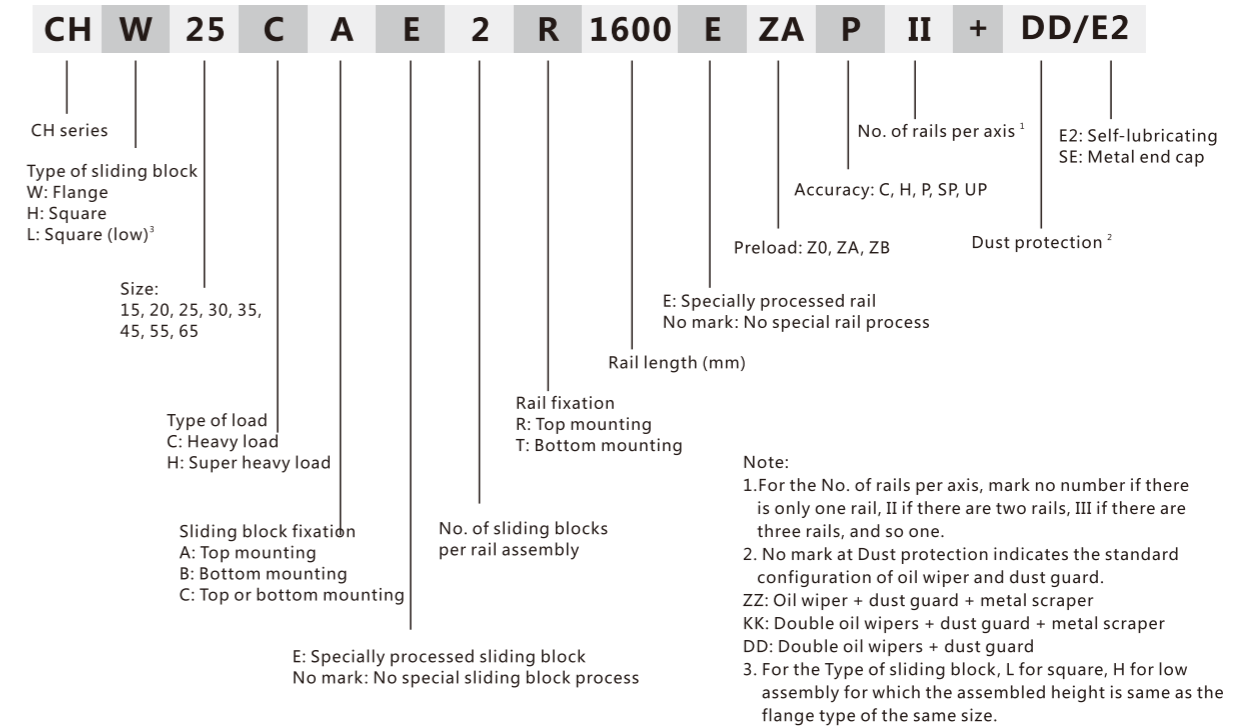


- Rolling circulation system: Sliding block, rail, end cap, steel ball and steel ball retainer
- Lubrication system: Grease nipple and pipe joint
- Dust protection system: Oil wiper, bottom seal dust guard, rail bolt cap and metal scraper

#### 2-1-3 Product Specification

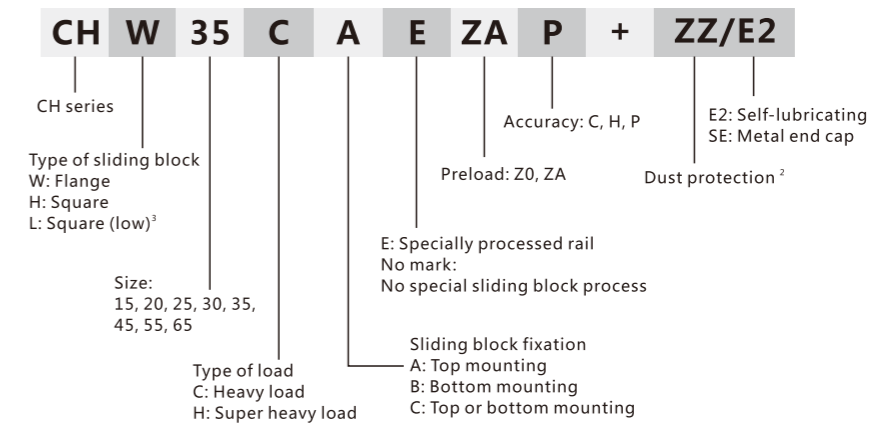
The CH series can be divided into non-interchangeable and interchangeable linear guideways which have the same size. Their main difference is that the sliding blocks and rails of the interchangeable type can be easily exchanged individually but the assembly accuracy cannot reach the ultra high precision of the non-interchangeable type. Nevertheless, because of the excellent dimensional control and strict quality requirements of ZCF with respect to manufacture, the assembly accuracy of the interchangeable type has now reached a certain level and it is a good choice for customers without the need of paired linear guideways. The product specification of linear guideways mainly shows the size, type, accuracy class, preload and other specification requirements of the linear guideway, to facilitate both parties' verification of the product when an order is being placed.

#### (1) Model of non-interchangeable linear guideways

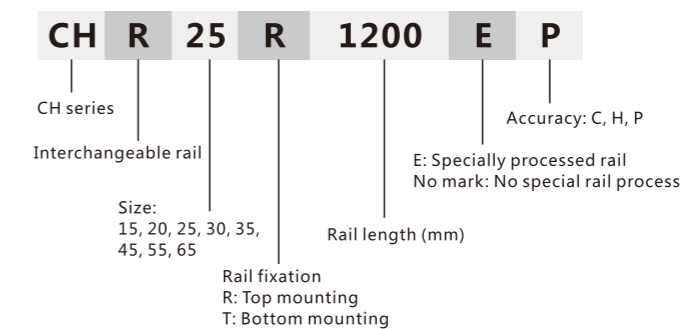


#### (2) Model of interchangeable linear guideways

##### • Model of interchangeable sliding block



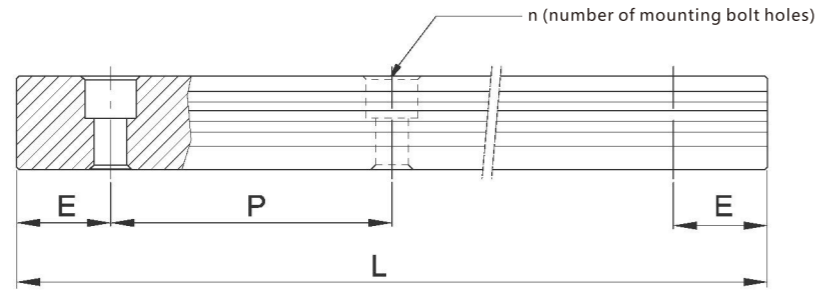
##### • Model of interchangeable rail



# Linear Guideways CH Series

## 2-1-12 Standard and Max. Lengths of a Single Rail

ZCF offers customers with the inventory of standard rail lengths. If the customer orders rails of non-standard length, the end face distance E should not exceed 1/2P, to prevent excessively high E from causing rear instability after rail assembly and reducing accuracy of the linear guideway.



$$L = (n - 1) \times P + 2 \times E \quad \text{Eq.2.1}$$

- L: Total length of rail (mm)
- n: Number of bolt holes
- P: Distance between bolt holes (mm)
- E: Distance from bolt hole to end face (mm)

