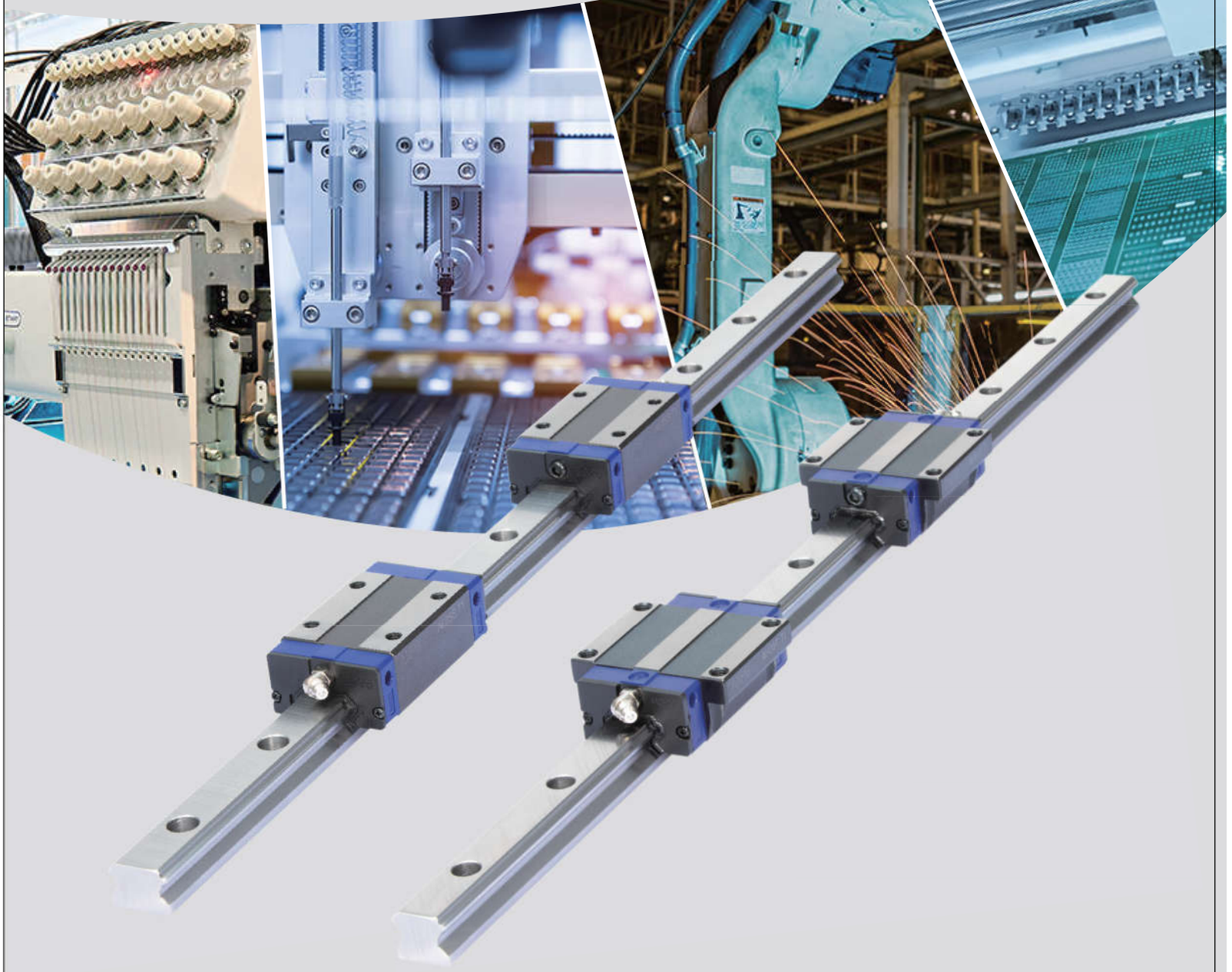
AXPB

EXCELLENCE IN PRECISION

LINEAR MOTION ROLLING GUIDE



UBC Precision Bearing Mfg. Co., Ltd.

AXPB LINEAR MOTION ROLLING GUIDE PRODUCT SERIES

Types & Series

AH Types & Series

Assembly types please refer to table 1, sizes please refer to table 2.

Table 1: Assembly Types of AH Series Linear Guideway – Four-row

Series / Material and length of slides			Shape of slider		
			Flange		Square
			Mounting from bottom	Mounting from top	Mounting from top
			Symbol: AH	Symbol: AH···T	Symbol: AH···D
Carbon steel	Standard	No symbol	AH	AH···T	AH···D

Table 2: Sizes of AH Series Linear Guideway – Four-row

Assembly Types	Available sizes				
Series	15	20	25	30	35
AH	○	○	○	○	○
AH···T	○	○	○	○	○
AH···D	○	○	○	○	○

AE Types & Series

Assembly types please refer to table 3, sizes please refer to table 4.

