



YOSO

Linear Guides

High quality products from Germany



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1-1 Features of YOSO MOTION Linear Guide

■ 1-1-1 High Accuracy

Linear Guide has little friction, only a small driving force is needed to move the load. Low friction helps the temperature rising effect to stay low. Thus, the friction is decreased and the accuracy can be maintained for a long period than tradition slide system.

■ 1-1-2 High Rigidity

The design of Linear Guide features an equal load rating in all directions that provide sufficient rigidity load in all directions, self-aligning capability to absorb installation-error. Moreover, a sufficient preload can be achieved to increase rigidity and makes it suitable for any kind of installation.

■ 1-1-3 Easy for Maintenance

Compared with high-skill required scrapping process of traditional slide system, the Linear Guide can offer high precision even if the mounting surface is machined by milling or grinding. Moreover, the interchangeability of Linear Guide gives a convenience for installation and future maintenance.

■ 1-1-4 High Speed

Linear Guide block, rail and ball apply by contact point of rolling system. Due to the characteristic of low friction, the required driving force is much lower than that in other systems, thus the power consumption is low. Moreover the temperature rising effect is lower even under high speed operation.

■ 1-1-5 Super mute

The linear slider moves rapidly, the friction coefficient is very small and the noise is very low. It is widely used in semiconductor and medical industries.

■ 1-2 Recognizing of Master Rail

Linear rails to be applied on the same plane are all marked with the same serial number, and "M" is marked at the end of serial number for indicating the master rail, shown as the figure below. The reference side of carriage is the surface where is ground to a specified accuracy. For normal grade (N), it has no mark "M" on rail which means any one of rails with same serial number could be the master rail.

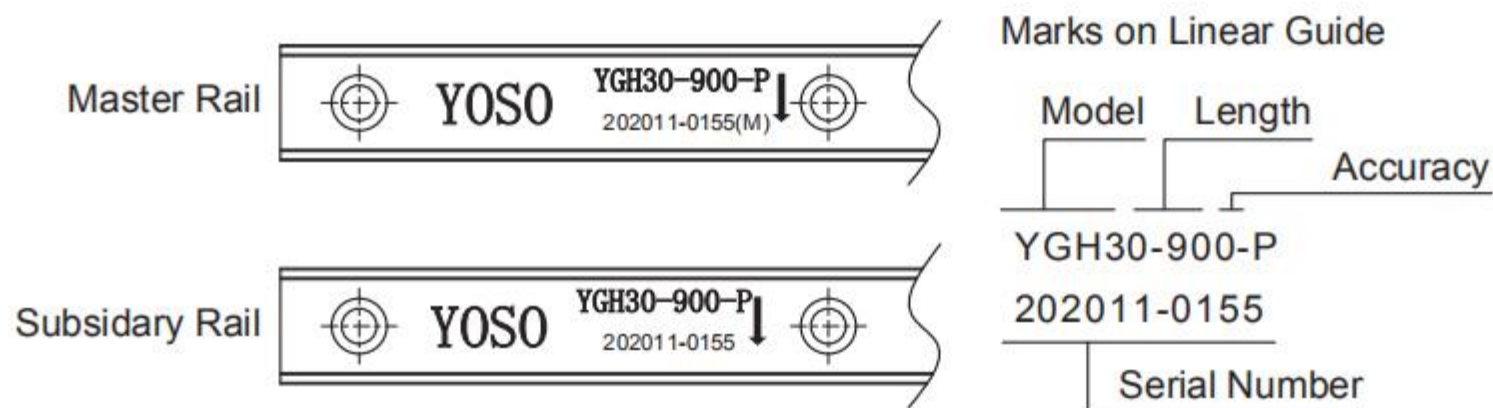


Fig 1.02 Recognizing of Master Rail

Combined Use of Rail and Carriage

For combined use, the rail and carriage must have the same serial number. When reinstalling the carriage back to the rail, make sure they have the same serial number and the reference side of carriage should be in accordance with that of rail.

1-3 Installation of Linear Guide

■ 1-03 For Butt-joint Rail

Accuracy may deviate at joints when carriages pass the joint simultaneously. Therefore, the joints should be interlaced for avoiding such accuracy problem.

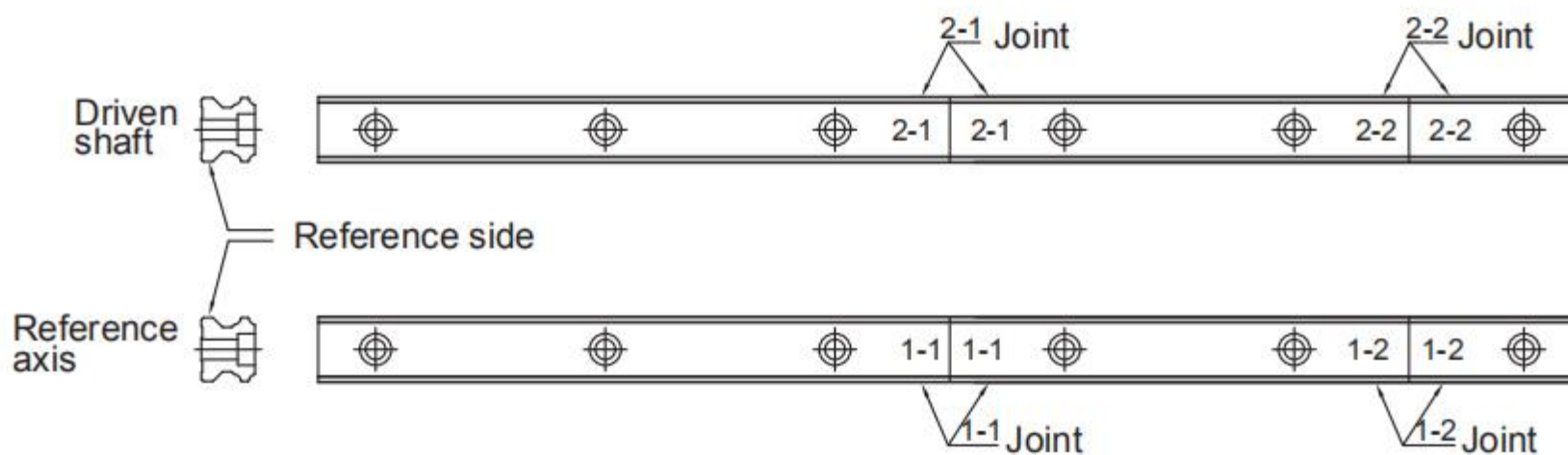


Fig 1.03 Butt-joint

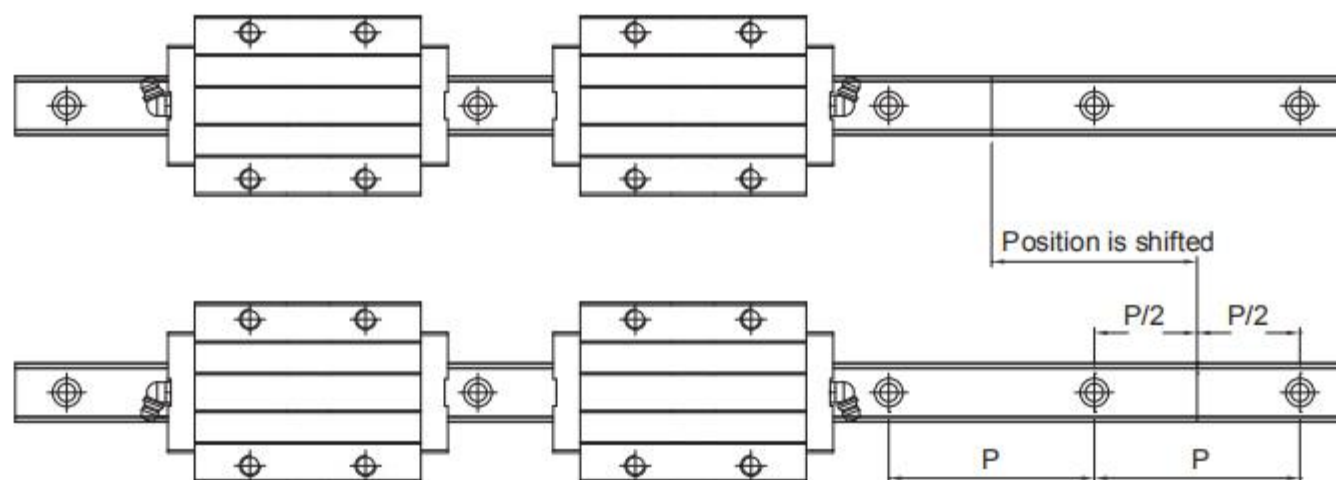


Fig 1.04

2-2 YGH / YSR / YGL International Standard Linear Guide

2-2-1 YOSO MOTION The Characteristics of

YGH Series Smooth Movement

YOSO *MOTION* circulation system of Linear Guide block is designed to perform smooth movement.

High Stability

YOSO *MOTION* Linear Guide block is designed under TBI's exclusive patent that can increase depth of material to improve the strength capacity, prevent deflection and provide high rigidity.

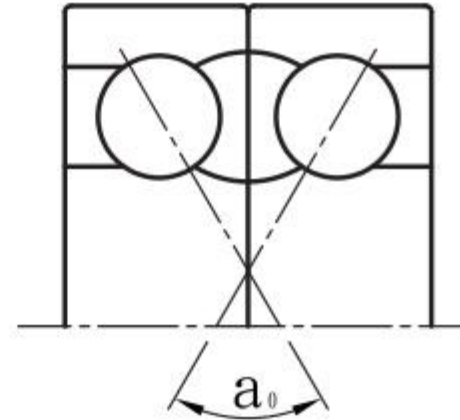


Fig 2.2.1

High Durability

YOSO *MOTION* the exclusive contact point design promotes high rigidity. Moreover, self-aligning balances load rating in all directions. This design also improves performance in running accuracy and service life of the Linear Guide.

Easy Installation with Interchangeability

YOSO *MOTION* Linear Guide is easy for installation even without fixture. The design of seal is able to combine with side seal or inner seal to save material.

2-2-2 The Structure of YGH-Series

Circulation unit :

- ① Block, ② Rail, ③ End Cap, ④ Steel Balls,
- ⑤ Circulation tube.

Lubrication unit :

- ⑥ Grease nipple.

Anti-Dust Unit :

- ⑦ End Seal, ⑧ Bottom Seal, ⑨ Mounting Hole Cap.

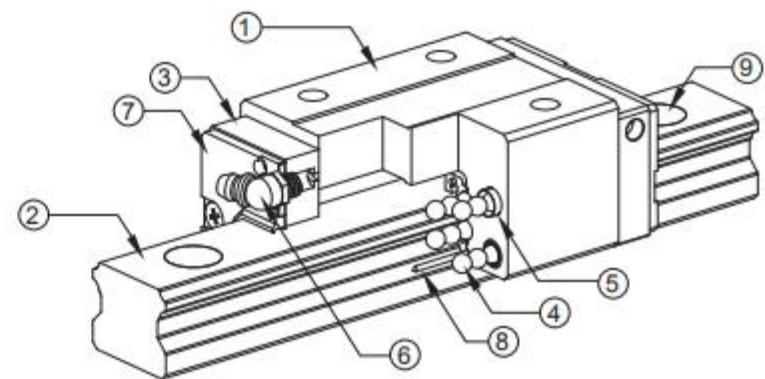


Fig 2.2.2

Fig 2.2.2 Material

Item	Material	Hardness
YGH-Rail	S55C	HRC 58°~62°
YGH-Block	SCM420H	

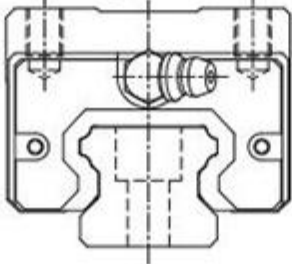
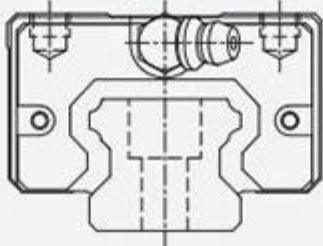
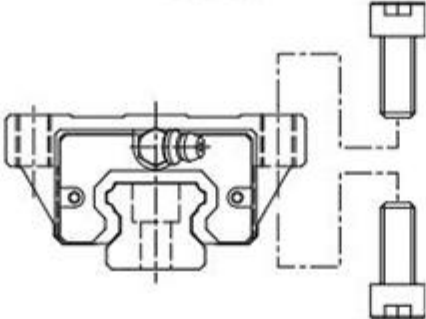
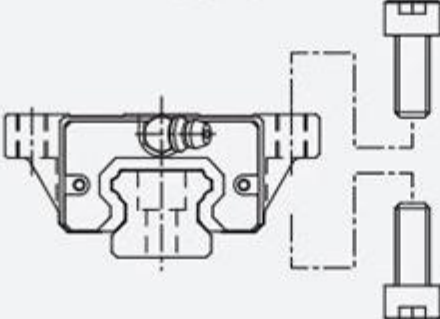
YOSO MOTION LINEAR GUIDE

2-2 YGH / YSR / YGL International Standard Linear

Guide ■ 2-2-3 YGH-Series

YOSO *MOTION* offers standard and flange type. The assembly height and category are listed below :

Table 2.2.2

Type	Model	Shape	Height	Rail Length	Main Application
Standard	YGH-R YGH-LR	Mounting from Above 	28 ↓ 90	100 ↓ 6000	<ul style="list-style-type: none"> • Machine Centers. • NC Lathes. • Food Machine. • Grinding Machines. • CNC Machine. • Heavy Cutting Machines. • Punching Machine. • Injection Molding Machine. • Automation Equipment. • Transportation Equipment. • Sealing machine.
	YSR-R YSR-LR YGL-R YGL-LR	Mounting from Above 	24 ↓ 70	100 ↓ 6000	
Flange	YGH-C YGH-LC	Mounting from above and below 	24 ↓ 90	100 ↓ 6000	
	YSR-C YSR-LC	Mounting from above and below 	24 ↓ 48	100 ↓ 6000	

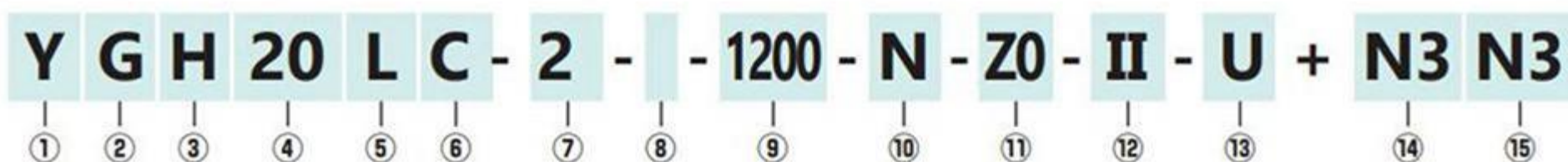
A

Linear Guide

■ 2-2-4 Nominal Model Code for Non-Interchangeable YGH Type

YGseries can be classified into interchangeable and non-interchangeable types. The sizes are identical; the only difference between the two types is that the accuracy of non-interchangeable types could reach up to UP grade since *YOSO MOTION* makes the linear guide set under strict international regulation. Interchangeable blocks and rails can be freely exchanged; however, the accuracy could be up to H grade only due to technical issue. It is much more convenient for customers who do not need linear guides with high accuracy to have interchange blocks and rails.

Non-interchangeable Type code :



① Nominal Model	② Block Type	③ Height of Assembly Type	④ Dimension
Y	G : Standard S : Low-Assembly	R : Low-Assembly L : Middle-Assembly H : High-Assembly	15, 20, 25, 30, 35, 45, 55, 65

⑥ Flange Type	⑤ Length of Block	⑦ Number of Block Per Rail	⑧ Accessory Code
C : With Flange	N : Normal L : Long	EX : 2	□ : Standard (Please refer to page A26)

⑨ Length of Rail	⑩ Accuracy Grade	⑪ Preload	⑫ Two Sets per Axis	⑬ Rail Special Machining
Unit : mm	N : Normal H : High P : Precision SP : Super-Precision UP : Ultra-Precision	ZF : Slight Clearance Z0 : No Preload Z1 : Light Preload Z2 : Medium Preload Z3 : Heavy Preload	II	U : Tapped-Hole Rail E : Rail with Special Machining

⑭ Block Surface Treatment	⑮ Rail Surface Treatment
S : Standard	S : Standard
B1 : Black Oxidation	B1 : Black Oxidation
N1 : Hard Chrome Plating	N1 : Hard Chrome Plating
P : Phosphating	P : Phosphating
N3 : Nickel Plating	N3 : Nickel Plating
N4 : Raydent	N4 : Raydent
N5 : Chrome Plating	N5 : Chrome Plating

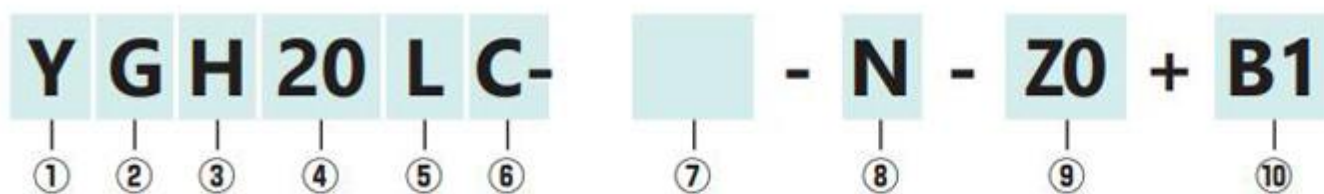
※ No symbol required when plating is not needed.