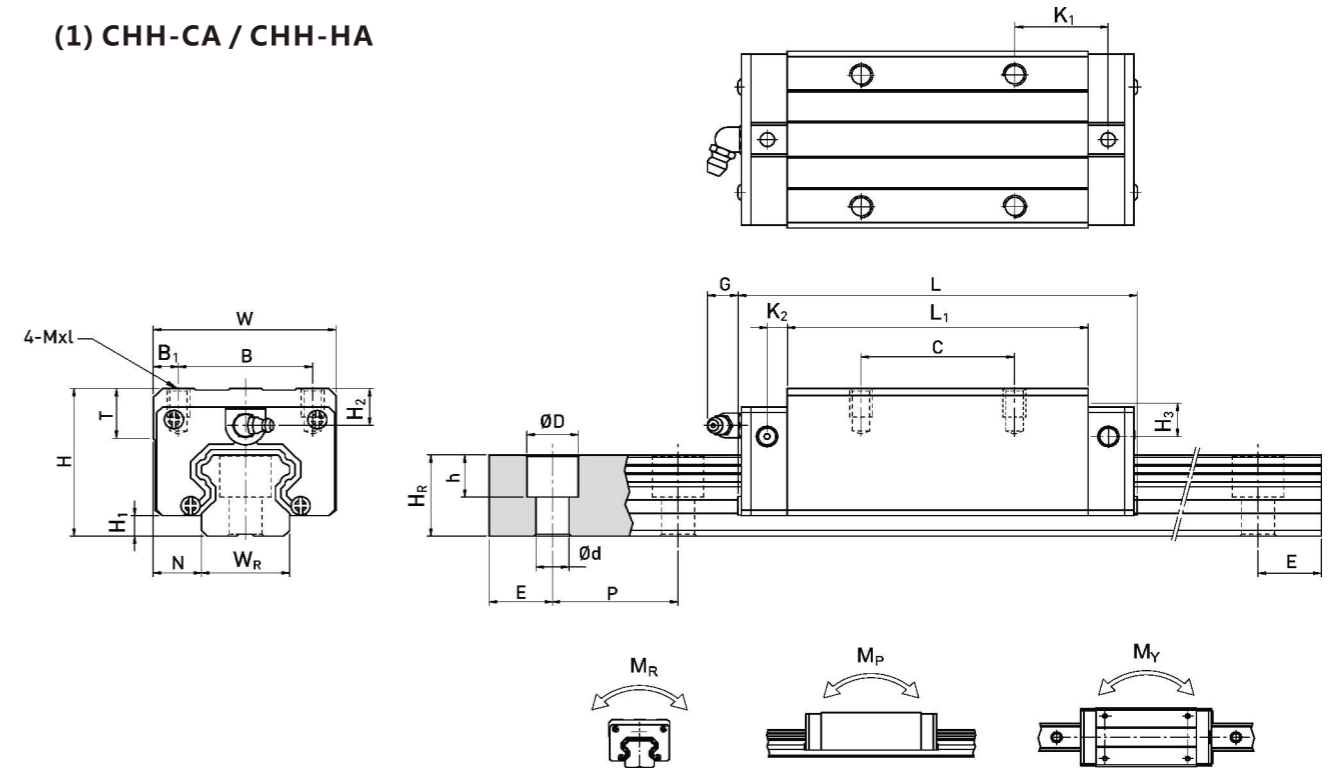
Table 2.27 Rail Length

Item	In: mm						
	CH15	CH20	CH25	CH30	CH35	CH45	CH55
Standard length L (n)	160(3)	220(4)	220(4)	280(4)	280(4)	570(6)	780(7)
	220(4)	280(5)	280(5)	440(6)	440(6)	885(9)	1,020(9)
	280(5)	340(6)	340(6)	600(8)	600(8)	1,200(12)	1,260(11)
	340(6)	460(8)	460(8)	760(10)	760(10)	1,620(16)	1,500(13)
	460(8)	640(11)	640(11)	1,000(13)	1,000(13)	2,040(20)	1,980(17)
	640(11)	820(14)	820(14)	1,640(21)	1,640(21)	2,460(24)	2,580(22)
	820(14)	1,000(17)	1,000(17)	2,040(26)	2,040(26)	2,985(29)	2,940(25)
		1,240(21)	1,240(21)	2,520(32)	2,520(32)		
			1,600(27)	3,000(38)	3,000(38)		
Distance (P)	60	60	60	80	80	105	120
Standard end distance (E)	20	20	20	20	20	22.5	30
Max. length at standard end distance	1,960(33)	4,000(67)	4,000(67)	3,960(50)	3,960(50)	3,930(38)	3,900(33)
Max. length	2,000	4,000	4,000	4,000	4,000	4,000	4,000

- Note:
- The tolerance of E for common rails is 0.5~-0.5 mm; the tolerance of E for rail joint is more strict: 0~-0.3 mm.
  - Max. length at standard end distance refers to the maximum length of a rail with standard end distances on both sides.
  - Please contact ZCF if a different E is required.

## 2-1-13 Dimensions of CH Series Linear Guideway

### (1) CHH-CA / CHH-HA



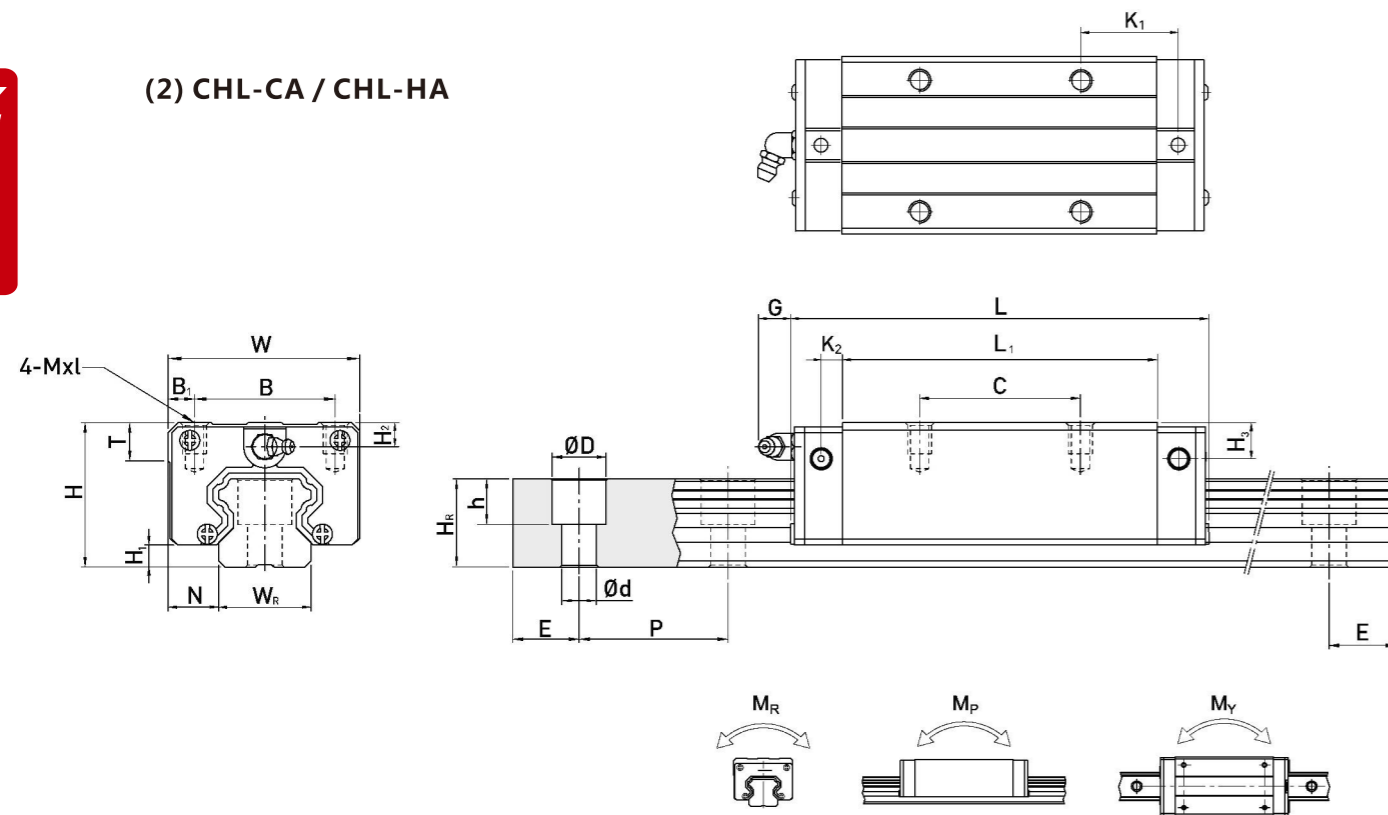
Model	Assembly Dimensions (mm)		Sliding Block Dimensions (mm)													Rail Dimensions (mm)					Rail Mounting Bolt Dimensions	Basic Dynamic Rated Load	Basic Static Rated Load	Allowable Static Moment			Weight				
			H	H <sub>1</sub>	N	W	B	B <sub>1</sub>	C	L <sub>1</sub>	L	K <sub>1</sub>	K <sub>2</sub>	G	Mxl	T	H <sub>2</sub>	H <sub>1</sub>	W <sub>R</sub>	H <sub>R</sub>				D	h	d	P	E	(mm)	C (kN)	C <sub>0</sub> (kN)
	CHH 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
CHH 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
CHH 20HA							50	65.2	92.2	12.6															21.18	35.90	0.35	0.35	0.35	0.39	
CHH 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
CHH 25HA							50	78.6	104.6	19.6															32.75	49.44	0.56	0.57	0.57	0.69	
CHH 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
CHH 30HA							60	93	120.4	21.75															47.27	69.16	0.88	0.92	0.92	1.16	
CHH 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
CHH 35HA							72	105.8	138.2	22.5															60.21	91.63	1.54	1.40	1.40	1.92	
CHH 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
CHH 45HA							80	128.8	171.2	28.9															94.54	136.46	2.63	2.68	2.68	3.61	
CHH 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
CHH 55HA							95	155.8	204.8	36.4															139.35	196.20	4.88	4.57	4.57	5.49	