Table 3: Assembly Types of AE Series Linear Guideway – Four-row

Series / Material and length of slider			Shape of slider
			Square
			Mounting from top
			Symbol: AE···S
Carbon steel	Standard	No symbol	AE···S

Table 4: Sizes of AE Series Linear Guideway – Four-row

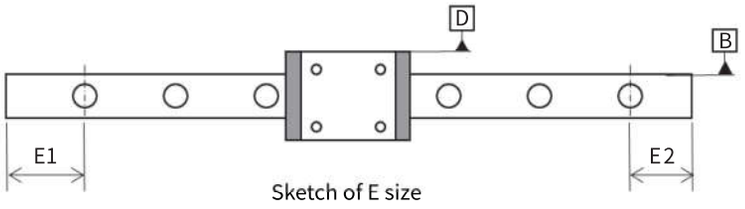
Assembly Types	Available sizes		
Series	15	20	25
AE···S	○	○	○

Special suffixes

Description and Symbol of special suffixes

Special suffixes please refer to table 5.

Example) AH 20 T C2 R960 B T1 H / (E30,30)
<Minimum description>
Example) AE 20 S C2 R960 B T1 H / (E30,30)
<Maximum description>
Example) AE 15 S C2 R960 B T1 H / F I (E30,30)



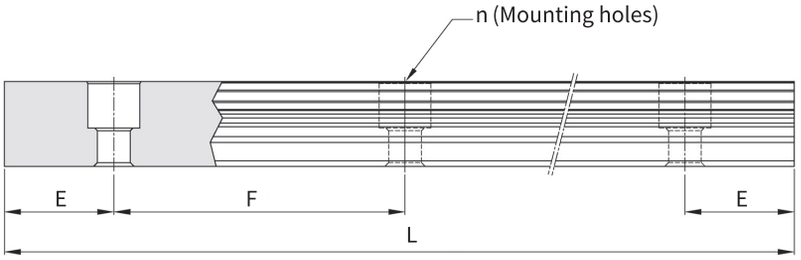
Sketch of E size

Table 5: Special Suffixes of AXPB Linear Motion Rolling Guide – Four-row

Description of special suffix	Suffixes	Sizes	
		AH Series	AE Series
Fixed location of the mounting holes	E (Note 1)	All available sizes	All available sizes
Dust cap for the mounting holes	F	All available sizes	All available sizes
Inspection report (Note 2)	I	All available sizes	All available sizes

Note 1: Applicable for non-standard lengths (AXPB standard length: 4 meters)
Note 2: Only available for H and P accuracy.

Standard length and maximum length of a single slide rail



L = [n-1]×F+ 2×E

L: Total length of slide rail (mm)

F: Distance between mounting holes (mm)

n: Number of mounting holes

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

The standard length of the slide rail

Unit: mm

	AH15／AE15	AH20／AE20	AH25／AE25	AH30	AH35
Standard length	1560 2460 4000	1560 2460 4000	1560 2460 4000	1600 2480 4000	1600 2480 4000
Spacing between mounting holes	60	60	60	80	80
E1 Size	With length of 4000mm, 20±0.5	With length of 4000mm, 20±0.5	With length of 4000mm, 20±0.5	With length of 4000mm, 20±0.5	With length of 4000mm, 20±0.5
	With length of 1560/2460mm, 30±1	With length of 1560/2460mm, 30±1	With length of 1560/2460mm, 30±1	With length of 1600/2480mm, 40±1	With length of 1600/2480mm, 40±1

Note:

1. Maximum standard length means the max. rail length with standard E value on both sides.
2. In case of standard length of 4000mm, the actual length is 4020mm. And if with mounting hole spacing 60mm, E1 dimension is 20±0.5mm. If with mounting hole spacing 80mm, E1 dimension is 40±0.5mm.

Advantages and Features of AXPB Linear Motion Rolling Guides

01

High positioning accuracy

When a load is driven by a linear guideway, the frictional contact between the load and the bed desk is rolling contact. The friction coefficient of rolling contact is only 1/50 of traditional contact, and the difference between the dynamic coefficient and the static coefficient of friction is small. Therefore, there would be no slippage while the load is moving.

02

Long life with high motion accuracy

With a traditional slide, errors in accuracy are caused by the counter flow of the oil film. Insufficient lubrication causes wear between the contact surfaces, which become increasingly inaccurate. In contrast, rolling contact has little wear; therefore, machines can achieve a long life with highly accurate motion.

03

High speed motion is possible with a low driving force

Because linear guideways have little friction resistance, only a small driving force is needed to move a load. This results in greater power savings, especially in the moving parts of a system. This is especially true for the reciprocating parts.

04

Equal loading capacity in all directions

With this special design, these linear guideways can take loads in either the vertical or horizontal directions. Conventional linear slides can only take small loads in the direction parallel to the contact surface. They are also more likely to become inaccurate when they are subjected to these loads.