YOSO MOTION LINEAR GUIDE

2-2 YGH / YSR / YGL International Standard Linear Guide

■ 2-2-5 Nominal Model Code for Interchangeable YG Type

Interchangeable Type of Block :



① Nominal Model	② Block Type	③ Height of Assembly Type	④ Dimension
Y	G : Standard S : Low-Assembly	R : Low-Assembly L : Middle-Assembly H : High-Assembly	15, 20, 25, 30, 35, 45, 55, 65

⑥ Flange Type	⑤ Length of Block	⑦ Accessory Code	⑧ Accuracy Grade	⑨ Preload
C : With Flange R : Without Flange	N : Normal L : Long	□ : Standard	N : Normal	ZF : Slight Clearance Z0 : No Preload

⑩ Block Surface Treatment
□ : Standard
B1 : Black Oxidation
N1 : Hard Chrome Plating
P : Phosphating
N3 : Nickel Plating
N4 : Raydent
N5 : Chrome Plating

Interchangeable Type of Rail :

YG H 20 - 4000 - N - U + B1

① ② ③ ④ ⑤ ⑥ ⑦

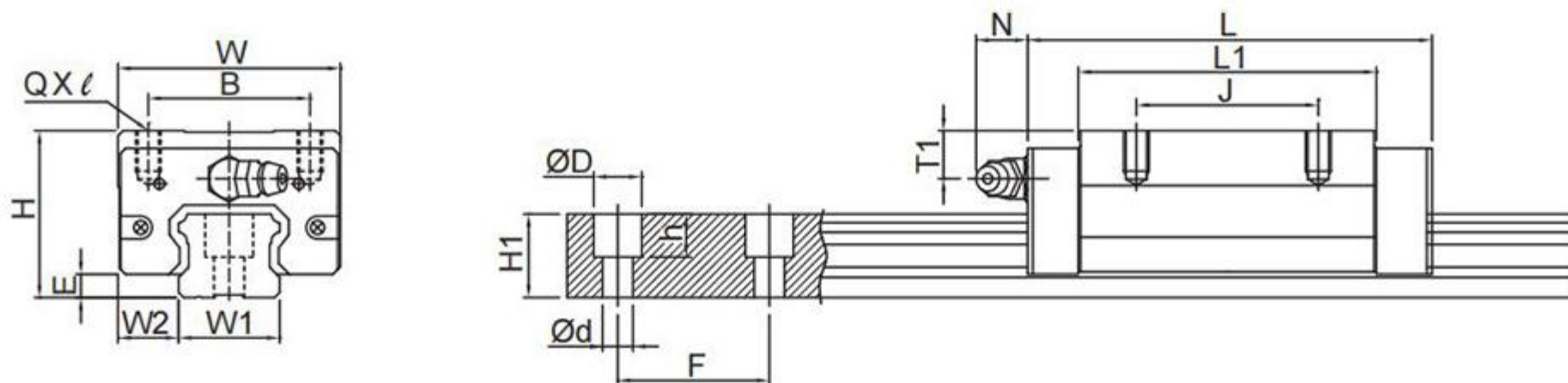
①	②	③	④
Nominal Model	Block Type	Dimension	Length of Rail
YG	H : Standard E : Special	15, 20, 25, 30, 35, 45, 55, 65	Unit : mm

⑤	⑥	⑦
Accuracy Grade	Rail Special Machining	Block Surface Treatment
N : Normal	U: Tapped-Hole Rail E : Rail with Special Machining	□ : Standard B1 : Black Oxidation N1 : Hard Chrome Plating P : Phosphating N3 : Nickel Plating N4 : Raydent N5 : Chrome Plating

YOSO MOTION LINEAR GUIDE

2-2 YGH / YSR / YGL International Standard Linear Guide

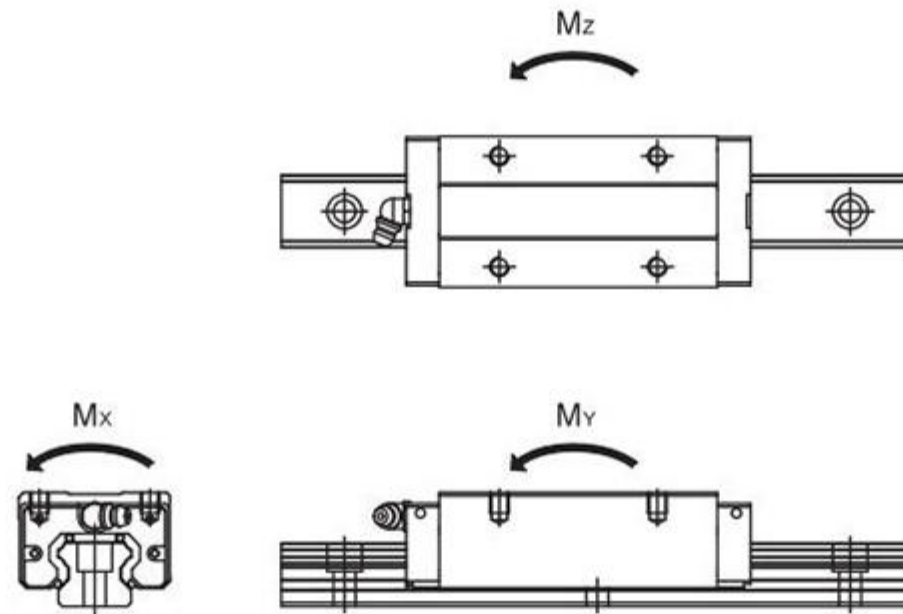
YGH-R Series Specifications



A

Linear Guide

Model No.	Assembly (mm)			Block Dimension (mm)									Rail (mm)					
	H	W2	E	W	B	J	L	L1	QXl	T1	Oil Hole	N	W1	H1	ØD	h	Ød	F
YGH15R	28	9.5	4.3	34	26	26	61.4	39.4	M4X5	7.95	M4X0.7	5.3	15	15	7.5	5.3	4.5	60
YGH15LR																		
YGH20R	30	12	4.6	44	32	36	77.5	50.5	M5X6	6	M6X1	12	20	17.5	9.5	8.5	6	60
YGH20LR						50	92.2	65.2										
YGH25R	40	12.5	5.5	48	35	35	84	58	M6X8	10	M6X1	12	23	22	11	9	7	60
YGH25LR						50	104.6	78.6										
YGH30R	45	16	6	60	40	40	97.4	70	M8X10	9.5	M6X1	12	28	26	14	12	9	80
YGH30LR						60	120.4	93										
YGH35R	55	18	7.5	70	50	50	112.4	80	M8X12	16	M6X1	12	34	29	14	12	9	80
YGH35LR						72	138.2	105.8										
YGH45R	70	20.5	9.5	86	60	60	139.4	97	M10X17	18.5	PT1/8	12.9	45	38	20	17	14	105
YGH45LR						80	171.2	128.8										
YGH55R	80	23.5	13	100	75	75	166.7	117.7	M12X18	22	PT1/8	12.9	53	44	23	20	16	120
YGH55LR						95	204.8	155.8										
YGH65R	90	31.5	15	126	76	70	200.2	144.2	M16X20	15	PT1/8	12.9	63	53	26	22	18	150
YGH65LR						120	259.6	203.6										

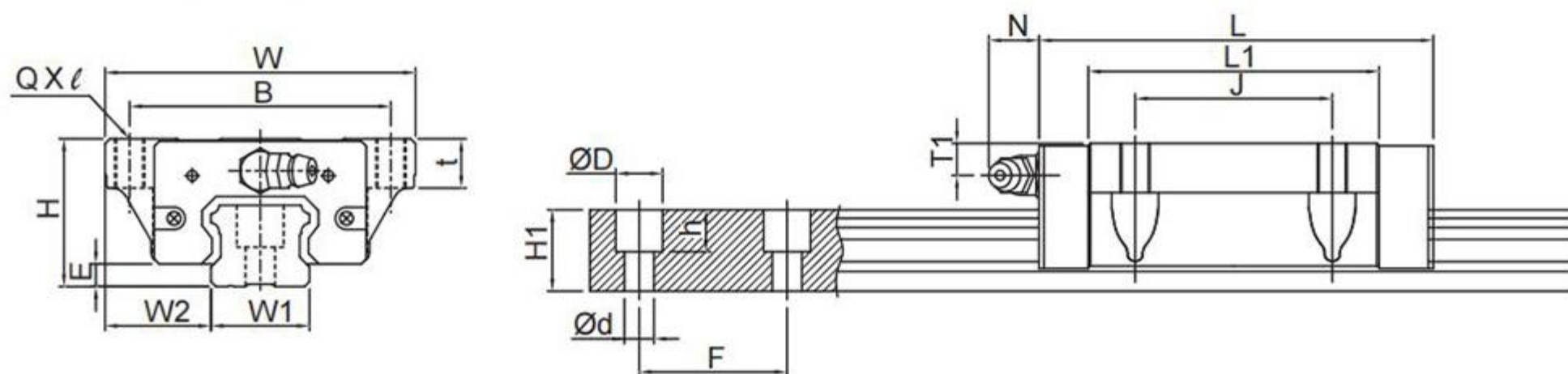


Model No.	Load Rating (kgf)		Static Permissible Moment					Weight	
			Mx (kgf-mm)		My (kgf-mm)		Mz (kgf-mm)		Block (kg)
	C	Co	Single Block	Single Block	Double Block	Single Block	Double Block		
YGH15R	1206	2206	16,436	14,884	70,960	14,884	70,960	0.17	1.45
YGH15LR	1343	2574	19,175	20,429	95,224	20,429	95,224	0.18	
YGH20R	2050	3696	37,334	33,268	157,298	33,268	157,298	0.3	2.21
YGH20LR	2553	5058	51,089	63,229	284,163	63,229	284,163	0.39	
YGH25R	2581	4503	52,239	43,407	207,324	43,407	207,324	0.51	3.21
YGH25LR	3248	6255	72,554	85,112	391,311	85,112	391,311	0.69	
YGH30R	3807	6483	90,722	74,970	355,321	74,970	355,321	0.88	4.47
YGH30LR	4791	9004	126,003	147,000	677,068	147,000	677,068	1.16	
YGH35R	5090	8346	142,722	106,070	519,799	106,070	519,799	1.45	6.31
YGH35LR	6667	12274	209,885	233,977	1,070,533	233,977	1,070,533	1.92	
YGH45R	7572	12808	292,657	220,751	1,030,183	220,751	1,030,183	2.73	10.4
YGH45LR	8852	16010	365,821	348,554	1,598,703	348,554	1,598,703	3.61	
YGH55R	14703	21613	571,342	411,729	2,019,184	411,729	2,019,184	4.17	15.08
YGH55LR	17349	27377	723,699	670,530	3,148,637	670,530	3,148,637	5.50	
YGH65R	22526	31486	973,074	695,840	3,594,277	695,840	3,594,277	7	21.18
YGH65LR	27895	42731	1,320,601	1,307,568	6,312,759	1,307,568	6,312,759	9.82	

YOSO MOTION LINEAR GUIDE

2-2 YGH / YSR / YGL International Standard Linear Guide

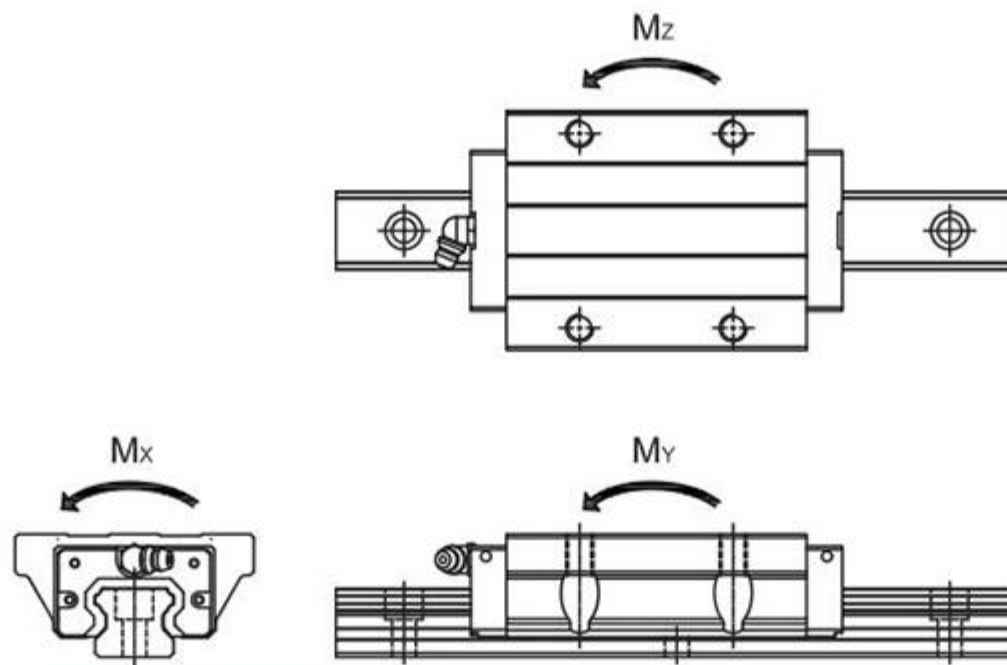
YGH-C Series Specifications



A

Linear Guide

Model No.	Assembly (mm)			Block Dimension (mm)										Rail (mm)					
	H	W2	E	W	B	J	t	L	L1	QXℓ	T1	Oil Hole	N	W1	H1	ØD	h	Ød	F
YGH15C	24	16	4.3	47	38	30	8.9	61.4	39.4	M5X9	3.95	M4X0.7	5.3	15	15	7.5	5.3	4.5	60
YGH15LC																			
YGH20C	30	21.5	4.6	63	53	40	10	77.5	50.5	M6X10	6	M6X1	12	20	17.5	9.5	8.5	6	60
YGH20C								92.2	65.2										
YGH25C	36	23.5	5.5	70	57	45	14	84	58	M8X14	6	M6X1	12	23	22	11	9	7	60
YGH25LC								104.6	78.6										
YGH30C	42	31	6	90	72	52	16	97.4	70	M10X16	6.5	M6X1	12	28	26	14	12	9	80
YGH30LC								120.4	93										
YGH35C	48	33	7.5	100	82	62	18	112.4	80	M10X18	9	M6X1	12	34	29	14	12	9	80
YGH35LC								138.2	105.8										
YGH45C	60	37.5	9.5	120	100	80	22	139.4	97	M12X22	8.5	PT1/8	12.9	45	38	20	17	14	105
YGH45LC								171.2	128.8										
YGH55C	70	43.5	13	140	116	95	26.5	166.7	117.7	M14X27	12	PT1/8	12.9	53	44	23	20	16	120
YGH55LC								204.8	155.8										
YGH65C	90	53.5	15	170	142	110	37.5	200.2	144.2	M16X38	15	PT1/8	12.9	63	53	26	22	18	150
YGH65LC								259.6	203.6										

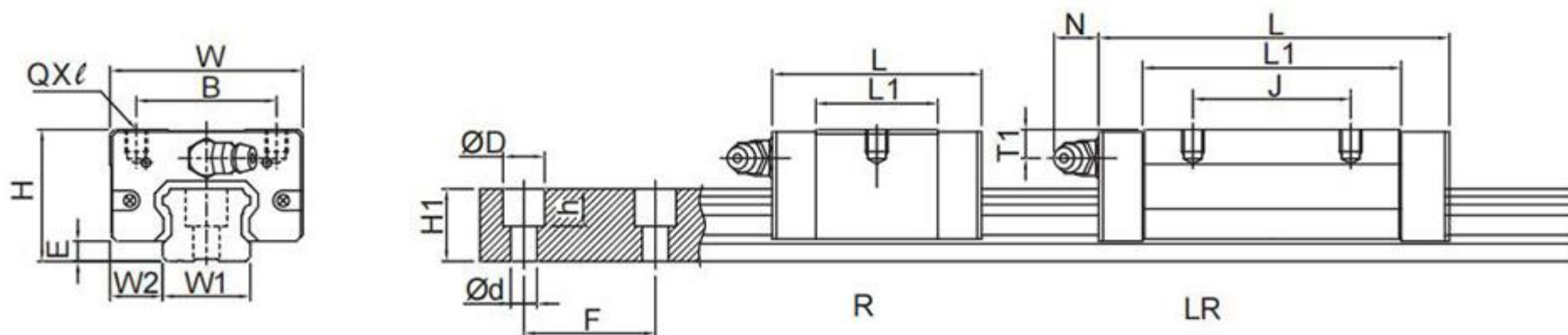


Model No.	Load Rating (kgf)		Static Permissible Moment					Weight	
			Mx (kgf-mm)		My (kgf-mm)		Mz (kgf-mm)		Block (kg)
	C	Co	Single Block	Single Block	Double Block	Single Block	Double Block		
YGH15C	1206	2206	16,436	14,884	70,960	14,884	70,960	0.17	1.45
YGH15LC	1343	2574	19,175	20,429	95,224	20,429	95,224	0.2	
YGH20C	2050	3696	37,334	33,268	157,298	33,268	157,298	0.40	2.21
YGH20LC	2553	5058	51,089	63,229	284,163	63,229	284,163	0.52	
YGH25C	2581	4503	52,239	43,407	207,324	43,407	207,324	0.59	3.21
YGH25LC	3248	6255	72,554	85,112	391,311	85,112	391,311	0.80	
YGH30C	3807	6483	90,722	74,970	355,321	74,970	355,321	1.09	4.47
YGH30LC	4791	9004	126,003	147,000	677,068	147,000	677,068	1.44	
YGH35C	5090	8346	142,722	106,070	519,799	106,070	519,799	1.56	6.3
YGH35LC	6667	12274	209,885	233,977	1,070,533	233,977	1,070,533	2.06	
YGH45C	7572	12808	292,657	220,751	1,030,183	220,751	1,030,183	2.79	10.41
YGH45LC	8852	16010	365,821	348,554	1,598,703	348,554	1,598,703	3.69	
YGH55C	14703	21613	571,342	411,729	2,019,184	411,729	2,019,184	4.52	15.08
YGH55LC	17349	27377	723,699	670,530	3,148,637	670,530	3,148,637	5.96	
YGH65C	22526	31486	973,074	695,840	3,594,277	695,840	3,594,277	9.17	21.08
YGH65LC	27895	42731	1,320,601	1,307,568	6,312,759	1,307,568	6,312,759	12.98	