注：1 kgf = 9.81 N



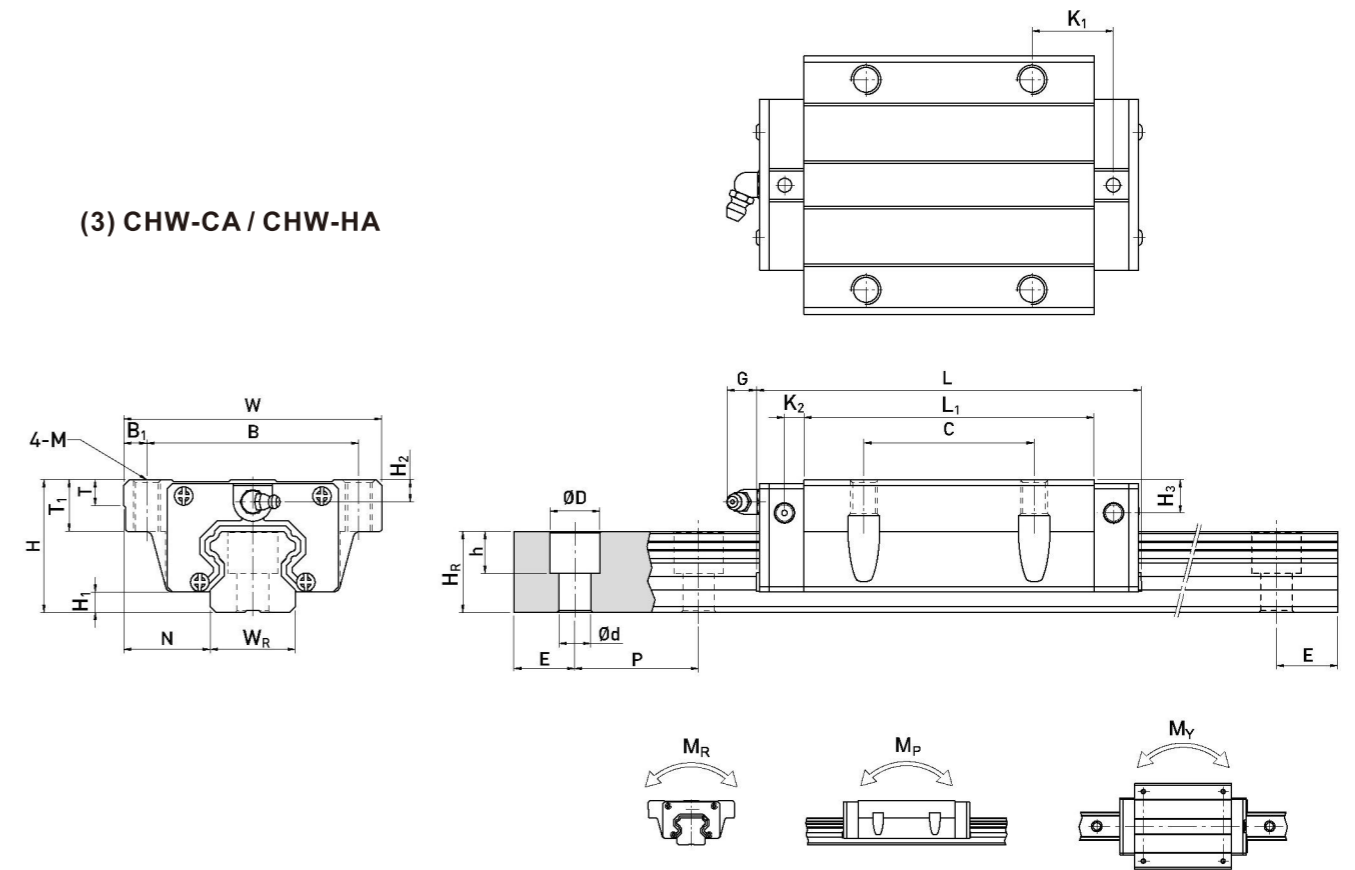
# Linear Guideways CH Series

## (2) CHL-CA / CHL-HA



Model	Assembly Dimensions (mm)		Sliding Block Dimensions (mm)													Rail Dimensions (mm)					Rail Mounting Bolt Dimensions	Basic Dynamic Rated Load	Basic Static Rated Load	Allowable Static Moment			Weight				
	H	H <sub>1</sub>	N	W	B	B <sub>1</sub>	C	L <sub>1</sub>	L	K <sub>1</sub>	K <sub>2</sub>	G	Mxl	T	H <sub>2</sub>	H <sub>3</sub>	W <sub>R</sub>	H <sub>R</sub>	D	h				d	P	E	M <sub>x</sub>	M <sub>y</sub>	M <sub>z</sub>	Sliding block	Rail
	Units: kN-m, kg, kg/m																														
CHL 15CA	24	4.3	9.5	34	26	4	26	39.4	61.4	10	4.85	5.3	M4x4	6	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	0.14	1.45
CHL 25CA	36	5.5	12.5	48	35	6.5	35	58	84	16.8	6	12	M6x6	8	6	9	23	22	11	9	7	60	20	M6x20	26.48	36.49	0.42	0.33	0.33	0.42	3.21
CHL 30CA	42	6	16	60	40	10	40	70	97.4	20.25	6	12	M8x10	8.5	6.5	10.8	28	26	14	12	9	80	20	M8x25	38.74	52.19	0.66	0.53	0.53	0.78	4.47
CHL 35CA	48	7.5	18	70	50	10	50	80	112.4	20.6	7	12	M8x12	10.2	9	12.6	34	29	14	12	9	80	20	M8x25	49.52	69.16	1.16	0.81	0.81	1.14	6.30
CHL 45CA	60	9.5	20.5	86	60	13	60	97	139.4	23	10	12.9	M10x17	16	8.5	20.5	45	38	20	17	14	105	22.5	M12x35	77.57	102.71	1.98	1.55	1.55	2.08	10.41
CHL 55CA	70	13	23.5	100	75	12.5	75	117.7	166.7	27.35	11	12.9	M12x18	17.5	12	19	53	44	23	20	16	120	30	M14x45	114.44	148.33	3.69	2.64	2.64	3.25	15.08
CHL 15HA	24	4.3	9.5	34	26	4	26	39.4	61.4	10	4.85	5.3	M4x4	6	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	0.14	1.45
CHL 25HA	36	5.5	12.5	48	35	6.5	35	58	84	16.8	6	12	M6x6	8	6	9	23	22	11	9	7	60	20	M6x20	26.48	36.49	0.42	0.33	0.33	0.42	3.21
CHL 30HA	42	6	16	60	40	10	40	70	97.4	20.25	6	12	M8x10	8.5	6.5	10.8	28	26	14	12	9	80	20	M8x25	38.74	52.19	0.66	0.53	0.53	0.78	4.47
CHL 35HA	48	7.5	18	70	50	10	50	80	112.4	20.6	7	12	M8x12	10.2	9	12.6	34	29	14	12	9	80	20	M8x25	49.52	69.16	1.16	0.81	0.81	1.14	6.30
CHL 45HA	60	9.5	20.5	86	60	13	60	97	139.4	23	10	12.9	M10x17	16	8.5	20.5	45	38	20	17	14	105	22.5	M12x35	77.57	102.71	1.98	1.55	1.55	2.08	10.41
CHL 55HA	70	13	23.5	100	75	12.5	75	117.7	166.7	27.35	11	12.9	M12x18	17.5	12	19	53	44	23	20	16	120	30	M14x45	114.44	148.33	3.69	2.64	2.64	3.25	15.08