05

Easy installation

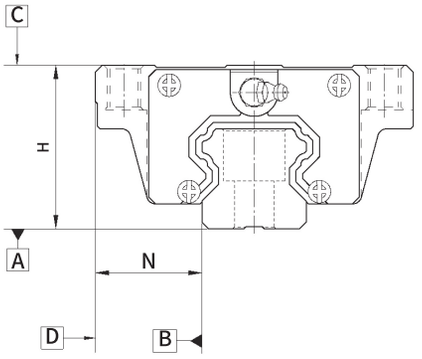
Installing a linear guideway is fairly easy. Grinding or milling the machine surface, following the recommended installation procedure, and tightening the bolts to their specified torque can achieve highly accurate linear motion.

06

Easy lubrication

With a traditional sliding system, insufficient lubrication causes wear on the contact surfaces. Also, it can be quite difficult to supply sufficient lubrication to the contact surfaces because finding an appropriate lubrication point is not very easy. With a linear motion guideway, grease can be easily supplied through the grease nipple on the linear guideway slides. It is also possible to utilize a centralized oil lubrication system by piping the lubrication oil to the piping joint.

Accuracy of Linear Motion Rolling Guides with sliders



Applicable Size: 15-20

Unit: mm

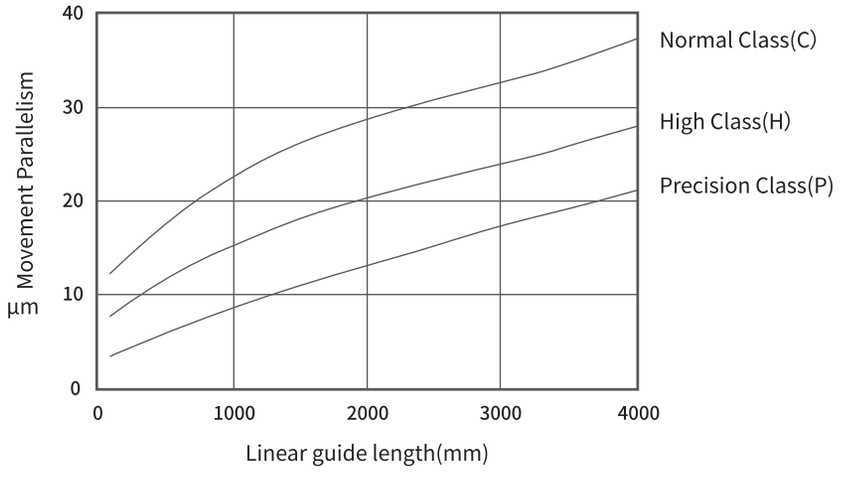
Item \ Accuracy Class	Normal Class (C)	High Class (H)	Precision Class (P)
Size Tolerance of H series	±0.1	±0.03	$^{0}_{-0.03}$
Size Tolerance of N series	±0.1	±0.03	$^{0}_{-0.03}$
Grading Tolerance of H series	0.02	0.01	0.006
Grading Tolerance of N series	0.02	0.01	0.006
The movement parallelism of C side, with A as the reference surface	Please see below figure		
The movement parallelism of D side, with B as the reference surface			

Applicable Size: 25-35

Unit: mm

Item \ Accuracy Class	Normal Class (C)	High Class (H)	Precision Class (P)
Size Tolerance of H series	±0.1	±0.04	$^{0}_{-0.04}$
Size Tolerance of N series	±0.1	±0.04	$^{0}_{-0.04}$
Grading Tolerance of H series	0.02	0.015	0.007
Grading Tolerance of N series	0.03	0.015	0.007
The movement parallelism of C side, with A as the reference surface	Please see below figure		
The movement parallelism of D side, with B as the reference surface			

Movement Parallelism



Description of AH Series

AH Series linear motion rolling guides are classified into non-interchangeable and interchangeable types. The sizes of these two types are of the same. The main difference of these two types is that the interchangeable type of sliders and rails can be freely exchanged and mounted, but the assembled precision can not reach H or P precision level. Because of the strict dimensional control on AXPB interchangeable type, it will be a wise choice for customers when rails do not need to be assembled together with sliders. The model number of the AH series identifies the size, type, accuracy class, preload class, etc.

Non-interchangeable type

A H 25 D C2 R520 B T1 H /(E20,20)

Auxiliary symbol
※Write after「/」

Precision grade

H	High
P	Precision

Preload

T1	Preload 0~0.02C0
T2	Preload 0.05~0.07C0

Rail length
Write the length after "R", in mm
Example) Write as「R520」when rail length is 520mm

Number of sliders
※Write after「C」
Example) Write「C1」when with 1pc slider, write「C2」when with 2pcs sliders.