YOSO MOTION LINEAR GUIDE

2-2 YGH / YSR / YGL International Standard Linear Guide

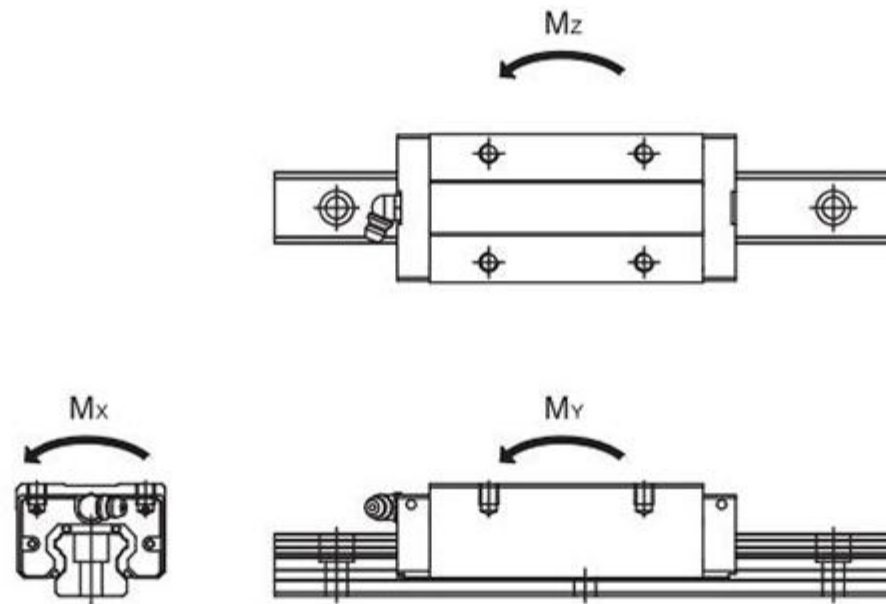
YSR-R Series Specifications



A

Linear Guide

Model No.	Assembly(mm)			Block Dimension(mm)									Rail(mm)					
	H	W2	E	W	B	J	L	L1	QXl	T1	Oil Hole	N	W1	H1	ØD	h	Ød	F
YSR15R	24	9.5	4.5	34	26	26	40.1	23.1	M4X6	5.5	M4X0.7	5.7	15	12.5	6	4.5	3.5	60
YSR15LR						26	56.8	39.8										
YSR20R	28	11	6	42	32	32	50	29	M5X7	6	M6X1	12	20	15.5	9.5	8.5	6	60
YSR20LR						32	69.1	48.1										
YSR25R	33	12.5	7	48	35	35	59.1	35.5	M6X9	8	M6X1	12	23	18	11	9	7	60
YSR25LR						35	82.6	59										
YSR30R	42	16	10	60	40	40	69.5	41.5	M8X12	8	M6X1	12	28	23	11	9	7	80
YSR30LR						40	98.1	70.1										
YSR35R	48	18	11	70	50	50	75	45	M8X12	8.5	M6X1	12	34	27.5	14	12	9	80
YSR35LR						50	108	78										

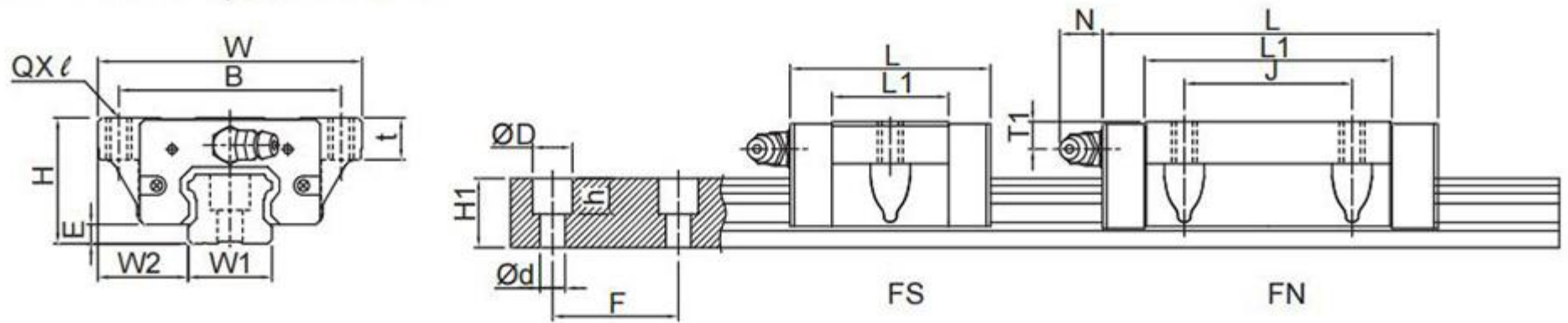


Model No.	Load Rating (kgf)		Static Permissible Moment					Weight	
			Mx (kgf-mm)	My (kgf-mm)		Mz (kgf-mm)		Block (kg)	Rail (kg/m)
	C	Co		Single Block	Single Block	Double Block	Single Block		
YSR15R	908	1471	10,957	6,420	33,531	6,420	33,531	0.09	1.32
YSR15LR	1206	2206	16,436	14,884	70,960	14,884	70,960	0.15	
YSR20R	1398	2140	21,615	10,700	59,798	10,700	59,798	0.15	2.28
YSR20LR	1896	3307	33,404	26,459	126,998	26,459	126,998	0.23	
YSR25R	1943	3002	34,826	18,725	97,890	18,725	97,890	0.25	3.17
YSR25LR	2581	4503	52,239	43,407	207,324	43,407	207,324	0.39	
YSR30R	2697	3962	55,442	26,950	154,224	26,950	154,224	0.48	4.54
YSR30R	3807	6483	90,722	74,970	355,321	74,970	355,321	0.77	
YSR35R	5090	8346	142,722	106,070	519,799	106,070	519,799	1.15	6.27
YSR35LR	6667	12274	209,885	233,977	1,070,533	233,977	1,070,533	1.54	

YOSO MOTION LINEAR GUIDE

2-2 YGH / YSR / YGL International Standard Linear Guide

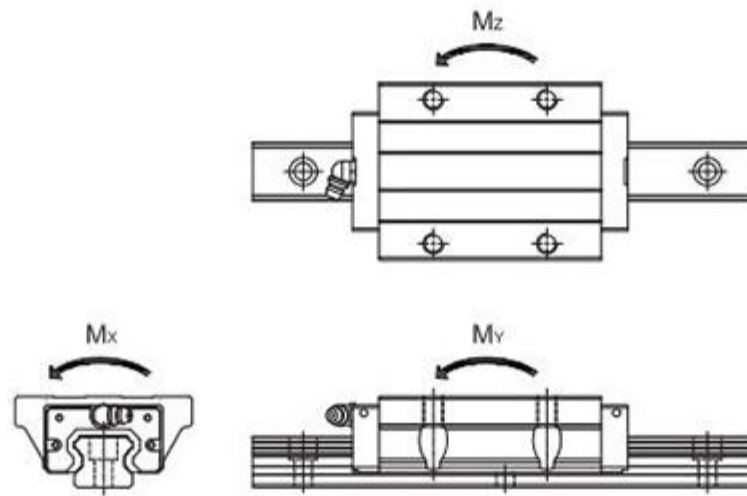
YSR-C Series Specifications



Model No.	Assembly(mm)			Block Dimension(mm)										Rail(mm)					
	H	W2	E	W	B	J	t	L	L1	QXl	T1	Oil Hole	N	W1	H1	ØD	h	Ød	F
YSR15C	24	18.5	4.5	52	41	26	7	40.1	23.1	M5X7	5.5	M4X0.7	5.7	15	12.5	6	4.5	3.5	60
YSR15LC								56.8	39.8										
YSR20C	28	19.5	6	59	49	32	9	50	29	M6X9	6	M6X1	12	20	15.5	9.5	8.5	6	60
YSR20LC								69.1	48.1										
YSR25C	33	25	7	73	60	35	10	59.1	35.5	M8X10	8	M6X1	12	23	18	11	9	7	60

A

Linear Guide

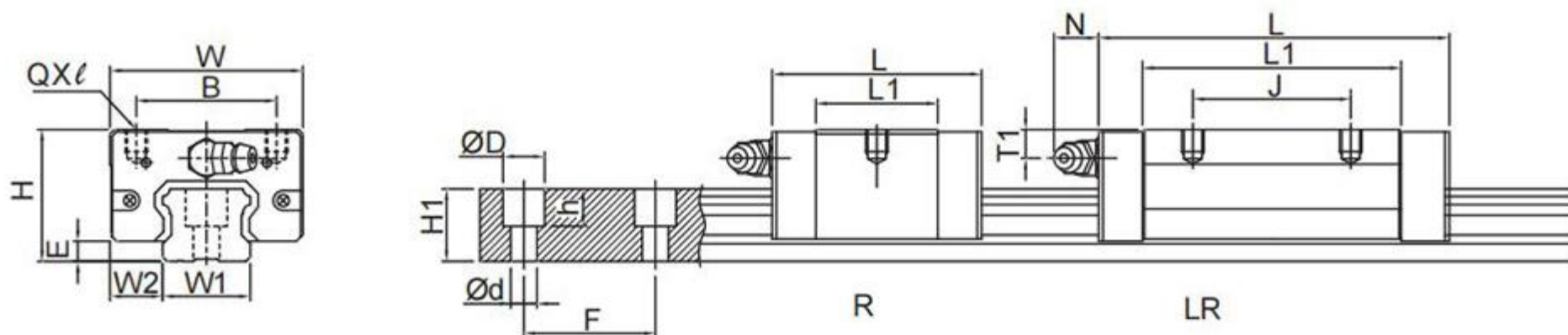


Model No.	Load Rating (kgf)		Static Permissible Moment					Weight	
			Mx (kgf-mm)	My (kgf-mm)		Mz (kgf-mm)		Block (kg)	Rail (kg/m)
	C	Co		Single Block	Single Block	Double Block	Single Block		
YSR15C	908	1471	10,957	6,420	33,531	6,420	33,531	0.12	1.32
YSR15LC	1206	2206	16,436	14,884	70,960	14,884	70,960	0.19	
YSR20C	1398	2140	21,615	10,700	59,798	10,700	59,798	0.19	2.28
YSR20LC	1896	3307	33,404	26,459	126,998	26,459	126,998	0.29	
YSR25C	2581	4503	52,239	43,407	207,324	43,407	207,324	0.51	3.17

YOSO MOTION LINEAR GUIDE

2-2 YGH / YSR / YGL International Standard Linear Guide

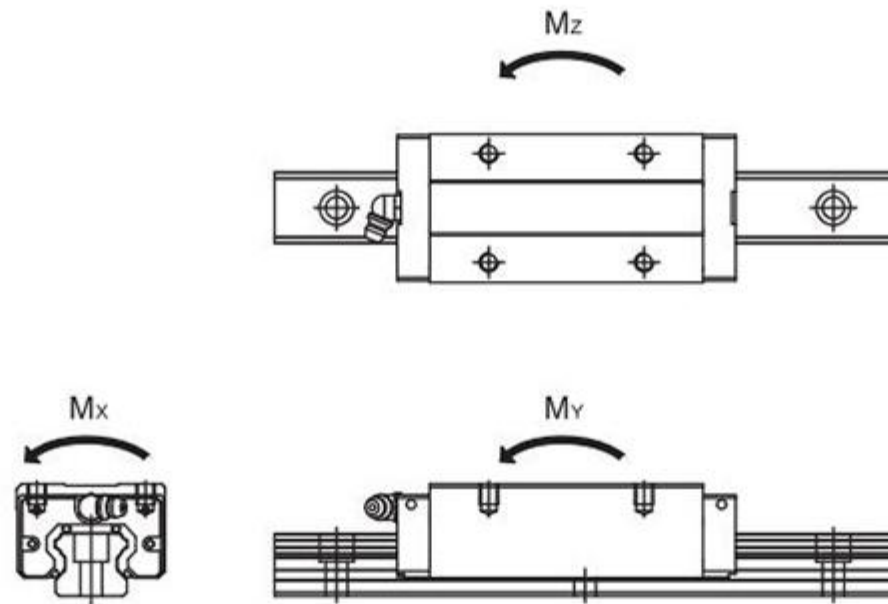
YGL-R Series Specifications



A

Linear Guide

Model No.	Assembly(mm)			Block Dimension(mm)									Rail(mm)					
	H	W2	E	W	B	J	L	L1	QXl	T1	Oil Hole	N	W1	H1	ØD	h	Ød	F
YGL15R	24	9.5	4.3	34	26	26	61.4	39.4	M4X4	3.95	M4X0.7	5.3	15	15	7.5	5.3	4.5	60
YGL15LR																		
YGL25R	36	12.5	5.5	48	35	35	84	58	M6X6	6	M6X1	12	23	22	11	9	7	60
YGL25LR						50		104.6										
YGL30R	42	16	6	60	40	40	97.4	70	M8X10	6.5	M6X1	12	28	26	14	12	9	80
YGL30LR						60		120.4										
YGL35R	48	18	7.5	70	50	50	112.4	80	M8X12	9	M6X1	12	34	29	14	12	9	80
YGL35LR						72		138.2										
YGL45R	60	20.5	9.5	86	60	60	139.4	97	M10X17	8.5	M6X1	12.9	45	38	20	17	14	105
YGL45LR						80		171.2										
YGL55R	70	23.5	13	100	75	75	166.7	117.7	M12X18	12	PT1/8	12.9	53	44	23	20	16	120



Model No.	Load Rating (kgf)		Static Permissible Moment					Weight	
			Mx (kgf-mm)	My (kgf-mm)		Mz (kgf-mm)		Block (kg)	Rail (kg/m)
	C	Co		Single Block	Single Block	Double Block	Single Block		
YGL15R	908	1471	10,957	6,420	33,531	6,420	33,531	0.09	1.45
YGL15LR	1206	2206	16,436	14,884	70,960	14,884	70,960	0.15	
YGL25R	1398	2140	21,615	10,700	59,798	10,700	59,798	0.57	3.21
YGL25LR	1896	3307	33,404	26,459	126,998	26,459	126,998	0.78	
YGL30R	1943	3002	34,826	18,725	97,890	18,725	97,890	1.03	4.47
YGL30LR	2581	4503	52,239	43,407	207,324	43,407	207,324	1.14	
YGL35R	2697	3962	55,442	26,950	154,224	26,950	154,224	1.52	6.35
YGL35LR	3807	6483	90,722	74,970	355,321	74,970	355,321	2.08	
YGL45R	3090	5346	72,722	70,070	332,799	60,070	322,799	2.75	10.41
YGL45LR	4667	7874	15,885	85,977	760,533	150,977	610,326	2.75	
YGL55R	6500	9600	16,785	96,815	55,885	110,805	655,286	3.25	15.08

2-2 YGH / YSR / YGL International Standard Linear Guide

2-2-6 The Standard Length and Maxima Length of Linear Rail

YOSO MOTION offer our customers standard and customized rail length to meet the requirement of our customers. TBI suggests that when ordering customized rail length, to prevent unstable running performance after mounting, the end cap value G should be no greater than 1/2F.

$$L = [n-1] \cdot F + 2 \cdot G$$

- L : Total Length of Rail (mm)
- n : Number of Mounting Holes
- F : Distance Between Any Two Holes (mm)
- G : Distance from the Center of the Last Hole to the Edge (mm)