## (3) CHW-CA / CHW-HA



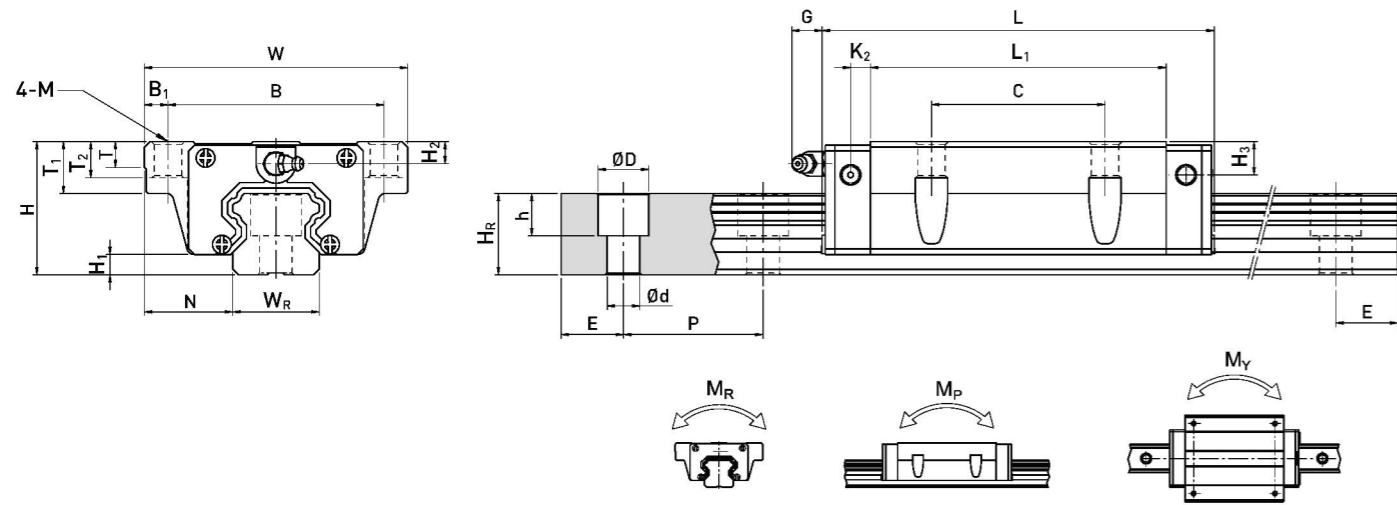
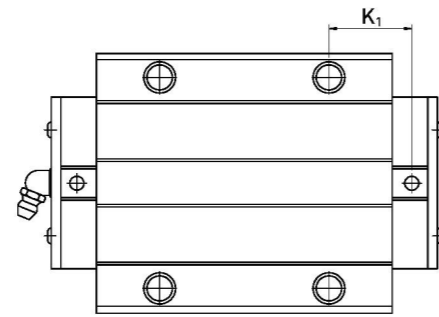
Model	Assembly Dimensions (mm)		Sliding Block Dimensions (mm)													Rail Dimensions (mm)					Rail Mounting Bolt Dimensions	Basic Dynamic Rated Load	Basic Static Rated Load	Allowable Static Moment			Weight					
	H	H <sub>1</sub>	N	W	B	B <sub>1</sub>	C	L <sub>1</sub>	L	K <sub>1</sub>	K <sub>2</sub>	G	M	T	T <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	W <sub>R</sub>	H <sub>R</sub>	D				h	d	P	E	M <sub>x</sub>	M <sub>y</sub>	M <sub>z</sub>	Sliding block	Rail
	Units: kN-m, kg, kg/m																															
CHW 15CA	24	4.3	16	47	38	4.5	30	39.4	61.4	8	4.85	5.3	M5	6	8.9	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
CHW 20CA	30	4.6	21.5	63	53	5	40	50.5	77.5	10.25	6	12	M6	8	10	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
CHW 20HA	30	4.6	21.5	63	53	5	40	65.2	92.2	17.6	6	12	M6	8	10	6	7	20	17.5	9.5	8.5	6	60	20	M5x16	21.18	35.90	0.35	0.35	0.35	0.52	2.21
CHW 25CA	36	5.5	23.5	70	57	6.5	45	58	84	11.8	6	12	M6	8	14	6	9	23	22	11	9	7	60	20	M6x20	26.48	36.49	0.42	0.33	0.33	0.59	3.21
CHW 25HA	36	5.5	23.5	70	57	6.5	45	78.6	104.6	22.1	6	12	M6	8	14	6	9	23	22	11	9	7	60	20	M6x20	32.75	49.44	0.56	0.57	0.57	0.80	3.21
CHW 30CA	42	6	31	90	72	9	52	70	97.4	14.25	6	12	M10	8.5	16	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
CHW 30HA	42	6	31	90	72	9	52	93	120.4	25.75	6	12	M10	8.5	16	6.5	10.8	28	26	14	12	9	80	20	M8x25	47.27	69.16	0.88	0.92	0.92	1.44	4.47
CHW 35CA	48	7.5	33	100	82	9	62	80	112.4	14.6	7	12	M10	10.1	18	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
CHW 35HA	48	7.5	33	100	82	9	62	105.8	138.2	27.5	7	12	M10	10.1	18	9	12.6	34	29	14	12	9	80	20	M8x25	60.21	91.63	1.54	1.40	1.40	2.06	6.30
CHW 45CA	60	9.5	37.5	120	100	10	80	97	139.4	13	10	12.9	M12	15.1	22	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
CHW 45HA	60	9.5	37.5	120	100	10	80	128.8	171.2	28.9	10	12.9	M12	15.1	22	8.5	20.5	45	38	20	17	14	105	22.5	M12x35	94.54	136.46	2.63	2.68	2.68	3.69	10.41
CHW 55CA	70	13	43.5	140	116	12	95	117.7	166.7	17.35	11	12.9	M14	17.5	26.5	12	19	53	44	23	20	16	120	30	M14x45	114.44	148.33	3.69	2.64	2.64	4.52	15.08
CHW 55HA	70	13	43.5	140	116	12	95	155.8	204.8	36.4	11	12.9	M14	17.5	26.5	12	19	53	44	23	20	16	120	30	M14x45	139.35	196.20	4.88	4.57	4.57	5.96	15.08

注 : 1 kgf = 9.81 N

# Linear Guideways CH Series

## (4) CHW-CB / CHW-HB

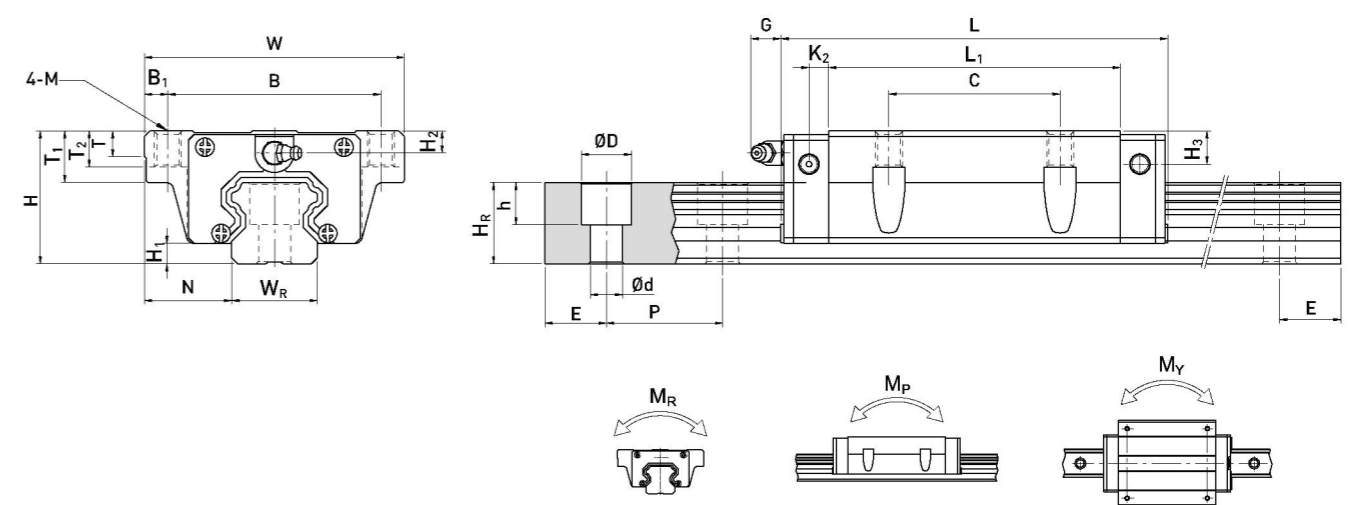
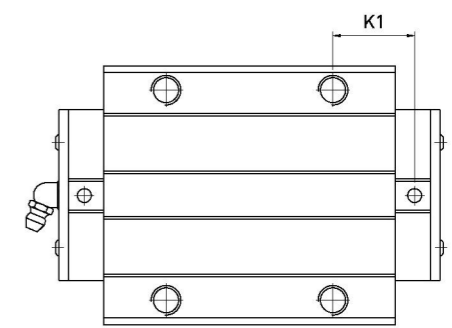
线性导轨