Type of slider

No symbol	Flange Type Mounting from bottom
T	Flange Type Mounting from top
D	Square Type

Size

15	Rail Width 15mm
20	Rail Width 20mm
25	Rail Width 23mm
30	Rail Width 28mm
35	Rail Width 34mm

Type

Non-interchangeable type

● Model Number of AH slider

A H 25 D C1 T1 C

Precision grade

C	Normal

Preload

T1	Preload 0~0.02C0
T2	Preload 0.05~0.07C0

Number of sliders

Type of slider

No symbol	Flange Type Mounting from bottom
T	Flange Type Mounting from top
D	Square Type

Size

15	Rail Width 15mm
20	Rail Width 20mm
25	Rail Width 23mm
30	Rail Width 28mm
35	Rail Width 34mm

Type

● Model Number of AH Rail

AH 25 R520 C /(E20,20)

Auxiliary symbol
※Write after「/」
( ) Indicates E size

Precision grade

C	Normal

Rail length
※Write the length after「R」, in mm
Example) Write「R520」when slide rail length is 520mm

Size

15	Rail Width 15mm
20	Rail Width 20mm
25	Rail Width 23mm
30	Rail Width 28mm
35	Rail Width 34mm

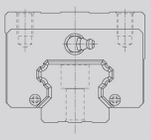
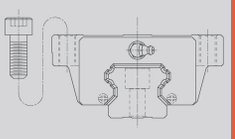
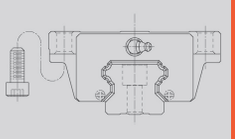
Type

※In principle, the length of the slide rail for delivery is 4000mm In this case, it is not necessary to indicate the E size.

AH…T series, can also be mounted from bottom by using a screw of one size smaller than the threaded hole.

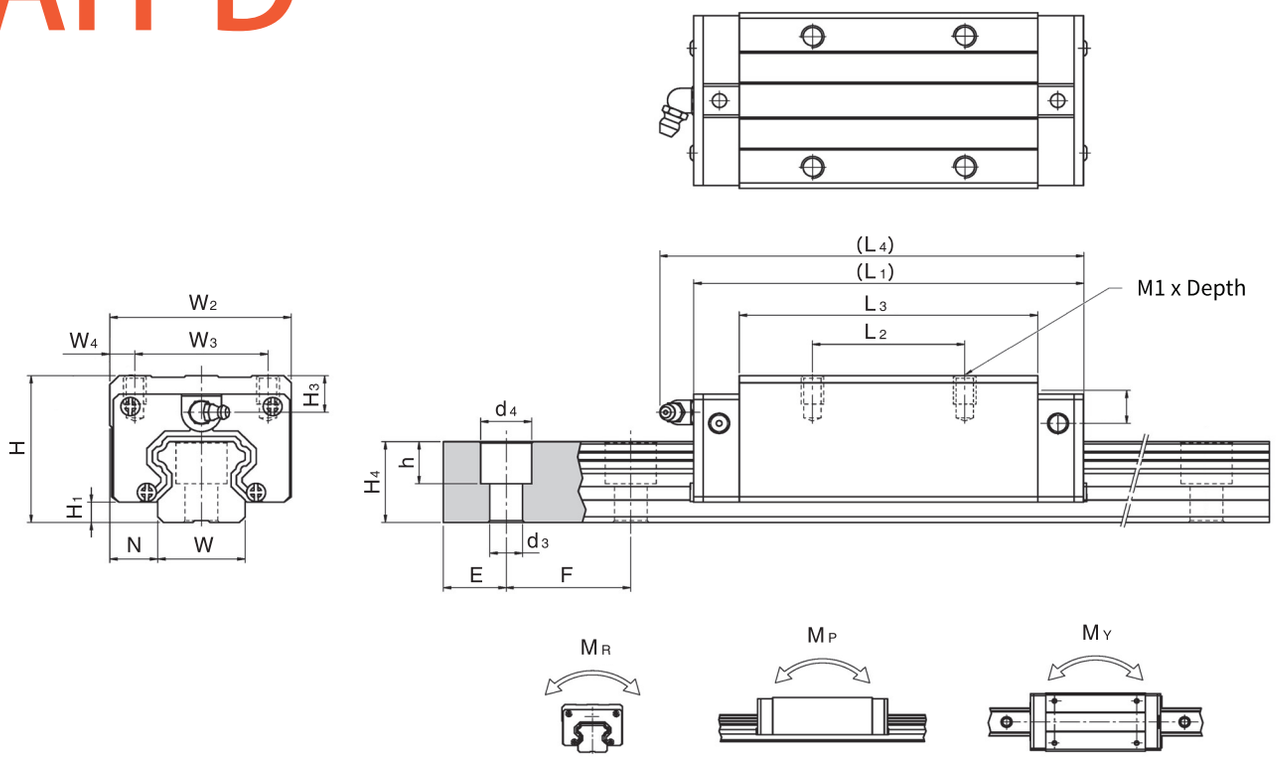
AH series

Slider type

Type	Specification	Shape	Applications
Square Type	AH-D		• Machining Centers • Machine tools • Precision Machining Machines • Heavy Cutting Machines • Marble cutting machine • Grinding Machines • Injection machine • Puncher • Automation Devices • Transportation Equipment • Measuring Equipment
Flange Type	AH-T		
	AH		