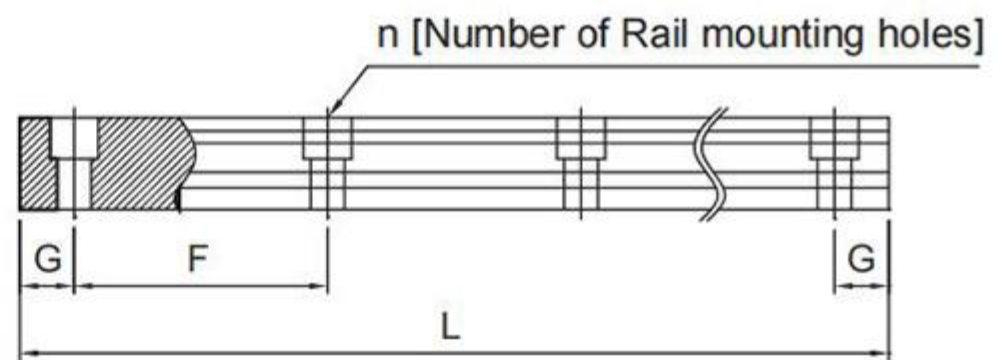


Fig 2.2.3

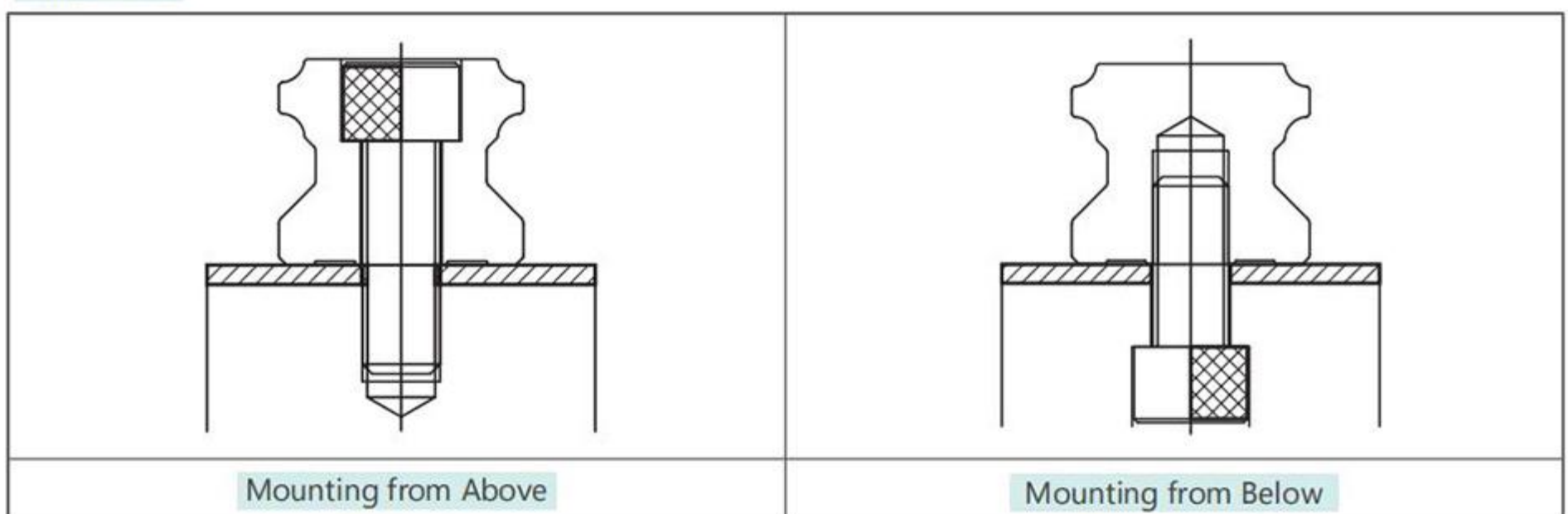
Table 2.2.3

Item	YG15	YG20	YG25	YG30	YG35	YG45	YG55	YG65
F : Pitch	60	60	60	80	80	105	120	150
G : Suggested Distance to End	20	20	20	20	20	22.5	30	35
L : Max. Length	4000	4000	4000	4000	4000	4000	4000	4000

2-2-7 Mounting Type of Linear Rail

Besides the standard top mounting type, yoso MOTION also offers bottom mounting type rails

Table 2.2.4



Mounting from Above

Mounting from Below

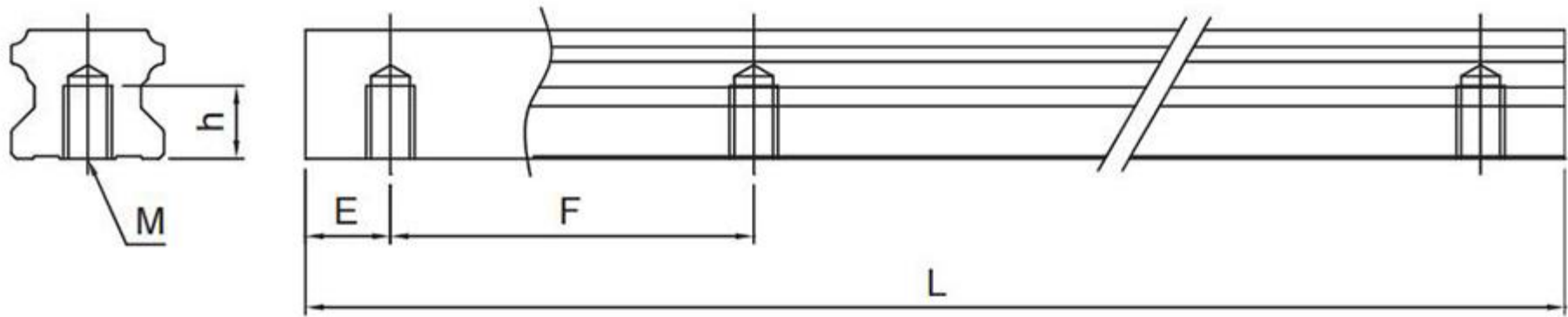


Fig 2.2.4 Mounting from below

Table 2.2.5 Rail Size Chart

Unit : mm

	M	h	E	F
YG15	M5 · 0.8	8	20	60
YG20	M6 · 1	10	20	60
YG25	M6 · 1	12	20	60
YG30	M8 · 1.25	15	20	80
YG35	M8 · 1.25	17	20	80
YG45	M12 · 1.75	24	22.5	105
YG55	M14 · 2	24	30	120
YG65	M20 · 2.5	30	35	150

2-2 YGH / YSR / YGL International Standard Linear Guide

2-2-8 Accuracy Standard

The accuracy standards of YG-Series range, from normal (N), high (H), precision (P), super-precision (SP) and ultra-precision (UP). It allows our user to choose according to the accuracy standards of the equipment.

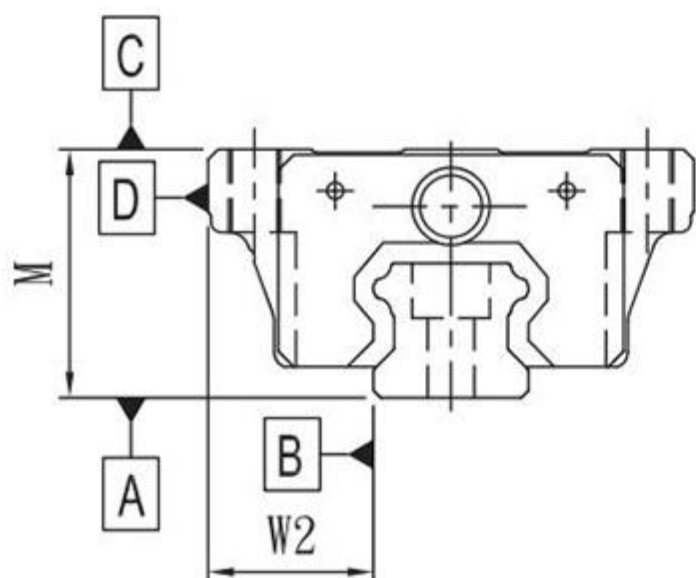
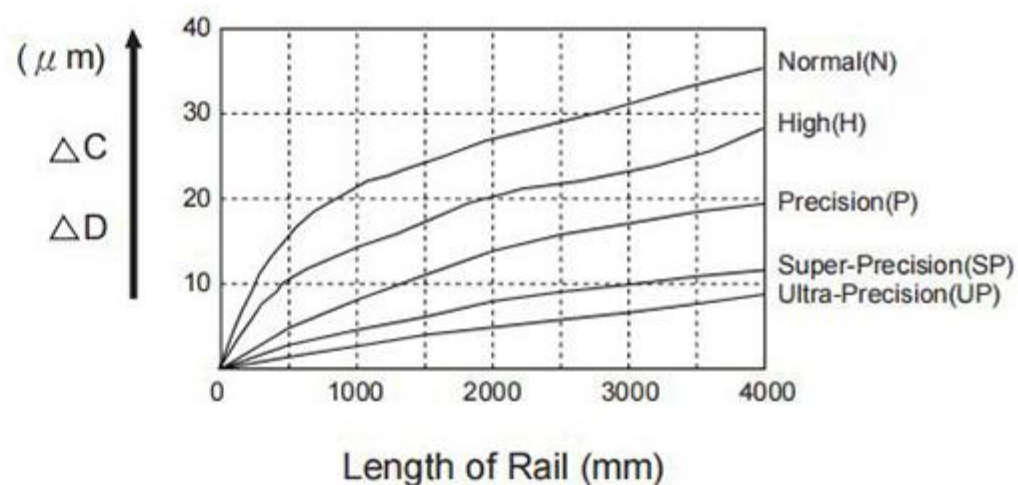


Fig 2.2.5 Accuracy Standard



YG Rail Length and Running Accuracy.

Fig 2.2.6

Table 2.2.6 YG-Accuracy of Running Parallelism

YG Rail Length (mm)	Accuracy (μm)				
	N	H	P	SP	UP
0~125	5	3	2	1.5	1
125~200	5	3.5	2	1.5	1
200~250	6	4	2.5	1.5	1
250~315	7	4.5	3	1.5	1
315~400	8	5	3.5	2	1.5
400~500	9	6	4.5	2.5	1.5
500~630	16	11	6	2.5	1.5
630~800	18	12	7	3	2
800~1000	20	14	8	4	2
1000~1250	22	16	10	5	2.5
1250~1600	25	18	11	6	3
1600~2000	28	20	13	7	3.5
2000~2500	30	22	15	8	4
2500~3000	32	24	16	9	4.5
3000~3500	33	25	17	11	5
3500~4000	34	26	18	12	6

Table 2.2.7

Unit : mm

Accuracy Standard										
YG 15 20						YG 25 30 35				
Accuracy Standard	Normal	High	Precision	Super Precision	Ultra Precision	Normal	High	Precision	Super Precision	Ultra Precision
Item	N	H	P	SP	UP	N	H	P	SP	UP
Tolerance for height M	±0.1	±0.03	0 -0.03	0 -0.015	0 -0.008	±0.1	±0.04	0 -0.04	0 -0.02	0 -0.01
Tolerance for height M difference among Linear Guide Block	0.02	0.01	0.006	0.004	0.003	0.02	0.015	0.007	0.005	0.003
Tolerance for rail-to-block lateral distance W2	±0.1	±0.03	0 -0.03	0 -0.015	0 -0.008	±0.1	±0.04	0 -0.04	0 -0.02	0 -0.01
Tolerance for rail-to-block lateral distance W2 difference among Linear Guide Block	0.02	0.01	0.006	0.004	0.003	0.03	0.015	0.007	0.005	0.003
Running parallelism of Linear Guide Block surface C with respect to surface A	Δ C, YG Rail Length and Running Accuracy (Fig 2.2.6)					Δ C, Rail Length and Running Accuracy (Fig 2.2.6)				
Running parallelism of Linear Guide Block surface D with respect to surface B	Δ D, YG Rail Length and Running Accuracy (Fig 2.2.6)					Δ D, Rail Length and Running Accuracy (Fig 2.2.6)				
Accuracy Standard										
YG 45 55						YG 65				
Accuracy Standard	Normal	High	Precision	Super Precision	Ultra Precision	Normal	High	Precision	Super Precision	Ultra Precision
Item	N	H	P	SP	UP	N	H	P	SP	UP
Tolerance for height M	±0.1	±0.05	0 -0.05	0 -0.03	0 -0.02	±0.1	±0.07	0 -0.07	0 -0.05	0 -0.03
Tolerance for height M difference among Linear Guide Block	0.03	0.015	0.007	0.005	0.003	0.03	0.02	0.01	0.007	0.005
Tolerance for rail-to-block lateral distance W2	±0.1	±0.05	0 -0.05	0 -0.03	0 -0.02	±0.1	±0.07	0 -0.07	0 -0.05	0 -0.03
Tolerance for rail-to-block lateral distance W2 difference among Linear Guide Block	0.03	0.02	0.01	0.007	0.005	0.03	0.025	0.015	0.01	0.007
Running parallelism of Linear Guide Block surface C with respect to surface A	Δ C, Rail Length and Running Accuracy (Fig 2.2.6)					Δ C, Rail Length and Running Accuracy (Fig 2.2.6)				
Running parallelism of Linear Guide Block surface D with respect to surface B	Δ D, Rail Length and Running Accuracy (Fig 2.2.6)					Δ D, Rail Length and Running Accuracy (Fig 2.2.6)				

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■ 2-2-9 Determining the Magnitude of a Preload

What's Preload

Using larger rolling elements helps strengthen the entire rigidity of the block while there exists clearance within ball circulation.

Increasing preload would decrease the vibration and reduce the corrosion caused by running back and forth. However, it would also add the workload within those rolling elements. The greater the preload is, the greater the inner workload is. Therefore, choosing preload has to consider the effect carefully between vibration and preload.

Table 2.2.8 Preload Grade

C : Dynamic load rating

Grade	Symbol	Preload Force
Slight Clearance	ZF	0
No Preload	Z0	0
Light Preload	Z1	0.02C
Medium Preload	Z2	0.05C
Heavy Preload	Z3	0.07C

Table 2.2.9 TR Series Radial Clearances

Unit : μm

Preload Model No.	ZF	Z0	Z1	Z2	Z3
YG15	5~12	-4~4	-12~-5	-20~-13	-28~-21
YG20	6~14	-5~5	-14~-6	-23~-15	-32~-24
YG25	7~16	-6~6	-16~-7	-26~-17	-36~-27
YG30	8~18	-7~7	-18~-8	-29~-19	-40~-30
YG35	9~20	-8~8	-20~-9	-32~-21	-44~-33
YG45	10~22	-9~9	-22~-10	-35~-23	-48~-36
YG55	11~24	-10~10	-24~-11	-38~-25	-52~-39
YG65	12~26	-11~11	-26~-12	-41~-27	-56~-42

Table 2.2.10 The Difference between Interchangeability and Non-Interchangeability

Slight Clearance	Non-Interchangeable					Interchangeable
	UP	SP	P	H	N	N
Preload	Z1	Z1	Z0	Z0	ZF	ZF
	Z2	Z2	Z1	Z1	Z0	Z0
	Z3	Z3	Z2	Z2	Z1	Z1
			Z3	Z3	Z2	

■ 2-2-10 Mounting Location of Grease Nipples

The standard location of the grease nipple is at both ends of the block, but the nipple can be mounted at each side 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 perform lubrication by using the oil-piping joint.

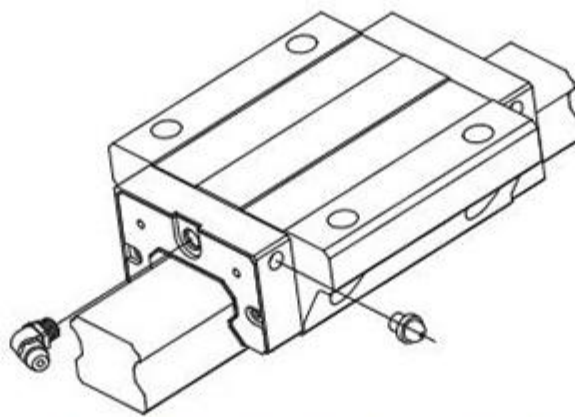


Fig 2.2.7 Mounting Location

Table 2.2.11 The Lubricant Amount for a Block Filled with Grease

Size	Grease (cm ³)
YG15	1.3
YG20	2.5
YG25	2.5
YG30	7
YG35	9
YG45	15.2
YG55	40
YG65	75

Table 2.2.12 Oil Refilling Rate

Size	Oil refilling rate (cm ² /hr)
YG15	0.2
YG20	0.2
YG25	0.3
YG30	0.3
YG35	0.3
YG45	0.4
YG55	0.5
YG65	0.6

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■ Dust-proof/Accessory

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

Special Option : Steel end seal, Steel end cap, Cover Strip, please contact TBI Motion.

■ Standard Accessories :

End seal and Bottom seal

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

■ Other Accessories :

Top Seal

Efficiently prevents dust from the surface of rail or tapping hole getting inside the block.

Double end seal

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

Double-lip end seals

Double-lip end seal is suitable for environment with high contamination.

Characteristics of **YOSO *MOTION*** Metal Scraper

The scraper decreases the possibility of high temperature iron chip or dust entering the block.