Model	Assembly Dimensions (mm)		Sliding Block Dimensions (mm)													Rail Dimensions (mm)					Rail Mounting Bolt Dimensions	Basic Dynamic Rated Load	Basic Static Rated Load	Allowable Static Moment			Weight							
	H	H <sub>1</sub>	N	W	B	B <sub>1</sub>	C	L <sub>1</sub>	L	K <sub>1</sub>	K <sub>2</sub>	G	M	T	T <sub>1</sub>	T <sub>2</sub>	H <sub>2</sub>	H <sub>3</sub>	W <sub>R</sub>	H <sub>R</sub>				D	h	d	P	E	(mm)	C <sub>0</sub> (kN)	M <sub>R</sub>	M <sub>P</sub>	M <sub>Y</sub>	Sliding block
	kg	kg/m	kN-m		kN-m		kN-m		kg	kg/m																								
CHW 15CB	24	4.3	16	47	38	4.5	30	39.4	61.4	8	4.85	5.3		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	
CHW 20CB	30	4.6	21.5	63	53	5	40	50.5	77.5	10.25	6	12	6	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	
CHW 20HB								65.2	92.2	17.6																								
CHW 25CB	36	5.5	23.5	70	57	6.5	45	58	84	11.8	6	12	7	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	
CHW 25HB								78.6	104.6	22.1																								
CHW 30CB	42	6	31	90	72	9	52	70	97.4	14.25	6	12	9	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	
CHW 30HB								93	120.4	25.75																								
CHW 35CB	48	7.5	33	100	82	9	62	80	112.4	14.6	7	12	9	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	
CHW 35HB								105.8	138.2	27.5																								
CHW 45CB	60	9.5	37.5	120	100	10	80	97	139.4	13	10	12.9	11	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	
CHW 45HB								128.8	171.2	28.9																								
CHW 55CB	70	13	43.5	140	116	12	95	117.7	166.7	17.35	11	12.9	14	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	
CHW 55HB								155.8	204.8	36.4																								

注：1 kgf = 9.81 N

## (5) CHW-CC / CHW-HC

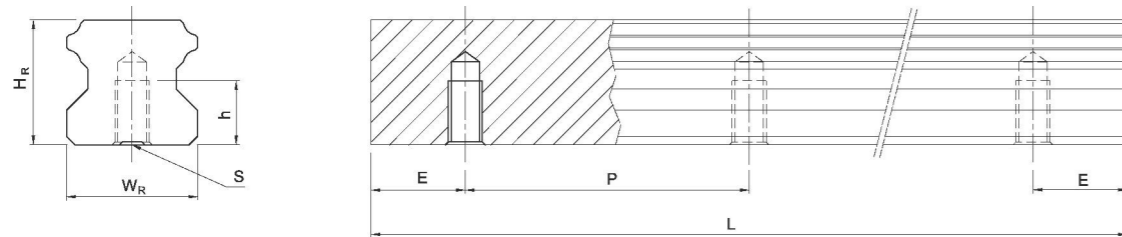


Model	Assembly Dimensions (mm)		Sliding Block Dimensions (mm)													Rail Dimensions (mm)					Rail Mounting Bolt Dimensions	Basic Dynamic Rated Load	Basic Static Rated Load	Allowable Static Moment			Weight							
	H	H <sub>1</sub>	N	W	B	B <sub>1</sub>	C	L <sub>1</sub>	L	K <sub>1</sub>	K <sub>2</sub>	G	M	T	T <sub>1</sub>	T <sub>2</sub>	H <sub>2</sub>	H <sub>3</sub>	W <sub>R</sub>	H <sub>R</sub>				D	h	d	P	E	(mm)	C <sub>0</sub> (kN)	M <sub>R</sub>	M <sub>P</sub>	M <sub>Y</sub>	Sliding block
	kg	kg/m	kN-m		kN-m		kN-m		kg	kg/m																								
CHW 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	
CHW 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	
CHW 20HC								65.2	92.2	17.6																								
CHW 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	
CHW 25HC								78.6	104.6	22.1																								
CHW 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	
CHW 30HC								93	120.4	25.75																								
CHW 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	
CHW 35HC								105.8	138.2	27.5																								
CHW 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	
CHW 45HC								128.8	171.2	28.9																								
CHW 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	
CHW 55HC								155.8	204.8	36.4																								

注：1 kgf = 9.81 N

## Linear Guideways CH Series

### (6) CHR-T bottom mounting rail dimensions



Model	Rail Dimensions (mm)						Weight (kg/m)
	W <sub>R</sub>	H <sub>R</sub>	S	h	P	E	
CHR15T	15	15	M5 x 0.8P	8	60	20	1.48
CHR20T	20	17.5	M6 x 1P	10	60	20	2.29
CHR25T	23	22	M6 x 1P	12	60	20	3.35
CHR30T	28	26	M8 x 1.25P	15	80	20	4.67
CHR35T	34	29	M8x1.25P	17	80	20	6.51
CHR45T	45	38	M12 x 1.75P	24	105	22.5	10.87
CHR55T	53	44	M14 x 2P	24	120	30	15.67

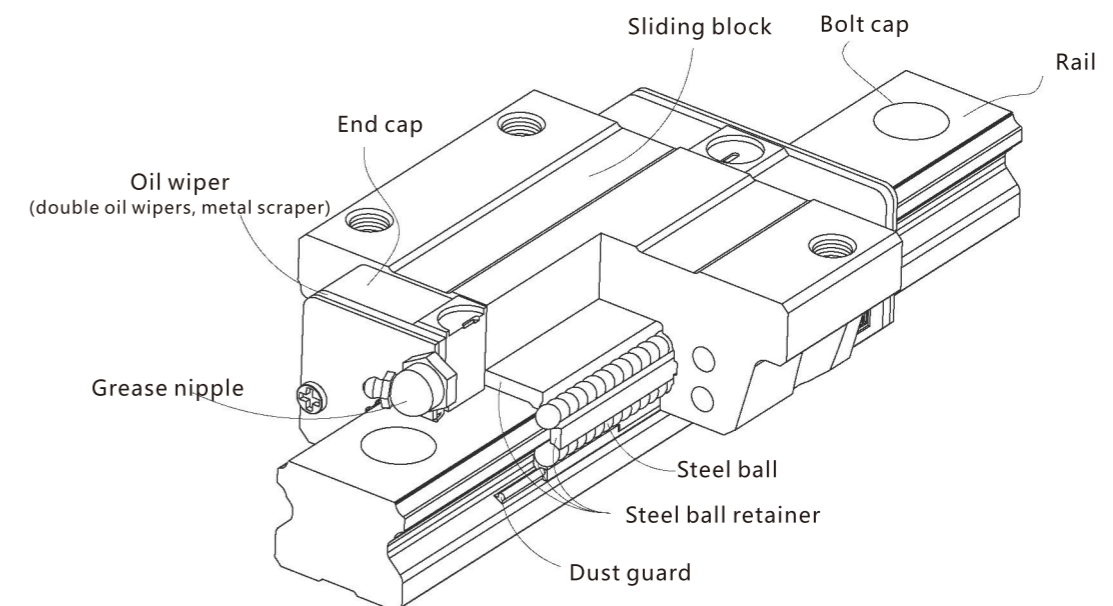
## 2-2 CE Series – Low Profile Ball Type Linear Guideway

### 2-2-1 Features of CE Series Linear Guideway

The CE series is designed to bear the load with four-row steel balls, thus featuring high rigidity and high load capacity, four-way equal load ratings and self-aligning. It can realize high accuracy by absorbing the assembly error of the mounting surface. Moreover, the low assembly height and short sliding block make it quite suitable for high-speed automation industrial machinery and small equipment with space limitations.

There is steel ball retainer on the sliding block to prevent the steel balls from falling off. This design not only facilitates the customer's installation of the linear guideway but also holds the balls when the sliding block is removed, and allows interchangeability if the accuracy permits.