Dimensions Table - AH Series

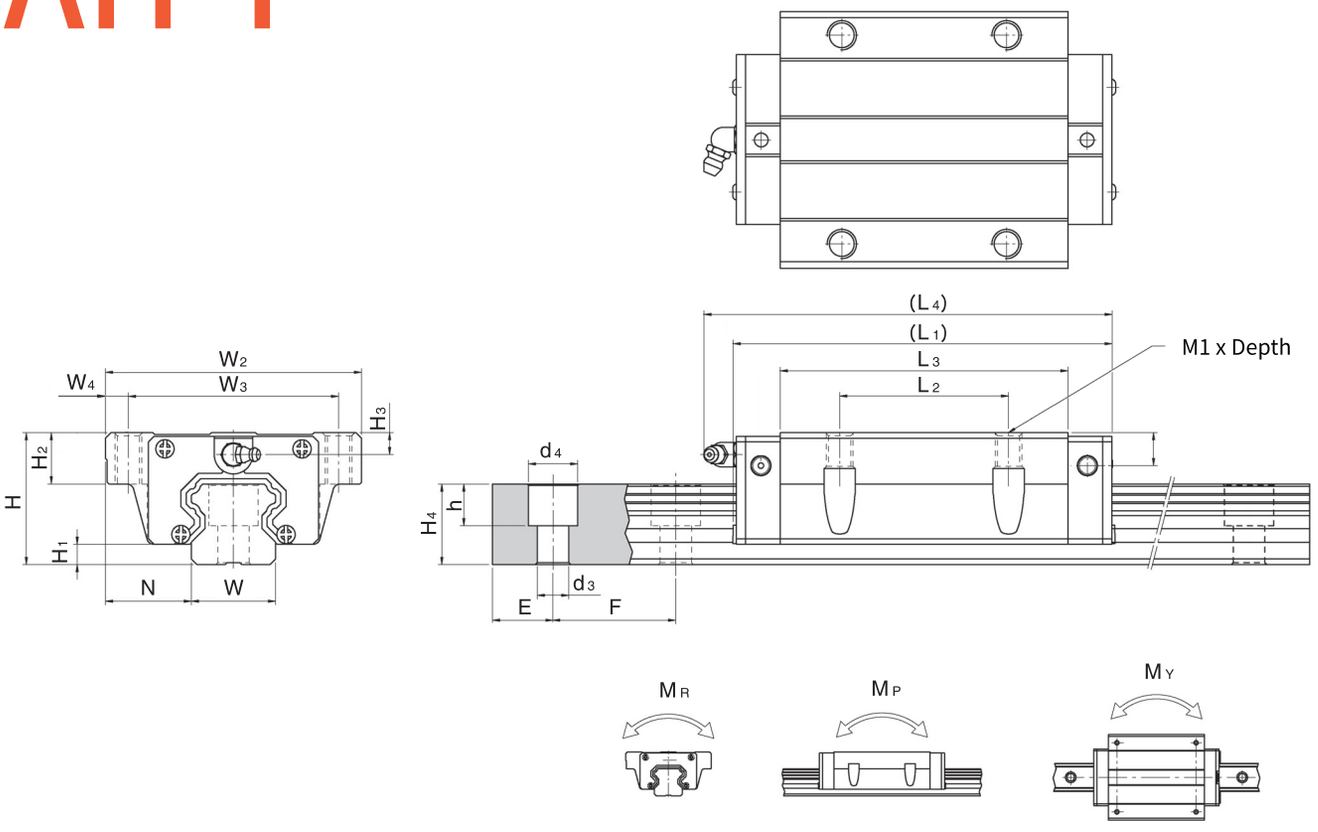
AH-D



Part No.	Assembled dimensions (mm)			Dimensions of slider(mm)										Dimensions of rail (mm)						Dimensions of bolt	Basic dynamic load ratings	Basic static load ratings	Basic static torque			Net weight	
	H	H_1	N	W_2	W_3	W_4	L_1	L_2	L_3	L_4	M_1	Depth	H_3	W	H_4	d_3	d_4	h	F	(mm)	C (kN)	C_0(kN)	M_R kN·m	M_P kN·m	M_Y kN·m	slider kg	rail kg/m
AH 15D	28	4.3	9.5	34	26	4	61.4	26	39.4	(66.7)	M4	5	7.95	15	15	4.5	7.5	5.3	60	M4×16	11.38	16.97	0.12	0.10	0.10	0.18	1.45
AH 20D	30	4.6	12	44	32	6	77.5	36	50.5	(89.5)	M5	6	6	20	17.5	6	9.5	8.5	60	M5×16	17.75	27.76	0.27	0.20	0.20	0.30	2.21
AH 25D	40	5.5	12.5	48	35	6.5	84	35	58	(96)	M6	8	10	23	22	7	11	9	60	M6×20	26.48	36.49	0.42	0.33	0.33	0.51	3.21
AH 30D	45	6	16	60	40	10	97.4	40	70	(109.4)	M8	10	9.5	28	26	9	14	12	80	M8×25	38.74	52.19	0.66	0.53	0.53	0.88	4.47
AH 35D	55	7.5	18	70	50	10	112.4	50	80	(124.4)	M8	12	16	34	29	9	14	12	80	M8×25	49.52	69.16	1.16	0.81	0.81	1.45	6.30

※E size please refer to page 3.