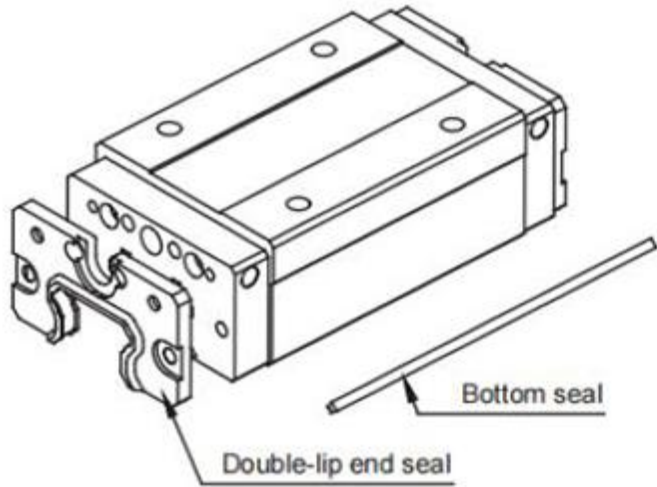
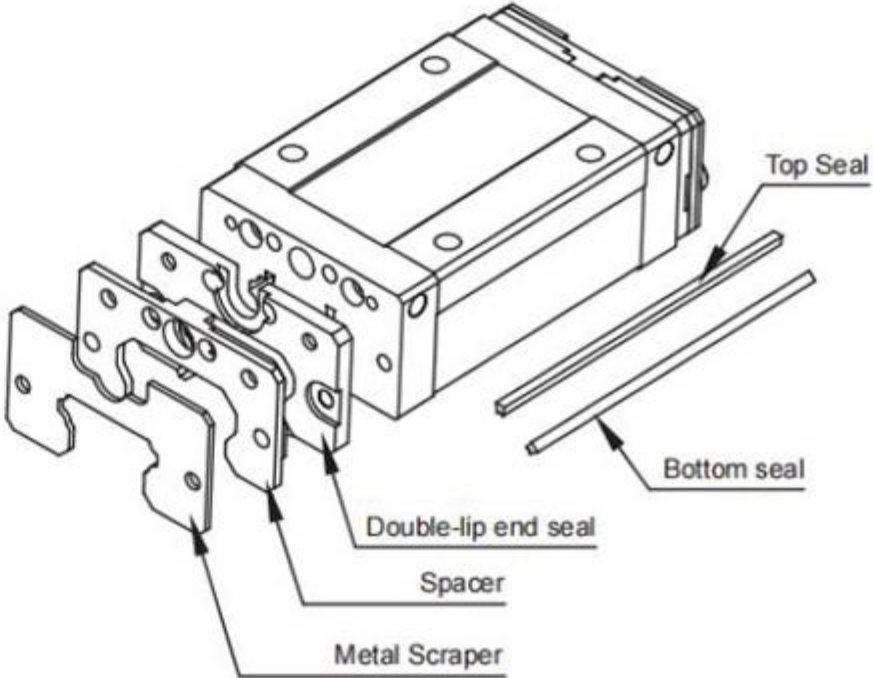
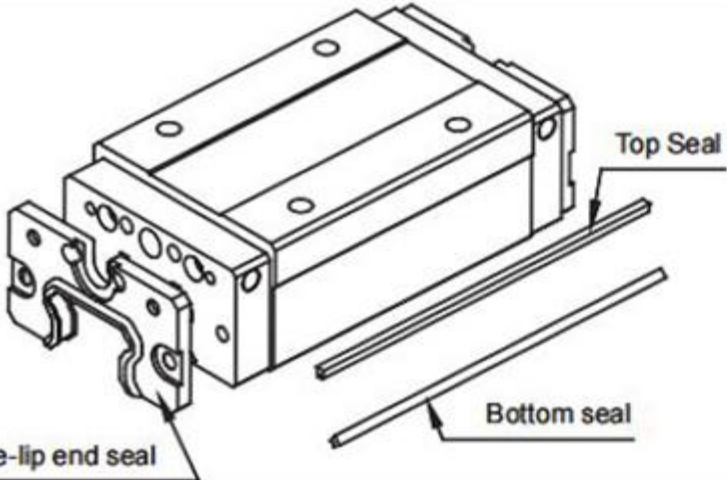
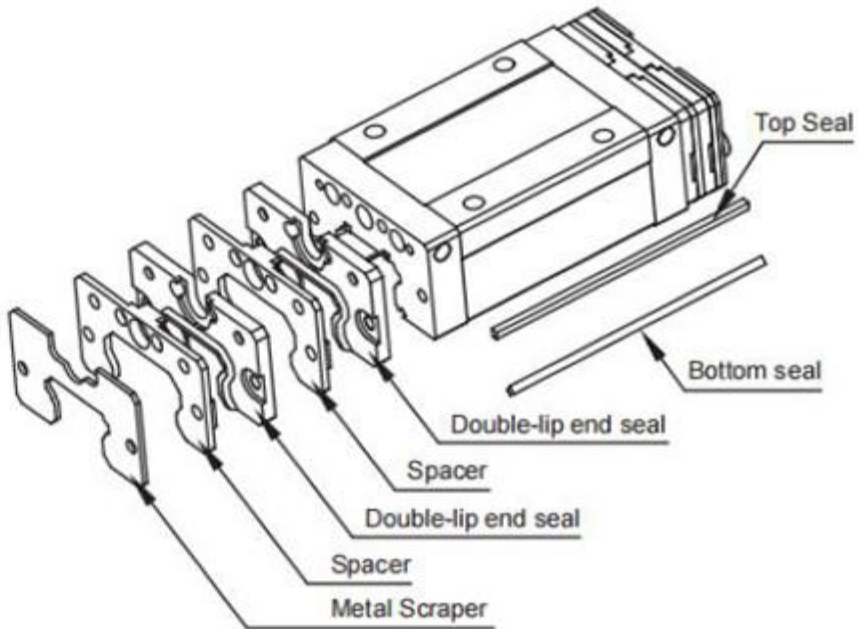
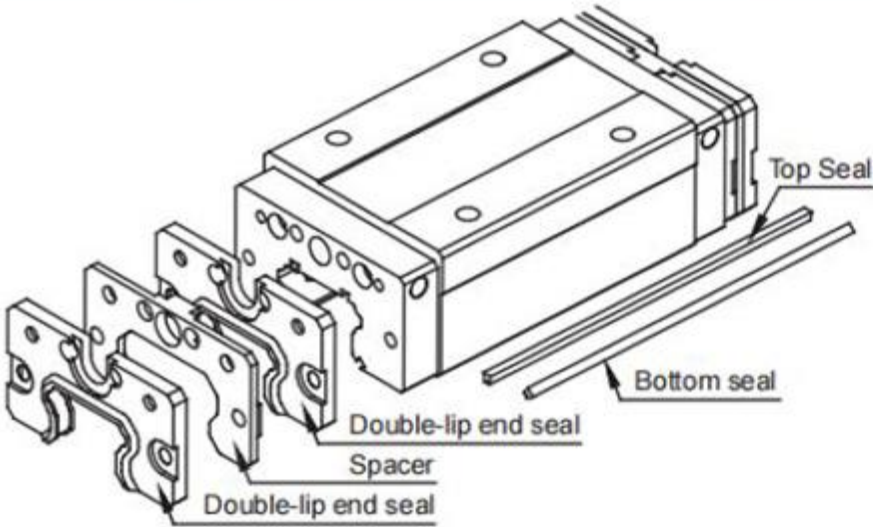
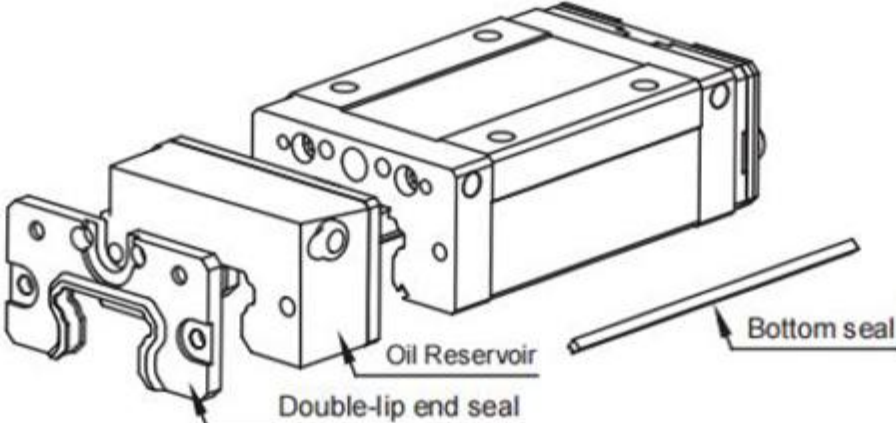
Felt

Double-lip end seal is suitable for environment with high contamination. Felt lubricates the ball track of the rail extending the lifetime. This accessory is suitable for light rating load environment.

Oil Reservoir

After installation, oil reservoir can extend lubricating effect.

Codes of Accessories

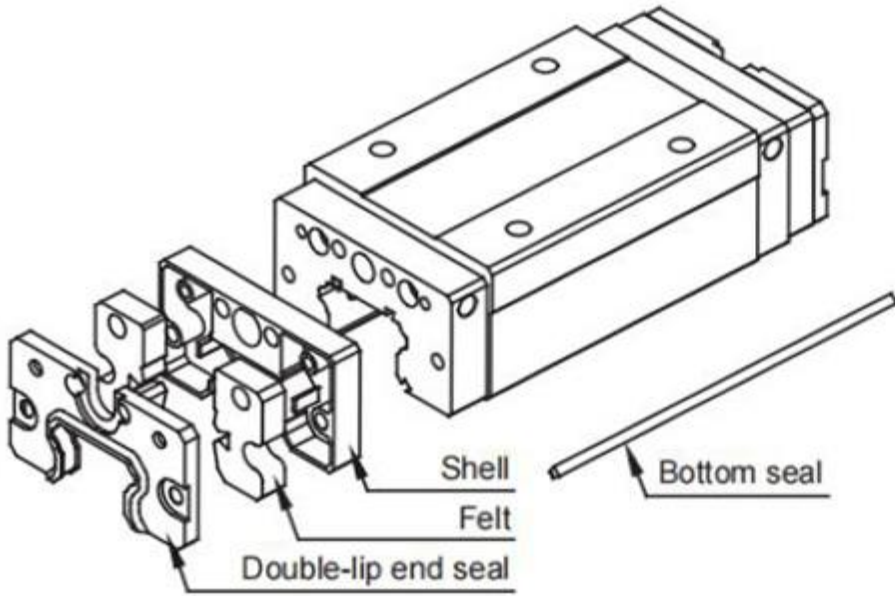
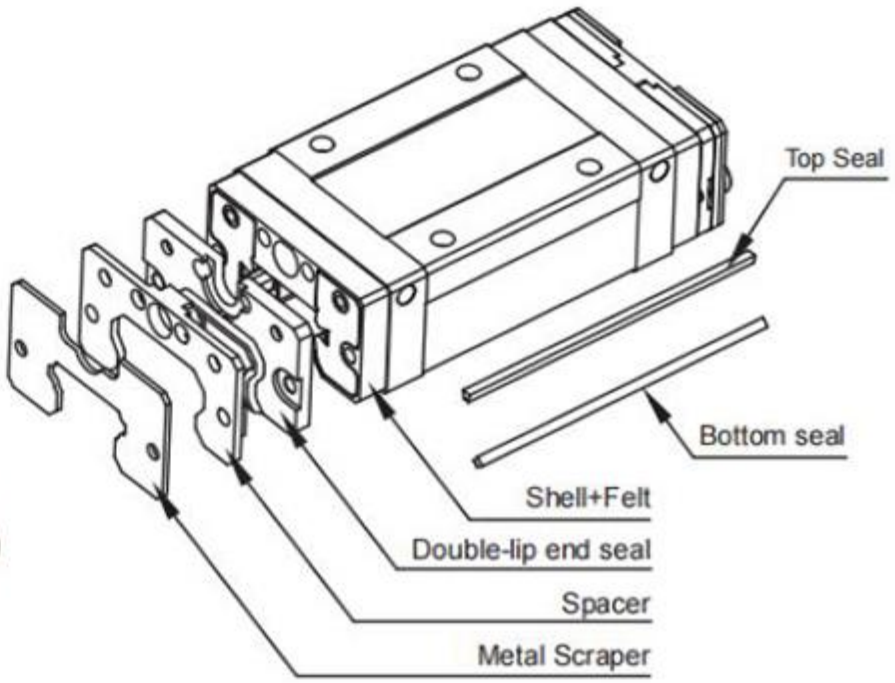
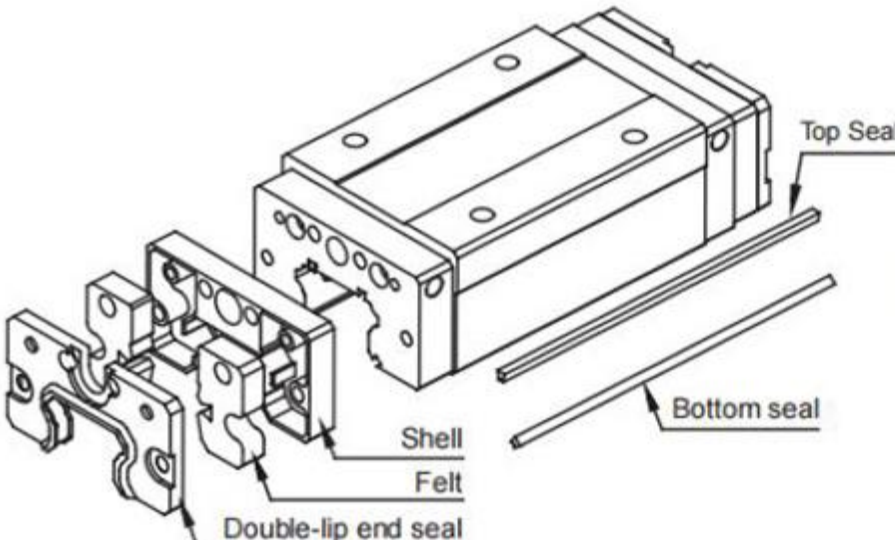
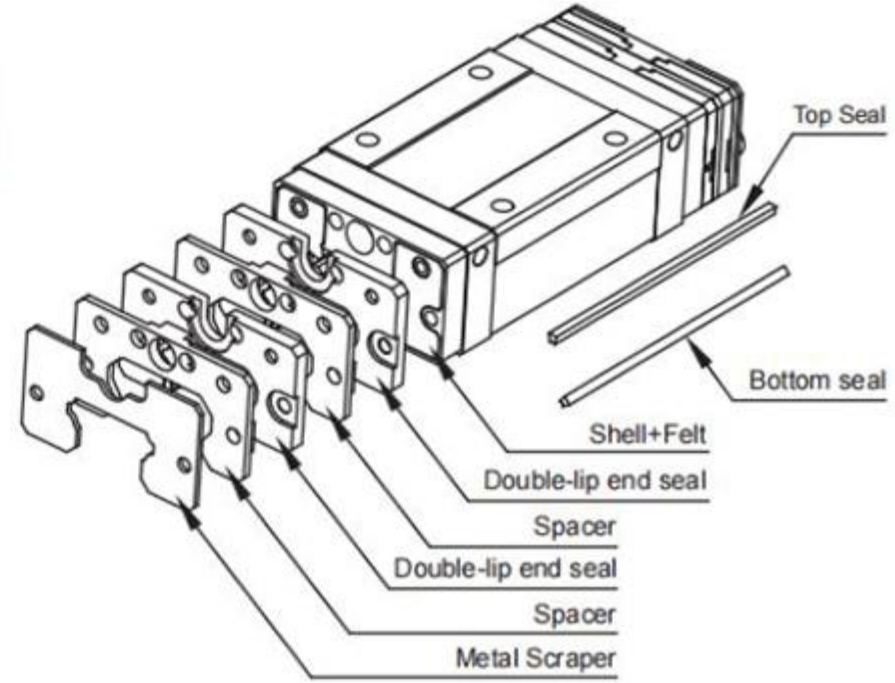
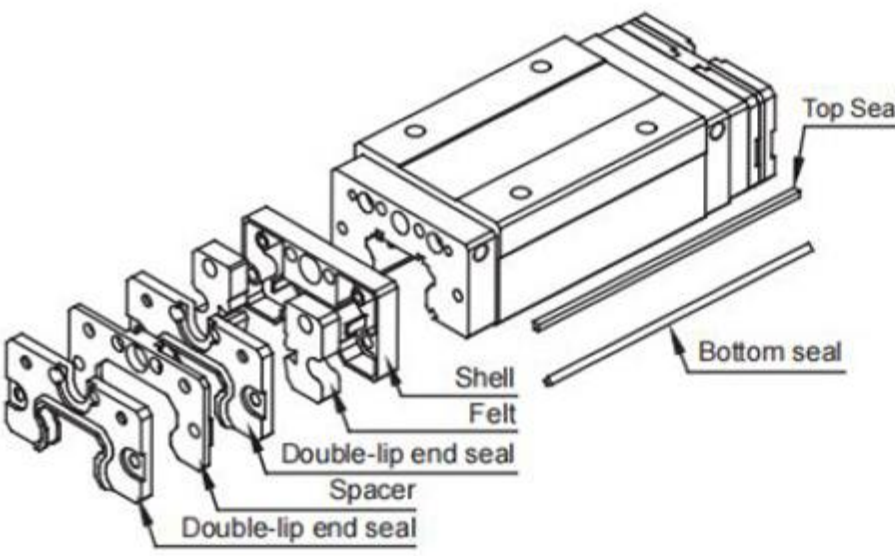
<p>UU (Double-lip end seals+Bottom seals)</p>	<p>ZZ (Double-lip end seals+Bottom seals+Top seals+ Metal Scraper)</p>
 <p>Bottom seal Double-lip end seal</p>	 <p>Top Seal Bottom seal Double-lip end seal Spacer Metal Scraper</p>
<p>SS (Double-lip end seals+Bottom seals+Top seals)</p>	<p>KK(Two Double-lip end seals+Bottom seals+Top seals +Metal Scraper)</p>
 <p>Top Seal Bottom seal Double-lip end seal</p>	 <p>Top Seal Bottom seal Double-lip end seal Spacer Double-lip end seal Spacer Metal Scraper</p>
<p>DD (Two Double-lip end seals+Bottom seals+Top seals)</p>	<p>QZ (Double-lip end seals+Bottom seals+Oil Reservoir)</p>
 <p>Top Seal Bottom seal Double-lip end seal Spacer Double-lip end seal</p>	 <p>Oil Reservoir Bottom seal Double-lip end seal</p>