### 2-2-2 Construction of CE



- Rolling circulation system: Sliding block, rail, end cap, steel ball and steel ball retainer
- Lubrication system: Grease nipple and pipe joint
- Dust protection system: Oil wiper, bottom seal dust guard, rail bolt cap and metal scraper

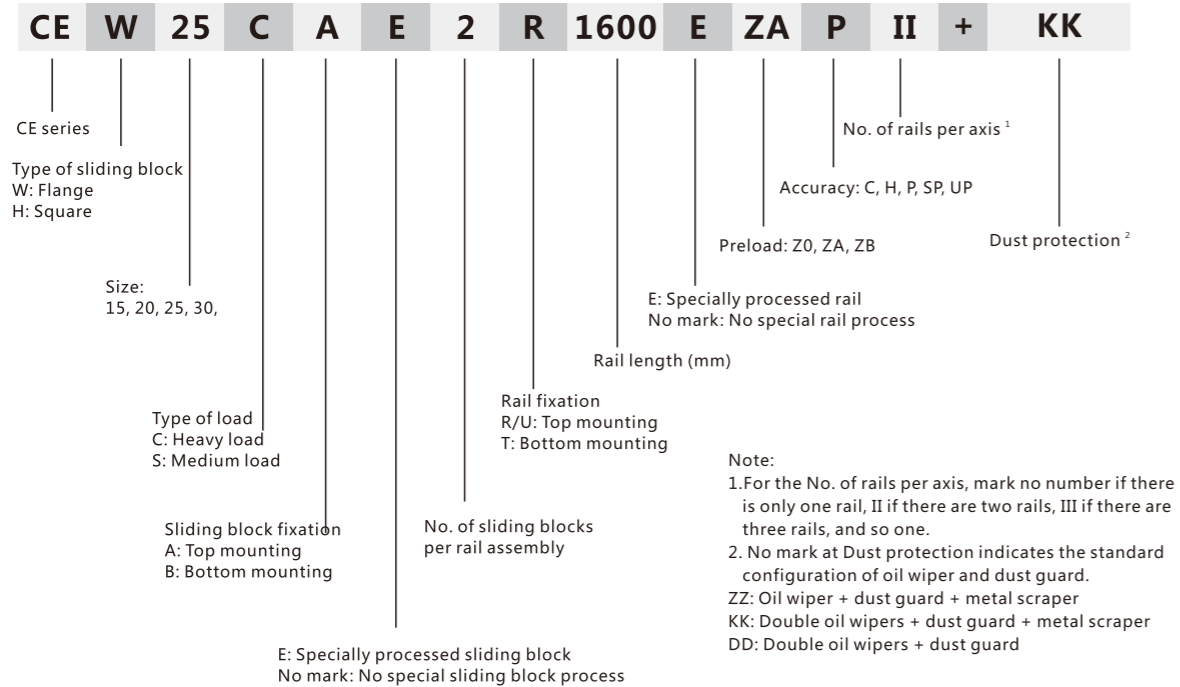
### 2-2-3 Product Specification

The CE series can be divided into non-interchangeable and interchangeable linear guideways which have the same size. Their main difference is that the sliding blocks and rails of the interchangeable type can be easily exchanged individually but the assembly accuracy cannot reach the ultra high precision of the non-interchangeable type. Nevertheless, because the assembly accuracy of the interchangeable type of ZCF has now reached a certain level, it is a convenient choice for customers without the need of paired linear guideways. The product specification of linear guideways mainly shows the size, type, accuracy class, preload and other specification requirements of the linear guideway, to facilitate both parties' verification of the product when an order is being placed.



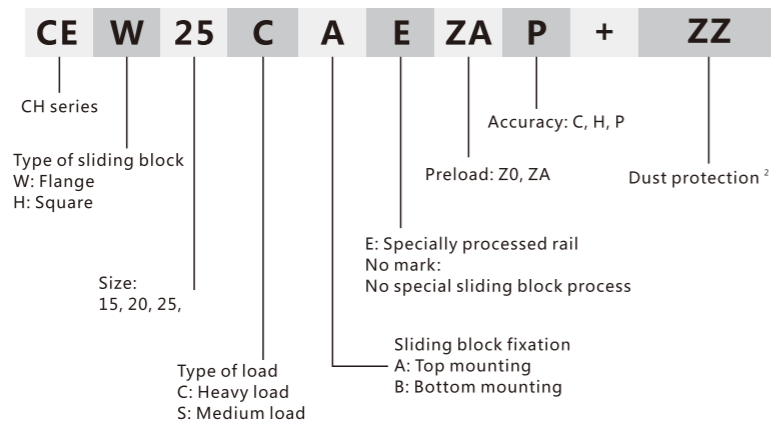
## Linear Guideways CE Series

### (1) Model of non-interchangeable linear guideways

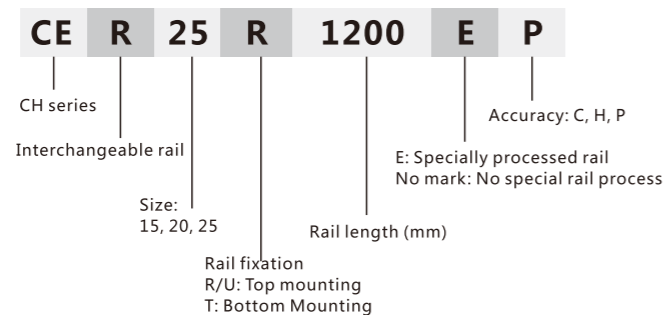


### (2) Model of interchangeable linear guideways

#### ● Model of interchangeable sliding block



#### ● Model of interchangeable rail



## 2-2-4 Types of CE Series

### (1) Types of sliding block

ZCF offers two types of linear guideways: flange and square.

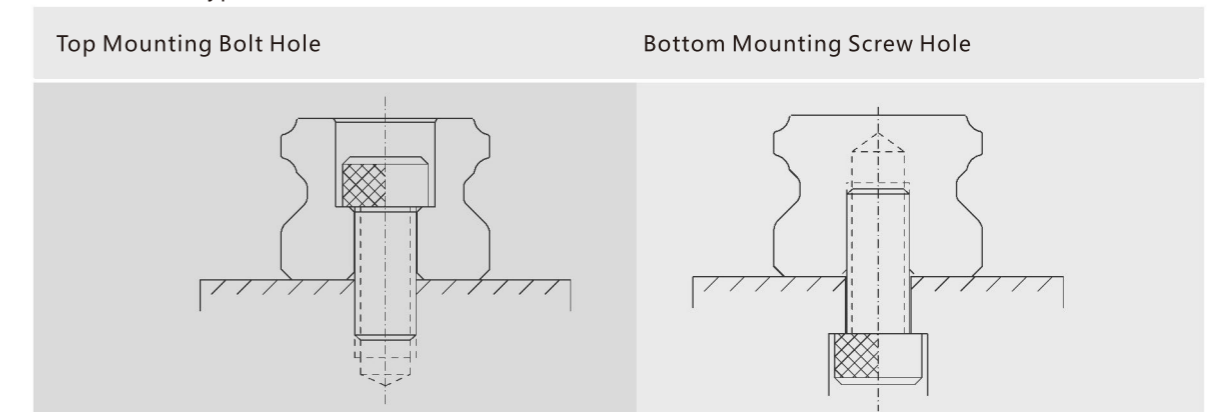
Table 2.28 Types of Sliding Block

Type	Spec.	Shape	Height (mm)	Rail Length (mm)	Applicable Equipment
Square	CEH-SA CEH-CA		24	100	
			↓	↓	
Flange	CEW-SA CEW-CA		24	100	
			↓	↓	
	CEW-SB CEW-CB		42	4000	
			↓	↓	
			24	100	
			↓	↓	
			42	4000	
			↓	↓	

### (2) Rail types

In addition to the common rails with top mounting bolt holes, ZCF also provides rails with bottom mounting screw holes to facilitate installation and use.

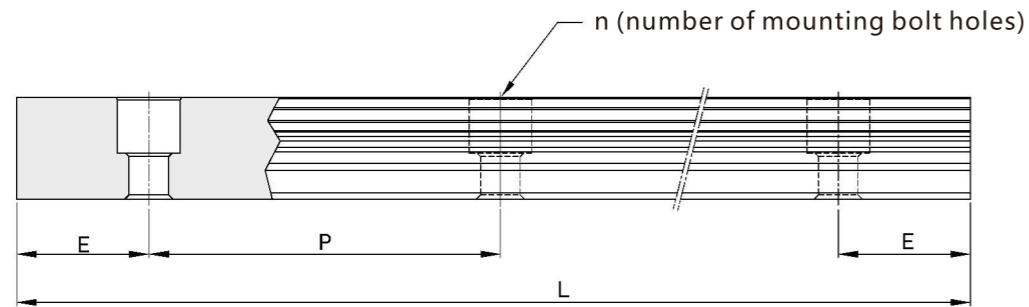
Table 2.29 Rail Types



## Linear Guideways CE Series

### 2-2-12 Standard and Max. Lengths of a Single Rail

ZCF offers customers with the inventory of standard rail lengths. If the customer orders rails of non-standard length, the end face distance E should not exceed 1/2P, to prevent excessively high E from causing rear instability after rail assembly and reducing accuracy of the linear guideway.



$$L = (n-1) \times P + 2 \times E \quad \text{Eq.2.2}$$

L: Total length of rail (mm)

n: Number of bolt holes

P: Distance between bolt holes (mm)

E: Distance from bolt hole to end face (mm)