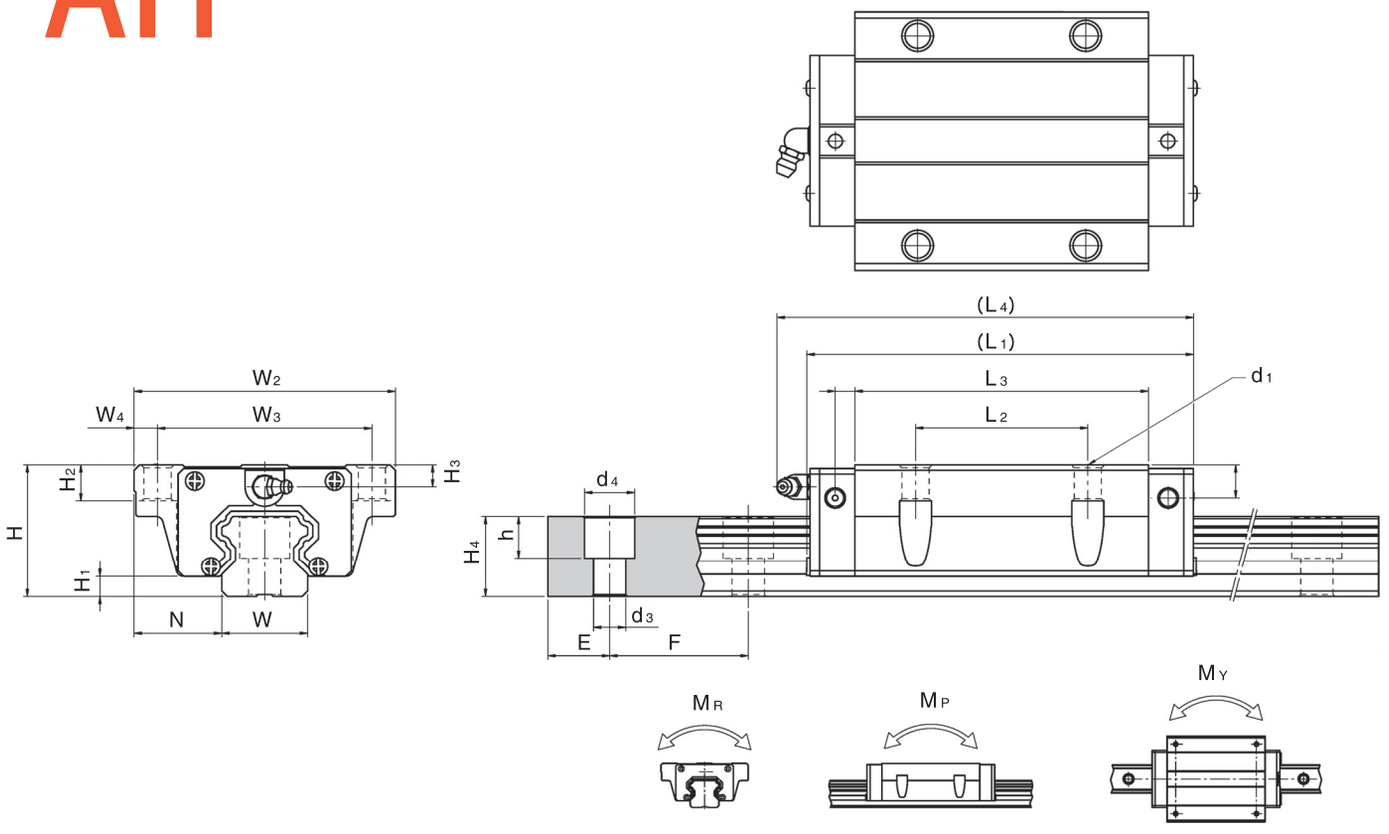
AH-T



Part No.	Assembled dimensions (mm)			Dimensions of slider (mm)										Dimensions of rail (mm)						Dimensions of bolt	Basic dynamic load ratings	Basic static load ratings	Basic static torque			Net weight	
	H	H_1	N	W_2	W_3	W_4	L_1	L_2	L_3	L_4	M_1	H_2	H_3	W	H_4	d_3	d_4	h	F	(mm)	C (kN)	C_0(kN)	M_R kN · m	M_P kN · m	M_Y kN · m	slider kg	rail kg/m
AH 15T	24	4.3	16	47	38	4.5	61.4	30	39.4	(66.7)	M5	8.9	3.95	15	15	4.5	7.5	5.3	60	M4×16	11.38	16.97	0.12	0.10	0.10	0.17	1.45
AH 20T	30	4.6	21.5	63	53	5	77.5	40	50.5	(89.5)	M6	10	6	20	17.5	6	9.5	8.5	60	M5×16	17.75	27.76	0.27	0.20	0.20	0.4	2.21
AH 25T	36	5.5	23.5	70	57	6.5	84	45	58	(96)	M8	14	6	23	22	7	11	9	60	M6×20	26.48	36.49	0.42	0.33	0.33	0.59	3.21
AH 30T	42	6	31	90	72	9	97.4	52	70	(109.4)	M10	16	6.5	28	26	9	14	12	80	M8×25	38.74	52.19	0.66	0.53	0.53	1.09	4.47
AH 35T	48	7.5	33	100	82	9	112.4	62	80	(124.4)	M10	18	9	34	29	9	14	12	80	M8×25	49.52	69.16	1.16	0.81	0.81	1.56	6.30

※E size please refer to page 3.

AH



Part No.	Assembled dimensions (mm)			Dimensions of slider (mm)										Dimensions of rail (mm)						Dimensions of bolt	Basic dynamic load ratings	Basic static load ratings	Basic static torque			Net weight	
	H	H_1	N	W_2	W_3	W_4	L_1	L_2	L_3	L_4	H_3	H_2	d_1	W	H_4	d_3	d_4	h	F	(mm)	C (kN)	C_0(kN)	M_R kN·m	M_P kN·m	M_Y kN·m	slider kg	rail kg/m
AH 15	24	4.3	16	47	38	4.5	61.4	30	39.4	(66.7)	3.95	6.95	4.5	15	15	4.5	7.5	5.3	60	M4×16	11.38	16.97	0.12	0.10	0.10	0.17	1.45
AH 20	30	4.6	21.5	63	53	5	77.5	40	50.5	(89.5)	6	9.5	6	20	17.5	6	9.5	8.5	60	M5×16	17.75	27.76	0.27	0.20	0.20	0.4	2.21
AH 25	36	5.5	23.5	70	57.5	6.5	84	45	58	(96)	6	10	7	23	22	7	11	9	60	M6×20	26.48	36.49	0.42	0.33	0.33	0.59	3.21
AH 30	42	6	31	90	72	9	97.4	52	70	(109.4)	6.5	10	9	28	26	9	14	12	80	M8×25	38.74	52.19	0.66	0.53	0.53	1.09	4.47
AH 35	48	7.5	33	100	82	9	112.4	62	80	(124.4)	9	13	9	34	29	9	14	12	80	M8×25	49.52	69.16	1.16	0.81	0.81	1.56	6.30

※E size please refer to page 3.