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Linear Guide

<p>QZUU(Double-lip end seals+Bottom seals+Felts)</p>	<p>QZZZ (Double-lip end seals+Bottom seals+Top seals+Felts+Metal Scraper)</p>
 <p>Shell Felt Double-lip end seal Bottom seal</p>	 <p>Top Seal Bottom seal Shell+Felt Double-lip end seal Spacer Metal Scraper</p>
<p>QZSS (Double-lip end seals+Bottom seals+Top Seals+Felts)</p>	<p>QZKK (Two Double-lip end seals+Bottom seals+Top seals+Felts+Metal Scraper)</p>
 <p>Top Seal Bottom seal Shell Felt Double-lip end seal</p>	 <p>Top Seal Bottom seal Shell+Felt Double-lip end seal Spacer Double-lip end seal Spacer Metal Scraper</p>
<p>QZDD (Two Double-lip end seals+Bottom seals+Top Seals+Felts)</p>	
 <p>Top Seal Bottom seal Shell Felt Double-lip end seal Spacer Double-lip end seal</p>	

3-3 YSS Miniature Linear Guide

3-3-1 The Structure of YSS-series

Recirculation system : End cap + Recirculation tube + Ball retainer

Sealing system : Side + Bottom system

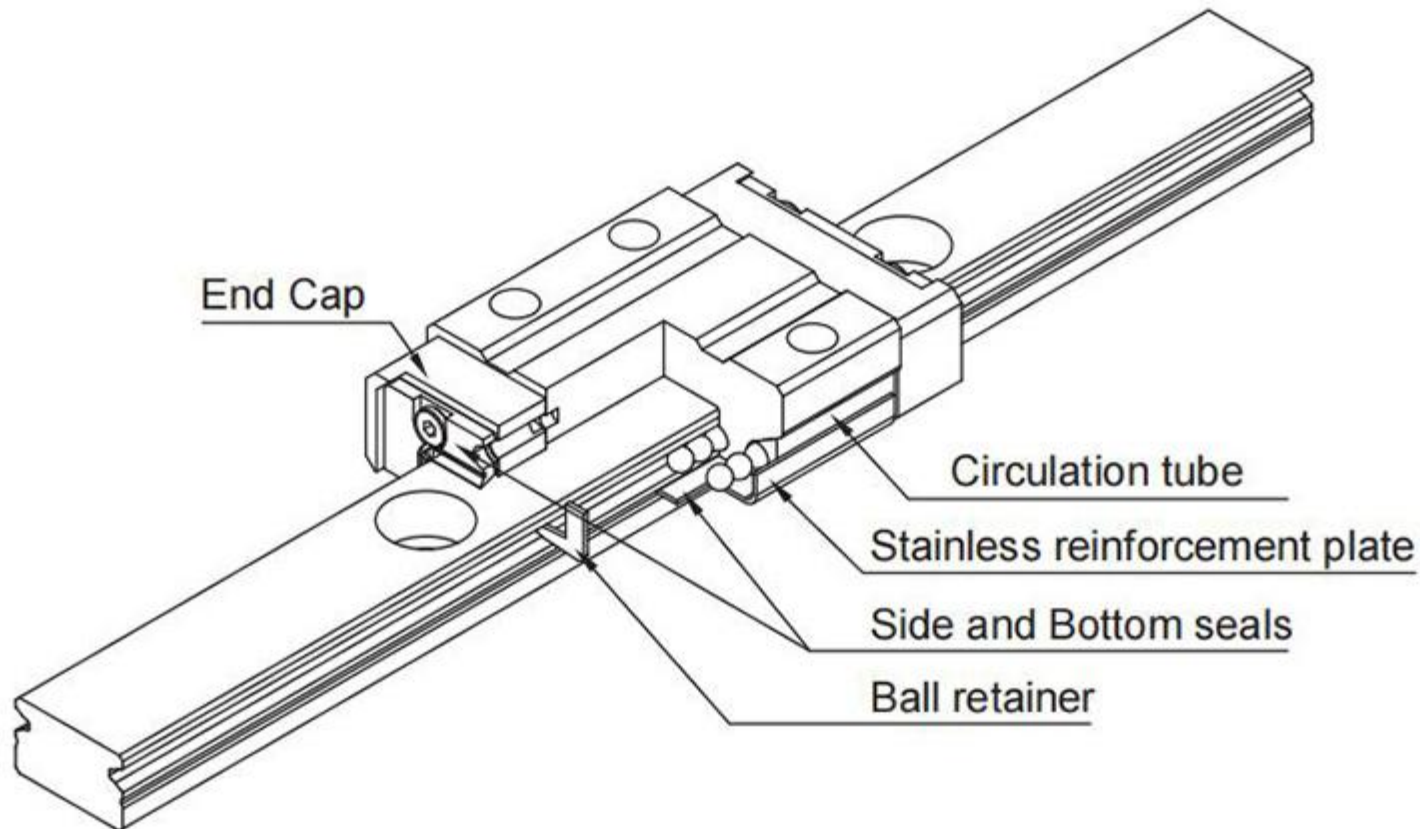


Fig 2.1

3-3-2 Accuracy

Miniature Linear Guide YSS-series provides P, H, N three accuracy grades for customer to choose

Table 2.3.1

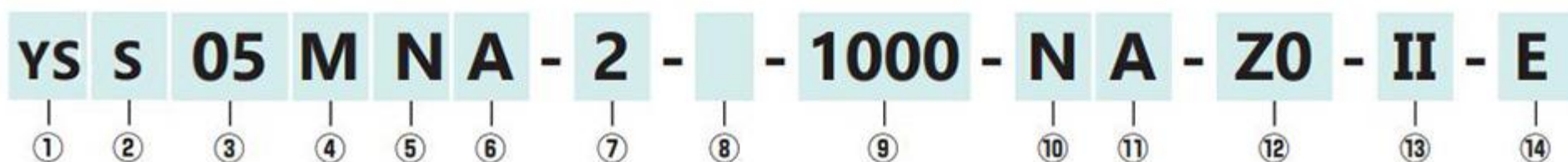
Accuracy (μm)		Precision P	High H	Normal N
		Tolerance of Height H	H	± 10
Variation of height with different block on same spot of the rail	ΔH	7	15	25
Tolerance of width W2	W2	± 15	± 25	± 40
Variation with width on different block on same spot of the rail	$\Delta W2$	10	20	30

3-3 YSS Miniature Linear Guide

3-3-3 Nominal Model Code of YSS Type

Length of Block

Perform joint treatment when required lengths exceed 1300. Please contact TBI MOTION for detailed information.



① Nominal Model	② Block Type	③ Dimension	④ Width of Rail
YS	S : Mini E : Special <i>(Drawing will be provided for special item in order to distinguish the height of the rail.)</i>	03, 05, 07, 09, 12, 15	M : Standard W : Wide

⑤ Length of Block	⑥ Material of Block	⑦ Quantity of Block
S:standard N : Long	S : Stainless steel A : Alloy steel	(Mark 1 when there is only 1 runner block)

⑧ Accessory Code	⑨ Length of Rail	⑩ Accuracy Grade	⑪ Material of Rail
□ : Standard (End seal + Side seal)	Unit : mm	N : Normal H : High P : Precision	S : Stainless steel A : High Carbon steel

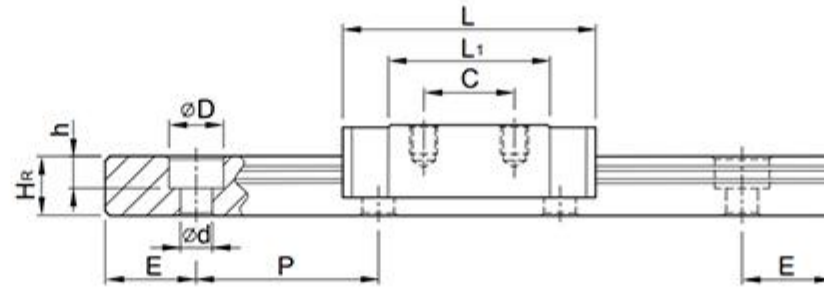
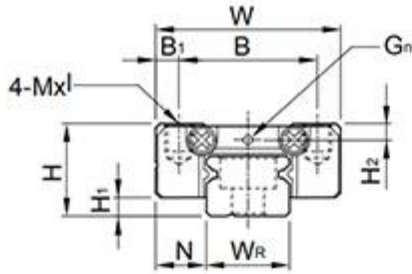
⑫ Preload	⑬ Two Sets per Axis	⑭ Rail Special Machining
ZF : Slight Clearance Z0 : No Preload Z1 : Light Preload	(No need to be marked when there is only one rail) II	K : Tapped-Hole Rail E : Rail with Special Machining

※No symbol required when no plating is need.

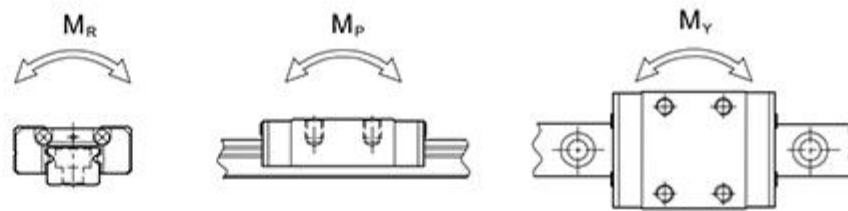
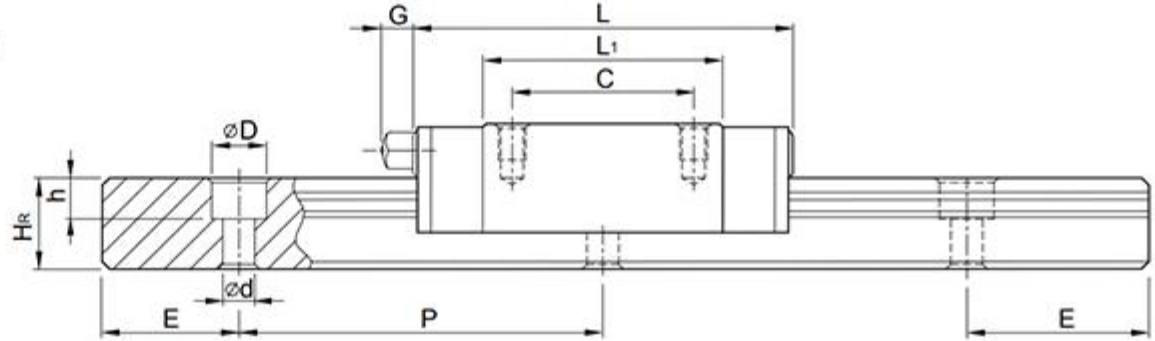
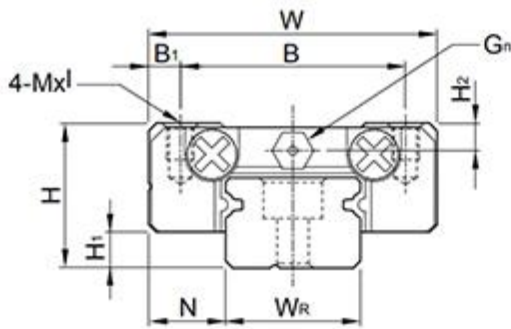
3-3 YSS Miniature Linear Guide

YSS-MS/YSS-MN Series Specifications

YSS3M、YSS5M、YSS7M、YSS9M、YSS12M



YSS15M



型号	组件尺寸 (mm)			滑块尺寸 (mm)										导轨尺寸 (mm)					导轨的固定螺栓尺寸 (mm)	基本动额定负荷 C(kN)	基本静额定负荷 C ₀ (kN)	容许静力矩			重量			
	H	H ₁	N	W	B	B ₁	C	L ₁	L	G	G _n	M×l	H ₂	W _R	H _R	D	h	d				P	E	M _R	M _P	M _Y	滑块 kg	导轨 kg/m
																								N-m	N-m	N-m		
YSS 3MS	4	1	2.5	8	-	-	3.5	6.7	12	-	-	M1.6×1.3	-	3	2.6	-	-	1.6	10	5	M1.6×1	0.19	0.32	0.6	0.4	0.4	-	-
YSS 3MN							5.5	10.7	16			M2×1.3										0.3	0.58	0.9	1.1	1.1	-	-
YSS 5MS	5	1	3.5	12	8	2	-	9.7	16	-	-	M2×2	-	5	3.7	3.6	0.8	2.4	15	7.5	M2×6	0.34	0.56	1.7	1	1	-	-
YSS 5MN							-	12.7	19													0.48	0.92	2.4	2.1	2.1	-	-
YSS 7MS	8	1.5	5	17	12	2.5	8	13.5	22.5	-	φ1.2	M2×2.5	1.5	7	4.8	4.2	2.3	2.4	15	5	M2×6	0.98	1.24	4.70	2.84	2.84	0.010	0.22
YSS 7MN							13	21.8	30.8													1.37	1.96	7.64	4.80	4.80	0.015	
YSS 9MS	10	2	5.5	20	15	2.5	10	18.9	28.9	-	φ1.2	M3×3	1.8	9	6.5	6	3.5	3.5	20	7.5	M3×8	1.86	2.55	11.76	7.35	7.35	0.016	0.38
YSS 9MN							16	29.9	39.9													2.55	4.02	19.60	18.62	18.62	0.026	
YSS 12MS	13	3	7.5	27	20	3.5	15	21.7	34.7	-	φ1.4	M3×3.5	2.5	12	8	6	4.5	3.5	25	10	M3×8	2.84	3.92	25.47	13.81	13.81	0.034	0.65
YSS 12MN							20	32.4	45.4													3.72	5.88	39.22	36.26	36.26	0.054	
YSS 15MS	16	4	8.5	32	25	3.5	20	26.7	42.1	4.5	M3	M3×4	3	15	10	6	4.5	3.5	40	15	M3×10	4.61	5.59	45.08	21.56	21.56	0.059	1.06
YSS 15MN							25	43.3	58.8													6.37	9.11	73.50	57.82	57.82	0.092	

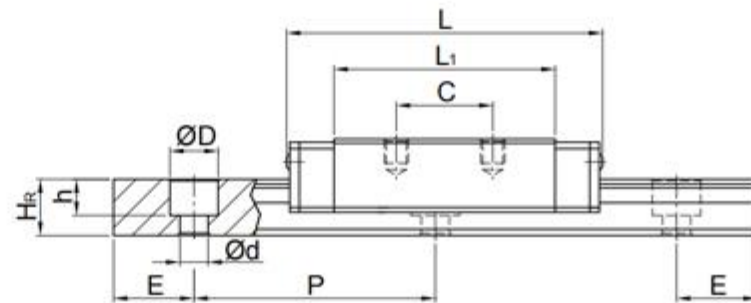
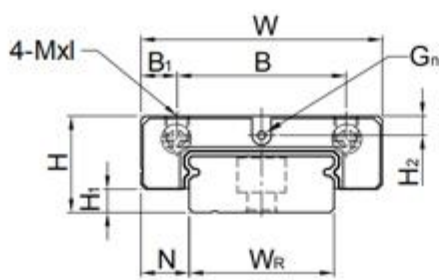
注：1kgf=9.81N