Table 2.47 Rail Length

In: mm

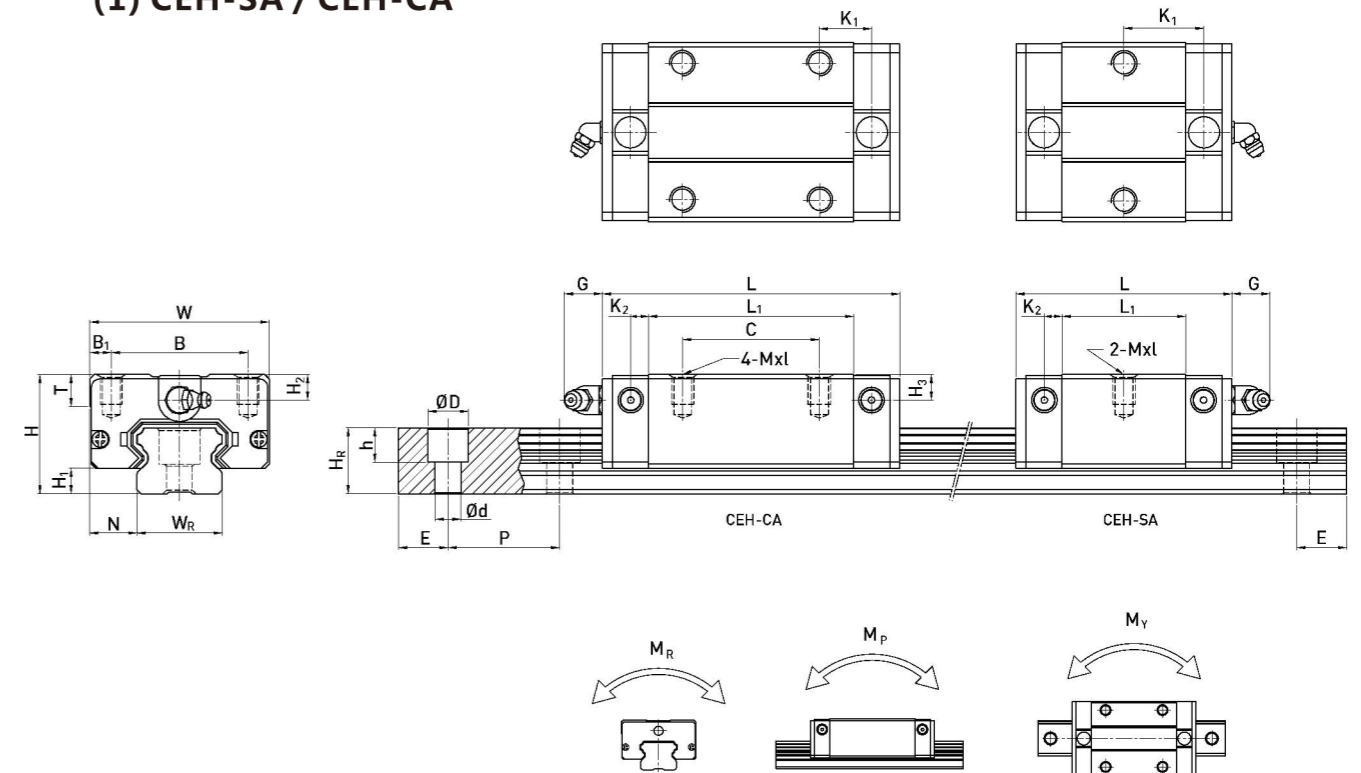
Item	CER15	CER20	CER25	CER30
Standard length L (n)	160(3)	220(4)	220(4)	280(4)
	220(4)	280(5)	280(5)	440(6)
	280(5)	340(6)	340(6)	600(8)
	340(6)	460(8)	460(8)	760(10)
	460(8)	640(11)	640(11)	1,000(13)
	640(11)	820(14)	820(14)	1,640(21)
	820(14)	1,000(17)	1,000(17)	2,040(26)
		1,240(21)	1,240(21)	2,520(32)
		1,600(27)	1,600(27)	3,000(38)
Distance (P)	60	60	60	80
Standard end distance (E)	20	20	20	20
Max. length at standard end distance	1960(33)	4,000(67)	4,000(67)	3,960(50)
Max. length	2000	4,000	4,000	4,000

Note:

- The tolerance of E for common rails is 0.5~-0.5 mm; the tolerance of E for rail joint is more strict: 0~-0.3 mm.
- Max. length at standard end distance refers to the maximum length of a rail with standard end distances on both sides.
- Please contact ZCF if a different E is required.

### 2-2-13 Dimensions of CE Series Linear Guideway

#### (1) CEH-SA / CEH-CA



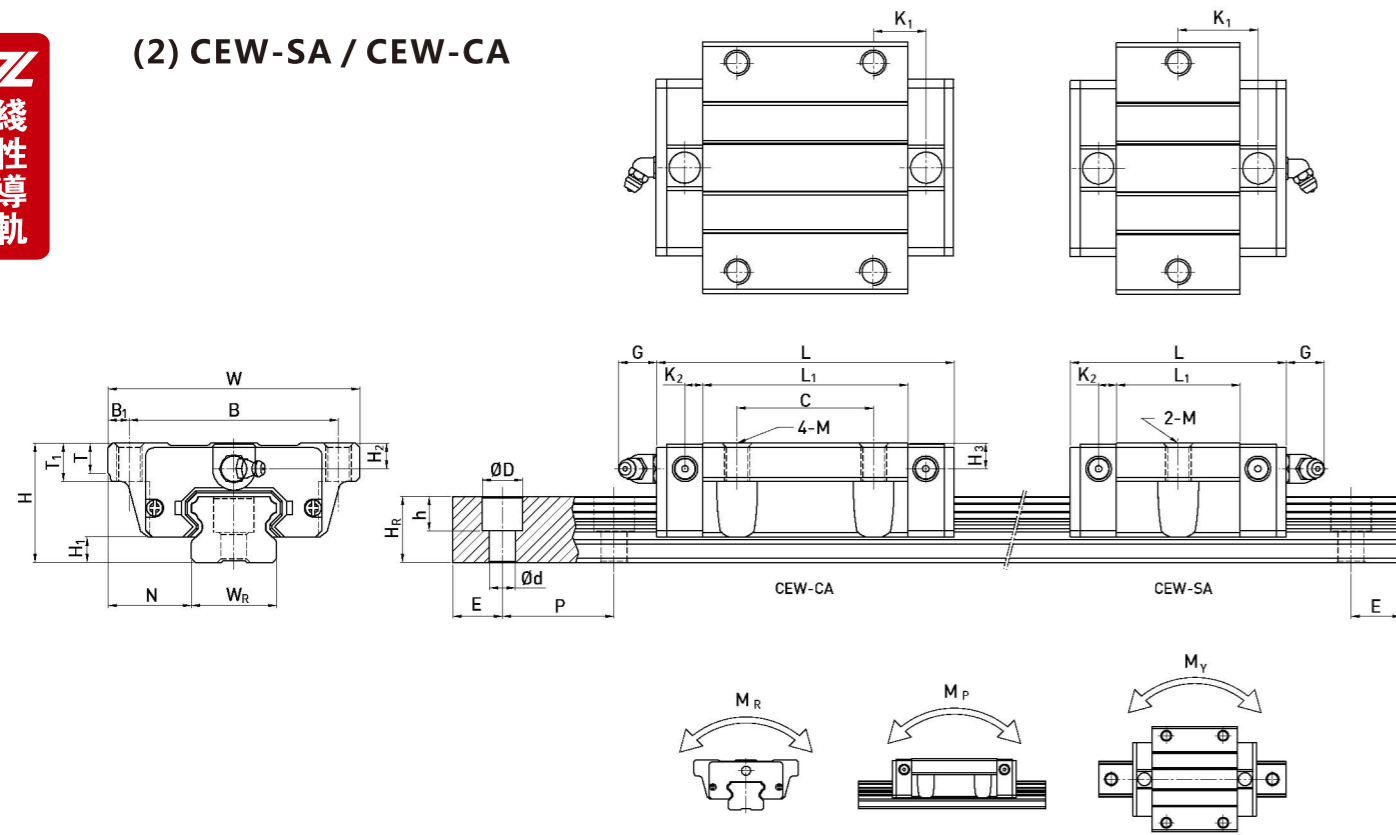
Model	Assembly Dimensions (mm)		Sliding Block Dimensions (mm)													Rail Mounting Bolt Dimensions (mm)	Rail Basic Dynamic Rated Load C (kN)	Basic Static Rated Load C <sub>0</sub> (kN)	Allowable Static Moment			Weight										
	H	H <sub>1</sub>	N	W	B	B <sub>1</sub>	C	L <sub>1</sub>	L	K <sub>1</sub>	G	MxL	T	H <sub>2</sub>	H <sub>3</sub>				W <sub>R</sub>	H <sub>R</sub>	D	h	d	P	E	M <sub>R</sub> (kN-m)	M <sub>P</sub> (kN-m)	M <sub>Y</sub> (kN-m)	Sliding block (kg)	Rail (kg/m)		
CEH15SA	24	4.5	9.5	34	26	4	-	23.1	40.1	14.8	-	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	
CEH15CA							26	39.8	56.8	10.15																						
CEH20SA							-	29	50	18.75																						
CEH20CA	28	6	11	42	32	5	32	48.1	69.1	12.3			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	
CEH25SA							-	35.5	59.1	21.9																						
CEH25CA	33	7	12.5	48	35	6.5	35	59	82.6	16.15			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	
CEH30SA							-	41.5	69.5	26.75																						
CEH30CA	42	10	16	60	40	10	40	70.1	98.1	21.05			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	
CEH35SA							-	45	75	28.5																						
CEH35CA	48	11	18	70	50	10	50	78	108	20			M8x12	10	8.5	8.5	34	27.5	14	12	9	80	20	M8x25	22.6	37.38	0.56	0.31	0.31	0.66	6.14	