Description of AE Series

AE Series linear motion rolling guides are classified into non-interchangeable and interchangeable types. The sizes of these two types are of the same. The main difference of these two types is that the interchangeable type of sliders and rails can be freely exchanged and mounted, but the assembled precision can not reach H or P precision level. Because of the strict dimensional control on AXPB interchangeable type, it will be a wise choice for customers when rails do not need to be assembled together with sliders. The model number of the AE series identifies the size, type, accuracy class, preload class, etc.

Non-interchangeable type linear motion rolling guides

A E 25 S C2 R520 B T1 H /(E20,20)

Auxiliary symbol
※Write after「/」

H	High
P	Precision

Precision grade

T1	Preload 0~0.02C0
T2	Preload 0.05~0.07C0

Preload

Rail length
※Write the length after「R」, in mm
Example) Write「R520」when slide rail length is 520mm

Number of sliders
※Write after「C」
Example) Write「C1」when with 1pc slider, write「C2」when with 2pcs sliders.

Type of slider

S	Square Type

Size

15	Rail Width 15mm
20	Rail Width 20mm
25	Rail Width 23mm

Type

Interchangeable type linear motion rolling guides

● Model Number of AH slider

A E 25 S C1 T1 C

Precision grade

C	Normal

Preload

T1	Preload 0~0.02C0
T2	Preload 0.05~0.07C0

Number of sliders

Type of slider

S	Square Type

Size

15	Rail Width 15mm
20	Rail Width 20mm
25	Rail Width 23mm

Type

● Interchangeable type rails

AE 25 R520 C /(E20,20)

Auxiliary symbol
※Write after「/」
( ) Indicates E size

Precision grade

C	Normal

Rail length
※Write the length after「R」, in mm
Example) Write「R520」when slide rail length is 520mm

Size

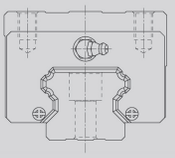
15	Rail Width 15mm
20	Rail Width 20mm
25	Rail Width 23mm

Type

※In principle, the length of the slide rail for delivery is 4000mm In this case, it is not necessary to indicate the E size.