YOSO MOTION LINEAR GUIDE

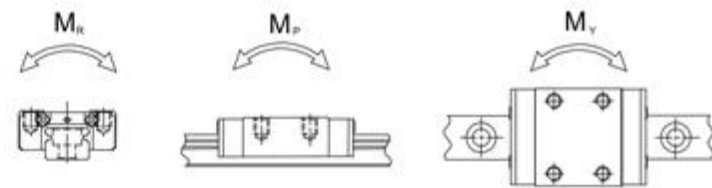
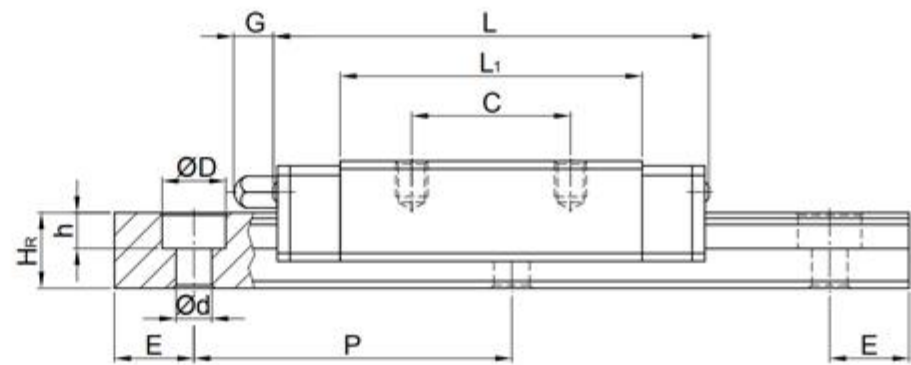
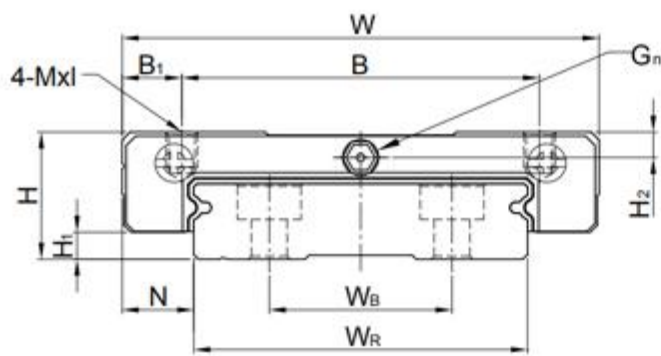
3-3 YSS Miniature Linear Guide

YSS-WS/YSS-WN Series Specifications

YSS3W, YSS5W, YSS7W, YSS9W, YSS12W



YSS15W



型号	组件尺寸 (mm)			滑块尺寸 (mm)										导轨尺寸 (mm)										导轨的固定螺栓尺寸 (mm)	基本动额定负荷 C(kN)	基本静额定负荷 Co(kN)	容许静力矩			重量	
	H	H1	N	W	B	B1	C	L1	L	G	Gn	Mxl	H2	WR	WB	HR	D	h	d	P	E	Mr	Mp				Mv	滑块 kg	导轨 kg/m		
																				N-m	N-m	N-m									
YSS 3WS	4.5	1	3	12	-	-	4.5	10	15.2	-	-	M2×1.4	-	6	-	2.6	4	1.5	2.4	15	-	M2×1	0.29	0.54	1.6	0.9	0.9	-	-		
YSS 3WN							8	15.1	20.1														0.38	0.91	2.6	1.9	1.9	-	-		
YSS 5WS	6.5	1.5	3.5	17	13	2	-	13.6	20.6	-	-	M2.5×2	-	10	-	4	4.8	1.6	2.9	20	7.5	M2.5×6	0.48	0.92	4.7	2.2	2.2	-	-		
YSS 5WN							-	17.6	24.6														0.63	1.34	7.0	4.2	4.2	-	-		
YSS 7WS	9	1.9	5.5	25	19	3	10	21	31.2	-	φ1.2	M3×3	1.85	14	-	5.2	6	3.2	3.5	30	10	M3×6	1.37	2.06	15.7	7.14	7.14	0.020	0.51		
YSS 7WN							19	30.8	41														1.77	3.14	23.45	15.53	15.53	0.029			
YSS 9WS	12	2.9	6	30	21	4.5	12	27.5	39.3	-	φ1.4	M3×3	2.4	18	-	7	6	4.5	3.5	30	10	M3×8	2.75	4.12	40.12	18.96	18.96	0.040	0.91		
YSS 9WN					23	3.5	24	38.5	50.7														3.43	5.89	54.54	34	34.00	0.057			
YSS 12WS	14	3.4	8	40	28	6	15	31.3	46.1	-	φ1.4	M3×3.6	2.8	24	-	8.5	8	4.5	4.5	40	15	M4×8	3.92	5.59	70.34	27.8	27.80	0.071	1.49		
YSS 12WN							28	45.6	60.4														5.10	8.24	102.70	57.37	57.37	0.103			
YSS 15WS	16	3.4	9	60	45	7.5	20	38	54.8	5.2	M3	M4×4.2	3.2	42	23	9.5	8	4.5	4.5	40	15	M4×10	6.77	9.22	199.34	56.66	56.66	0.143	2.86		
YSS 15WN							35	57	73.8														8.93	13.38	299.01	120.60	122.60	0.215			

注: 1kgf=9.81N

4-4 PGH Steel Strip Linear Guide

■ 4-4-1 The Structure of PGH-series

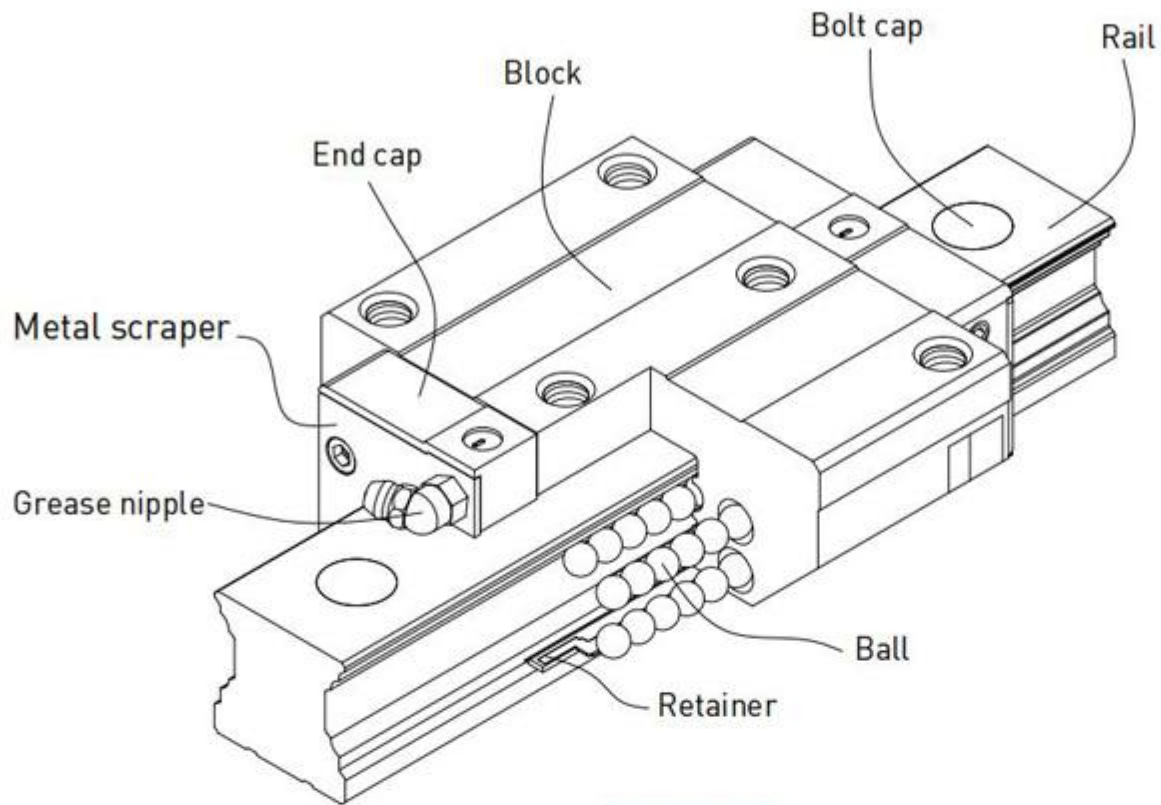


Fig 4.1

- 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, Metal scraper

4-4 PGH Steel Strip Linear Guide

4-4-2 Nominal Model Code of PGH Type

PGH Series can be classified into interchangeable and non-interchangeable types. The sizes are identical; the only difference between the two types is that the accuracy of non-interchangeable types could reach up to UP grade since YOSO MOTION makes the linear guide set under strict international regulation. Interchangeable blocks and rails can be freely exchanged; however, the accuracy could be up to H grade only due to technical issue. It is much more convenient for customers who do not need linear guides with high accuracy to have interchange blocks and rails.

Non-interchangeable Type code:

P G H 20 L C - 2 - - 1200 - N - Z0 - II - U + N3 N3

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮

① Nominal Model	② Block Type	③ Height of Assembly Type	④ Dimension
P	G : Standard S : Low-Assembly	R : Low-Assembly L : Middle-Assembly H : High-Assembly	15, 20, 25, 30, 35, 45, 55, 65

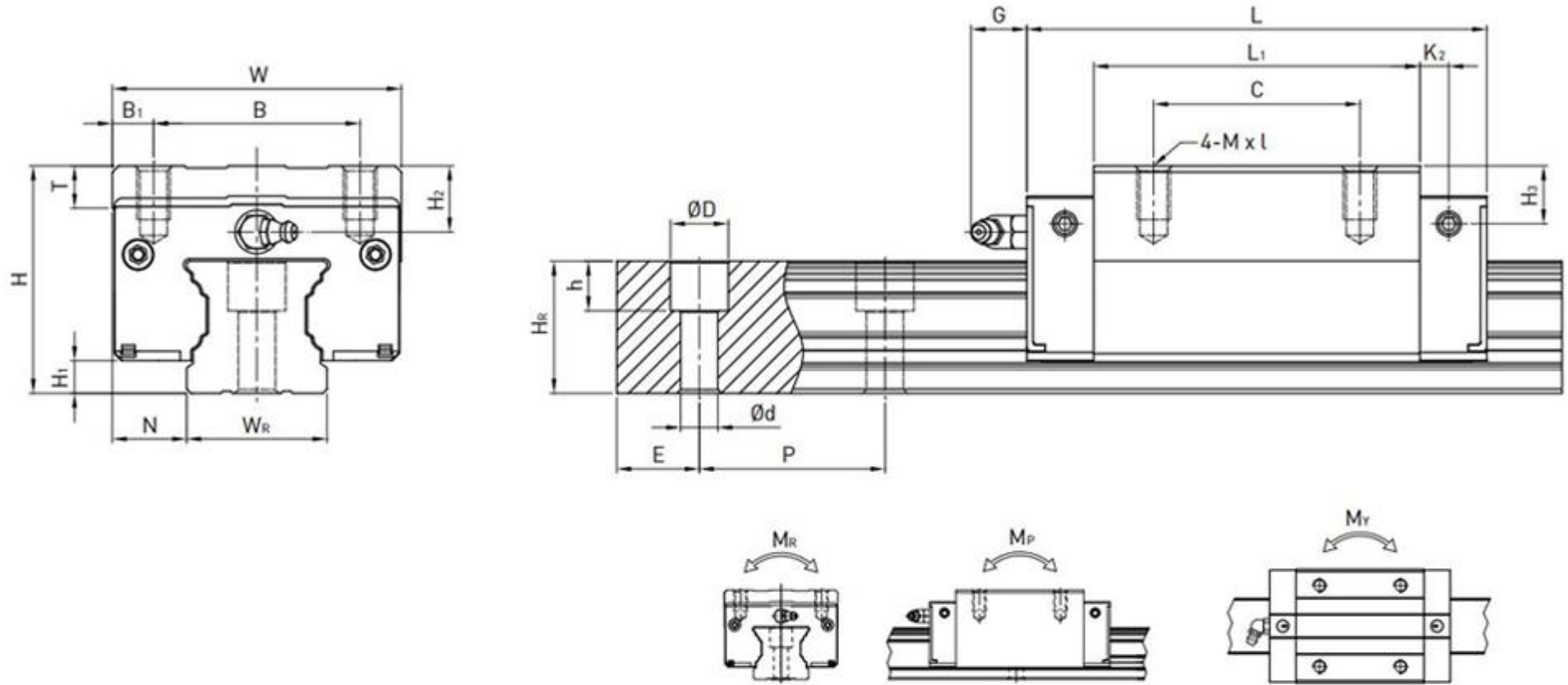
⑥ Flange Type	⑤ Length of Block	⑦ Number of Block Per Rail	⑧ Accessory Code
C : With Flange	N : Normal L : Long	EX : 2	□ : Standard (Please refer to page A26)

⑨ Length of Rail	⑩ Accuracy Grade	⑪ Preload	⑫ Two Sets per Axis	⑬ Rail Special Machining
Unit : mm	N : Normal H : High P : Precision SP : Super-Precision UP : Ultra-Precision	ZF : Slight Clearance Z0 : No Preload Z1 : Light Preload Z2 : Medium Preload Z3 : Heavy Preload	II	U : Tapped-Hole Rail E : Rail with Special Machining

⑭ Block Surface Treatment	⑮ Rail Surface Treatment
S : Standard	S : Standard
B1 : Black Oxidation	B1 : Black Oxidation
N1 : Hard Chrome Plating	N1 : Hard Chrome Plating
P : Phosphating	P : Phosphating
N3 : Nickel Plating	N3 : Nickel Plating
N4 : Raydent	N4 : Raydent
N5 : Chrome Plating	N5 : Chrome Plating

※ No symbol required when plating is not needed.