Note: 1 kgf = 9.81 N

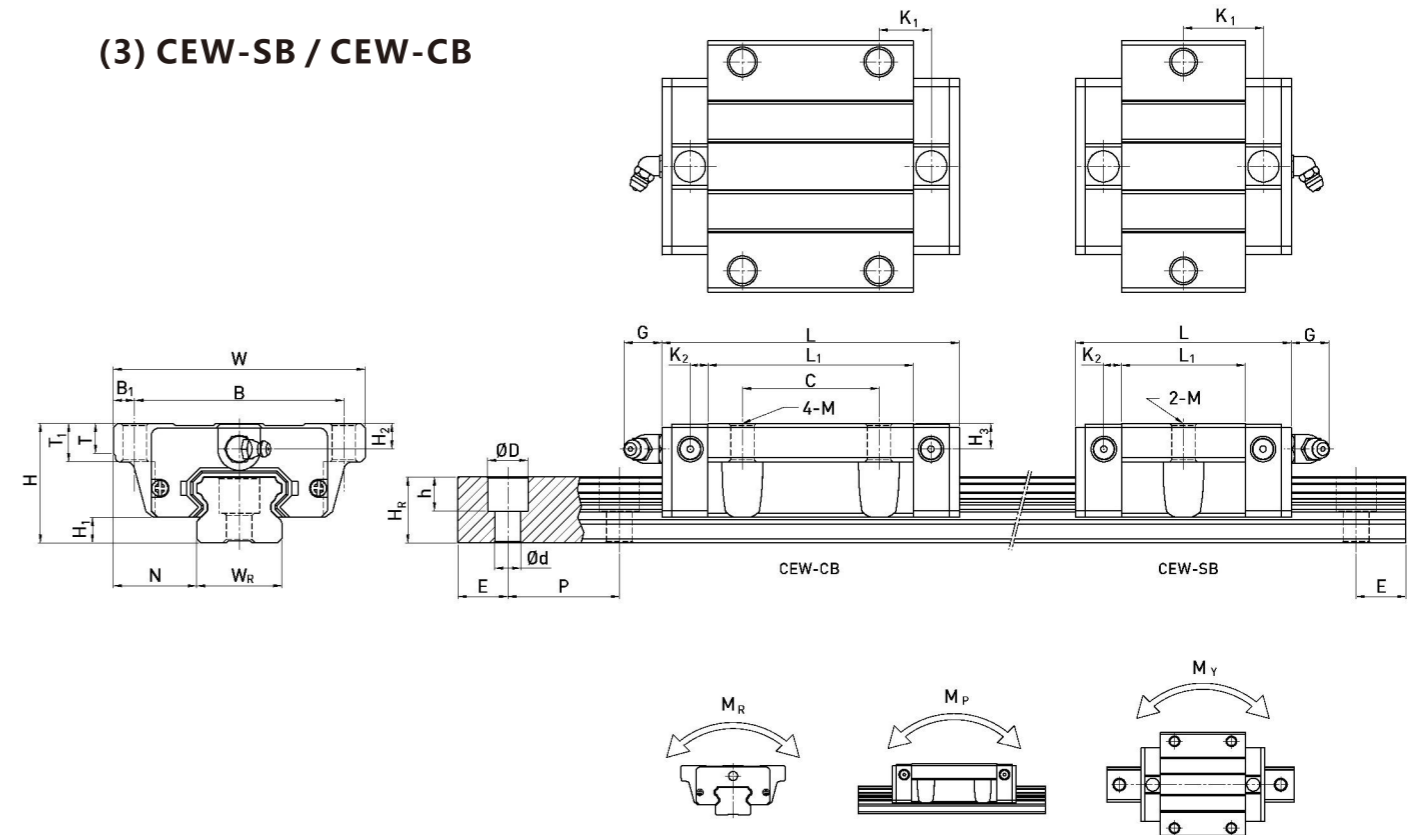
# Linear Guideways CE Series

线性导轨

## (2) CEW-SA / CEW-CA



## (3) CEW-SB / CEW-CB



Model	Assembly Dimensions (mm)		Sliding Block Dimensions (mm)													Rail Dimensions (mm)					Rail Mounting Bolt Dimensions	Basic Dynamic Rated Load	Basic Static Rated Load	Allowable Static Moment			Weight										
	H	H <sub>1</sub>	N	W	B	B <sub>1</sub>	C	L <sub>1</sub>	L	K <sub>1</sub>	G	M	T	T <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	W <sub>R</sub>	H <sub>R</sub>	D	h	d	P	E	(mm)	C(kN)	C <sub>0</sub> (kN)	M <sub>R</sub>	M <sub>P</sub>	M <sub>Y</sub>	Sliding block	Rail						
CEW 15SA	24	4.5	18.5	52	41	5.5	-	23.1	40.1	14.8	-	-	-	-	-	-	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
CEW 15CA							26	39.8	56.8	10.15																											
CEW 20SA	28	6	19.5	59	49	5	-	29	50	18.75	-	-	-	-	-	-	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
CEW 20CA							32	48.1	69.1	12.3																											
CEW 25SA	33	7	25	73	60	6.5	-	35.5	59.1	21.9	-	-	-	-	-	-	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
CEW 25CA							35	59	82.6	16.15																											
CEW 30SA	42	10	31	90	72	9	-	41.5	69.5	26.75	-	-	-	-	-	-	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
CEW 30CA							40	70.1	98.1	21.05																											
CEW35SA	48	11	33	100	82	9	-	45	75	28.5	-	-	-	-	-	-	12	M10	10	13	8.5	8.5	34	27.5	14	12	9	80	20	M8x25	22.6	37.38	0.56	0.31	0.31	0.84	6.14
CEW35CA							50	78	108	20																											

Note: 1 kgf = 9.81 N

Model	Assembly Dimensions (mm)		Sliding Block Dimensions (mm)													Rail Dimensions (mm)					Rail Mounting Bolt Dimensions	Basic Dynamic Rated Load	Basic Static Rated Load	Allowable Static Moment			Weight										
	H	H <sub>1</sub>	N	W	B	B <sub>1</sub>	C	L <sub>1</sub>	L	K <sub>1</sub>	G	M	T	T <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	W <sub>R</sub>	H <sub>R</sub>	D	h	d	P	E	(mm)	C(kN)	C <sub>0</sub> (kN)	M <sub>R</sub>	M <sub>P</sub>	M <sub>Y</sub>	Sliding block	Rail						
CEW 15SB	24	4.5	18.5	52	41	5.5	-	23.1	40.1	14.8	-	-	-	-	-	-	5.7	φ4.5	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
CEW 15CB							26	39.8	56.8	10.15																											
CEW 20SB	28	6	19.5	59	49	5	-	29	50	18.75	-	-	-	-	-	-	12	φ5.5	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
CEW 20CB							32	48.1	69.1	12.3																											
CEW 25SB	33	7	25	73	60	6.5	-	35.5	59.1	21.9	-	-	-	-	-	-	12	φ7	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
CEW 25CB							35	59	82.6	16.15																											
CEW 30SB	42	10	31	90	72	9	-	41.5	69.5	26.75	-	-	-	-	-	-	12	φ9	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
CEW 30CB							40	70.1	98.1	21.05																											
CEW35SB	48	11	33	100	82	9	-	45	75	28.5	-	-	-	-	-	-	12	M10	10	13	8.5	8.5	34	27.5	14	12	9	80	20	M8x25	22.6	37.38	0.56	0.31	0.31	0.84	6.14
CEW35CB							50	78	108	20																											

Note: 1 kgf = 9.81 N