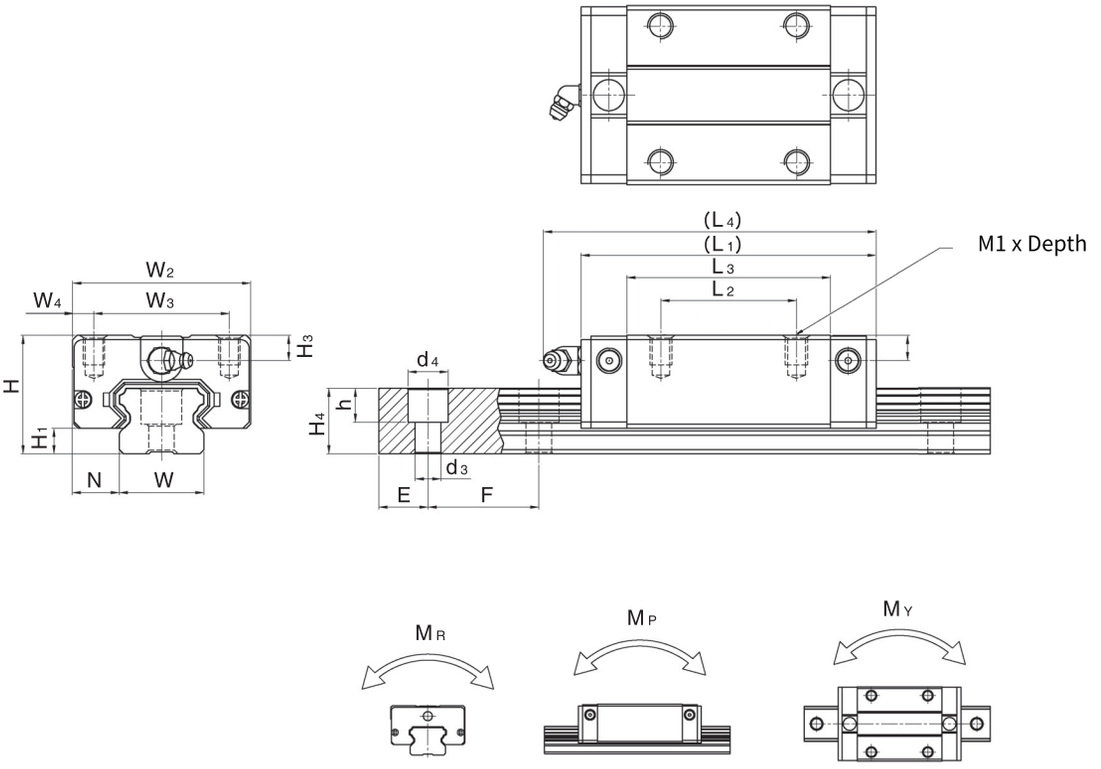
AE Series

Type of Slides

Type	Specification	Shape	Applications
Square Type	AE…S		• Automation devices • High-speed transportation equipment • Precision measuring equipment • Semiconductor equipment • Woodworking machine

Dimensions Table - AE Series

AE-S



Part No.	Assembled dimensions (mm)			Dimensions of slider (mm)									Dimensions of rail (mm)						Dimensions of bolt	Basic dynamic load ratings	Basic static load ratings	Basic static torque			Net weight	
	H	H_1	N	W_2	W_3	W_4	L_1	L_2	L_3	L_4	M_1		H_3	W	H_4	d_3	d_4	h	F	(mm)	C (kN)	C_0(kN)	M_R kN·m	M_P kN·m	M_Y kN·m	slider kg	rail kg/m
AE 15S	24	4.5	9.5	34	26	4	56.8	26	39.8	(62.5)	M4	6	5.5	15	12.5	4.5	7.5	5.3	60	M4×16	7.83	16.19	0.13	0.10	0.10	0.15	1.25
AE 20S	28	6	11	42	32	5	69.1	32	48.1	(81.1)	M5	7	6	20	15.5	6	9.5	8.5	60	M5×16	10.31	21.13	0.22	0.16	0.16	0.24	2.08
AE 25S	33	7	12.5	48	35	6.5	82.6	35	59	(94.6)	M6	9	8	23	18	7	11	9	60	M6×20	16.27	32.40	0.38	0.32	0.32	0.41	2.67

※E size please refer to page 3.