PGH-R/PGH-LR Series Specifications

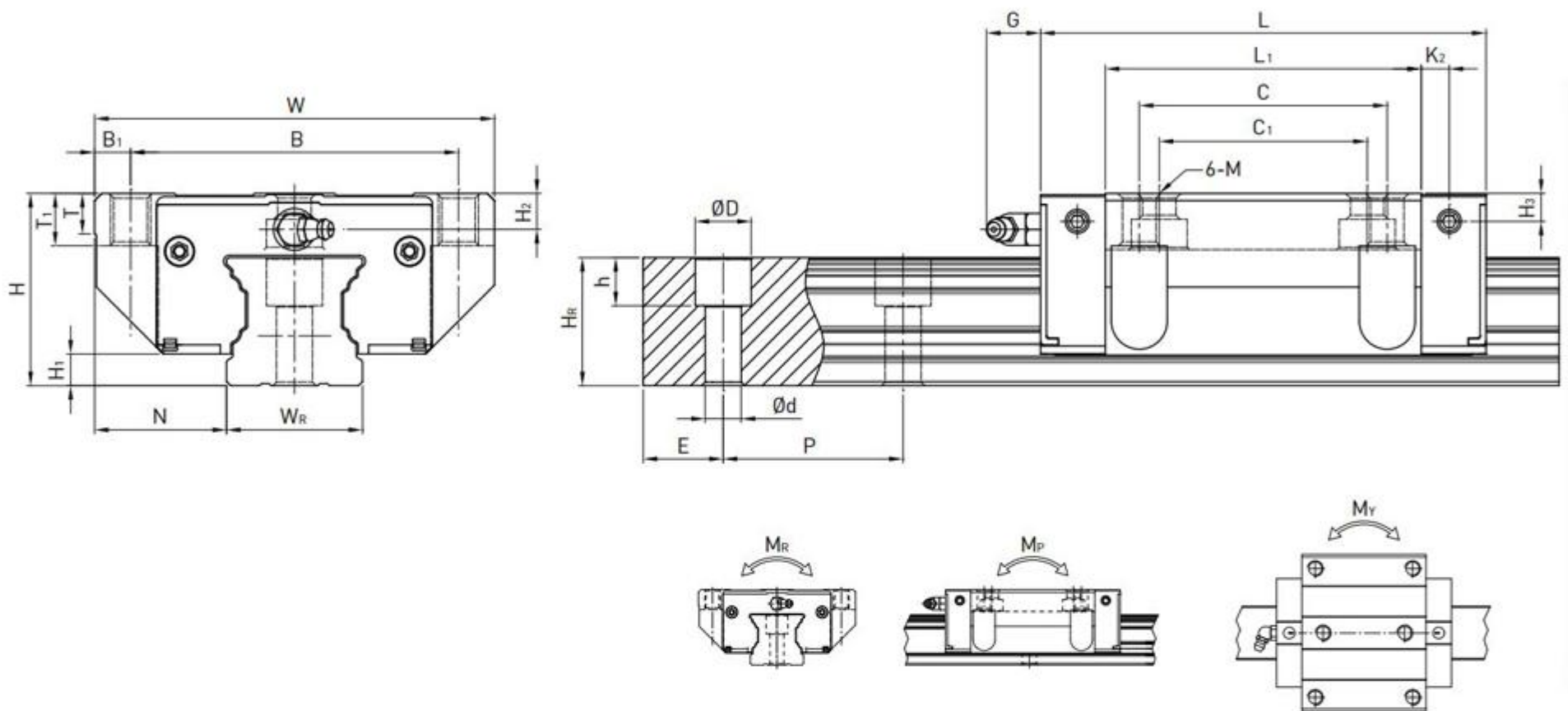


Model No.	Dimensions of Assembly (mm)			Dimensions of Block(mm)													Dimensions of Rail(mm)						Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C(kN)	Basic Static Load Rating Co(kN)	Static Rated Moment			Weight	
	H	H ₁	N	W	B	B ₁	C	L ₁	L	G	K ₂	T	H ₂	H ₃	M x l	W _R	H _R	D	h	d	P	E				M _R kN-m	M _P kN-m	M _Y kN-m	Block kg	Rail kg/m
PGH15R	28	4.1	9.5	34	26	4	26	39.6	58.2	6	4.25	5	7.8	7.8	M4X6	15	16.2	7.5	5.9	4.5	60	20	M4x17	14.7	19.52	0.19	0.14	0.14	0.15	1.58
PGH20R	30	4.65	12	44	32	6	36	52.5	74.9	6	5.5	8	3.7	3.5	M5x6	20	20.55	9.5	8.5	6	60	20	M5x19	23.7	30.51	0.37	0.28	0.28	0.25	2.48
PGH20LR	30	4.65	12	44	32	6	50	68.5	90.9	6	5.5	8	3.7	3.5	M5x6	20	20.55	9.5	8.5	6	60	20		28.6	39.9	0.48	0.48	0.48	0.33	2.48
PGH25R	40	6.1	12.5	48	35	6.5	35	61	84	13	5	8	10	9.5	M6x8	23	24.25	11	9	7	60	20	M6x22	34.96	43.94	0.6	0.49	0.49	0.46	3.38
PGH25LR	40	6.1	12.5	48	35	6.5	50	78.4	101.4	13	5	8	10	9.5	M6x8	23	24.25	11	9	7	60	20		40.5	54.08	0.74	0.73	0.73	0.59	3.38
PGH30R	45	7	16	60	40	10	40	69	97.4	13	8.7	9.5	9.7	10	M8x10	28	28.35	14	12	9	80	20	M8x25	46	55.19	0.95	0.7	0.7	0.71	5.1
PGH30LR	45	7	16	60	40	10	60	91.5	119.9	13	8.7	9.5	9.7	10	M8x10	28	28.35	14	12	9	80	20		58.59	78.18	1.35	1.23	1.23	0.94	5.1
PGH35R	55	7.6	18	70	50	10	50	79	111.4	13	7	10.2	16	14	M8x13	34	31.82	14	12	9	80	20	M8x28	61.17	79.3	1.73	1.09	1.09	1.24	7.14
PGH35LR	55	7.6	18	70	50	10	72	103.4	135.8	13	7	10.2	16	14	M8x13	34	31.82	14	12	9	80	20		77.9	112.34	2.46	2.02	2.02	1.62	7.14
PGH45R	70	9.7	20.5	86	60	13	60	97.2	137.6	13	8.7	16	18.5	18.2	M10x17	45	39.85	20	17	14	105	22.5	M12x37	98.43	112.66	3.56	2.35	2.35	2.38	11.51
PGH45LR	70	9.7	20.5	86	60	13	80	133.6	174	13	8.7	16	18.5	18.2	M10x17	45	39.85	20	17	14	105	22.5		125.58	159.6	5.05	4.45	4.45	3.01	11.51

Note: 1kgf=9.81N

4-4 PGH Steel Strip Linear Guide

PGH-C/PGH-LC Series Specifications



Model No.	Dimensions of Assembly (mm)			Dimensions of Block(mm)														Dimensions of Rail(mm)						Mounting Bolt for Rail (mm)	Basic Dynamic Load Rating C(kN)	Basic Static Load Rating C0(kN)	Static Rated Moment			Weight		
	H	H1	N	W	B	B1	C	C1	L1	L	G	K2	T	T1	H2	H3	M	WR	HR	D	h	d	P				E	MR	MP	MY	Block kg	Rail kg/m
PGH15C	24	4.1	16	47	38	4.5	30	26	39.6	58.2	6	4.25	5	6.5	3.8	3.8	M5	15	16.2	7.5	5.9	4.5	60	20	M4x17	14.7	19.52	0.19	0.14	0.14	0.14	1.58
PGH20C	30	4.62	21.5	63	53	5	40	35	52.5	74.9	6	5.5	6.5	7.7	3.7	3.5	M6	20	20.55	9.5	8.5	6	60	20	M5x19	23.7	30.51	0.37	0.28	0.28	0.36	2.48
PGH20LC	30	4.65	21.5	63	53	5	40	35	68.5	90.9	6	5.5	6.5	7.7	3.7	3.5	M6	20	20.55	9.5	8.5	6	60	20		28.6	39.9	0.48	0.48	0.48	0.47	2.48
PGH25C	36	6.1	23.5	70	57	6.5	45	40	61	84	13	5	7	9.3	6	5.5	M8	23	24.25	11	9	7	60	20	M6x22	34.96	43.94	0.6	0.49	0.49	0.53	3.38
PGH25LC	36	6.1	23.5	70	57	6.5	45	40	78.4	101.4	13	5	7	9.3	6	5.5	M8	23	24.25	11	9	7	60	20		40.5	54.08	0.74	0.73	0.73	0.68	3.38
PGH30C	42	7	31	90	72	9	52	44	69	97.4	13	8.7	10.5	12	6.7	7	M10	28	28.35	14	12	9	80	20	M8x25	46	55.19	0.95	0.7	0.7	0.9	5.1
PGH30LC	42	7	31	90	72	9	52	44	91.5	119.9	13	8.7	10.5	12	6.7	7	M10	28	28.35	14	12	9	80	20		58.59	78.18	1.35	1.23	1.23	1.19	5.1
PGH35C	48	7.6	33	100	82	9	62	52	79	111.4	13	7	10.1	13.1	9	7	M10	34	31.85	14	12	9	80	20	M8x28	61.17	79.3	1.73	1.09	1.09	1.37	7.14
PGH35LC	48	7.6	33	100	82	9	62	52	103.4	135.8	13	7	10.1	13.1	9	7	M10	34	31.85	14	12	9	80	20		77.9	112.34	2.46	2.02	2.02	1.79	7.14
PGH45C	60	9.7	37.5	120	100	10	80	60	97.2	137.6	13	8.7	13.5	15	8.5	8.1	M12	45	39.85	20	17	14	105	22.5	M12x37	98.43	112.66	3.56	2.35	2.35	2.45	11.51
PGH45LC	60	9.7	37.5	120	100	10	80	60	133.6	174	13	8.7	13.5	15	8.5	8.1	M12	45	39.85	20	17	14	105	22.5		125.58	159.6	5.05	4.45	4.45	3	11.51

Note: 1kgf=9.81N

5-5 YGG High Rigidity Roller Type

■ 5-5-1 The Structure of YGG-series

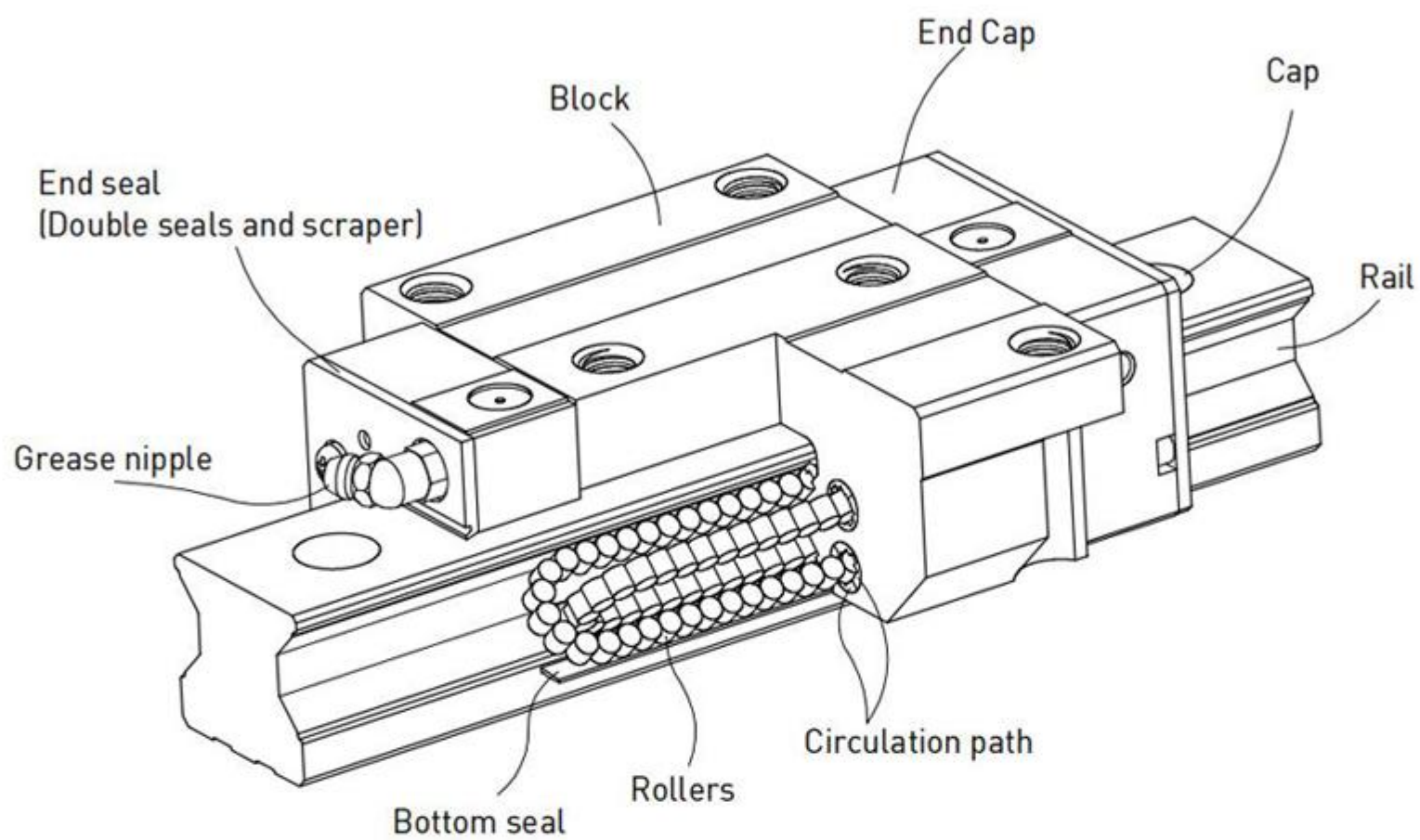


Fig 5.1

- 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

5-5 YGG High Rigidity Roller Type

5-5-2 Nominal Model Code of YGG Type

YGG series linear guideways are classified into non-interchangeable and interchangeable types. The sizes of these two types are the same as one another. The main difference is that the interchangeable type of blocks and rails can be freely exchanged and they can maintain P-class accuracy. Because of strict dimensional control, the interchangeable type linear guideways are a wise choice for customers when rails do not need to be matched for an axis. The model number of the YGG series identifies the size, type, accuracy class, preload class, etc.

Non-interchangeable Type code:

Y G G 20 L C - 2 - □ - 1200 - N - Z0 - II - U + N3 N3

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮

① Nominal Model	② Block Type	③ Height of Assembly Type	④ Dimension
Y	G : Standard	R : Low-Assembly L : Middle-Assembly H : High-Assembly	15, 20, 25, 30, 35, 45, 55, 65

⑥ Flange Type	⑤ Length of Block	⑦ Number of Block Per Rail	⑧ Accessory Code
C : With Flange R : Square	N : Normal L : Long	EX : 2	□ : Standard (Please refer to page A26)

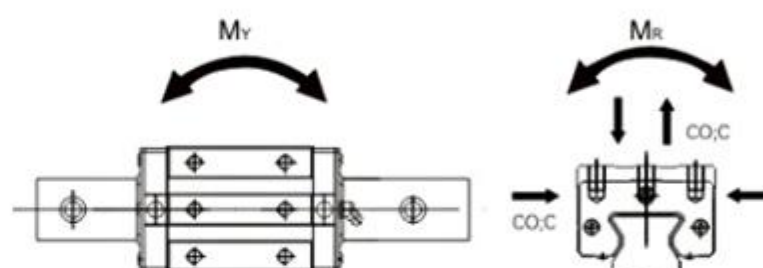
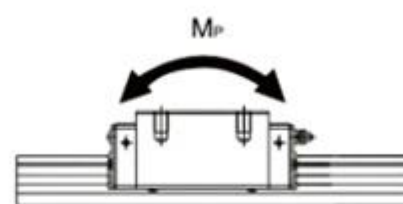
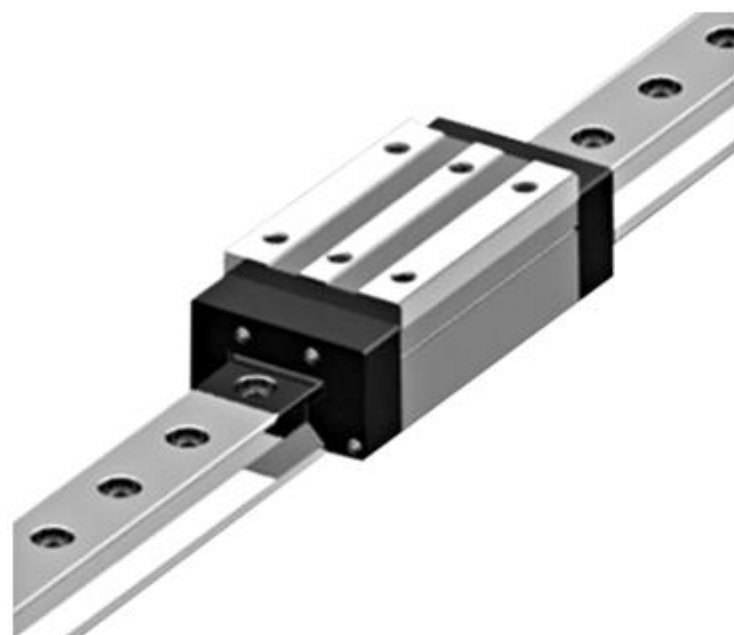
⑨ Length of Rail	⑩ Accuracy Grade	⑪ Preload	⑫ Two Sets per Axis	⑬ Rail Special Machining
Unit : mm	N : Normal H : High P : Precision SP : Super-Precision UP : Ultra-Precision	ZF : Slight Clearance Z0 : No Preload Z1 : Light Preload Z2 : Medium Preload Z3 : Heavy Preload	II	U : Tapped-Hole Rail E : Rail with Special Machining

⑭ Block Surface Treatment	⑮ Rail Surface Treatment
S : Standard	S : Standard
B1 : Black Oxidation	B1 : Black Oxidation
N1 : Hard Chrome Plating	N1 : Hard Chrome Plating
P : Phosphating	P : Phosphating
N3 : Nickel Plating	N3 : Nickel Plating
N4 : Raydent	N4 : Raydent
N5 : Chrome Plating	N5 : Chrome Plating

※ No symbol required when plating is not needed.

5-5 Roller Linear Guide

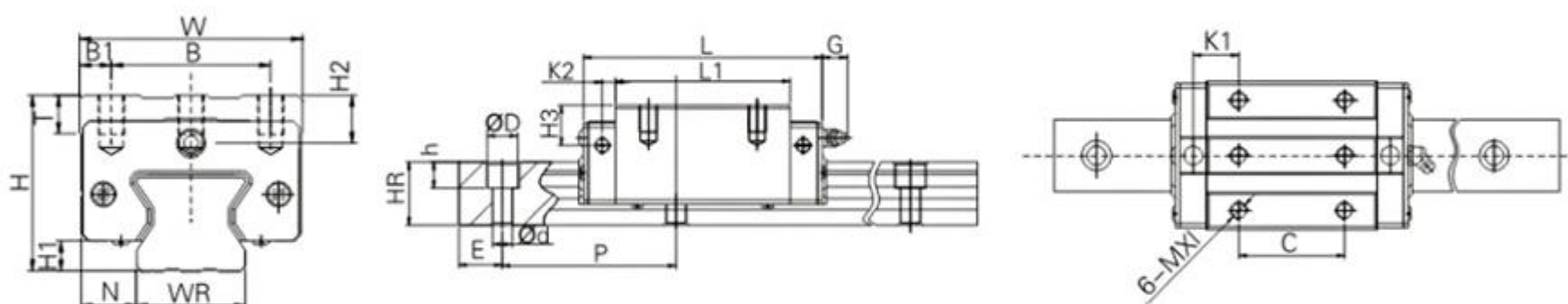
YGG-R/YGG-LR Series Specifications



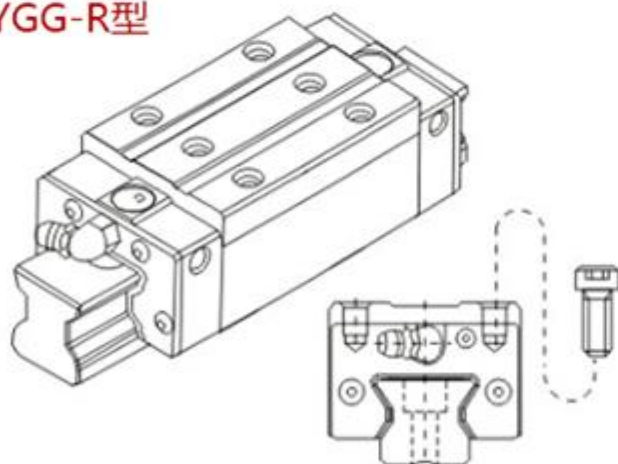
A

Linear Guide

• YGG-R型 YGG-LR型



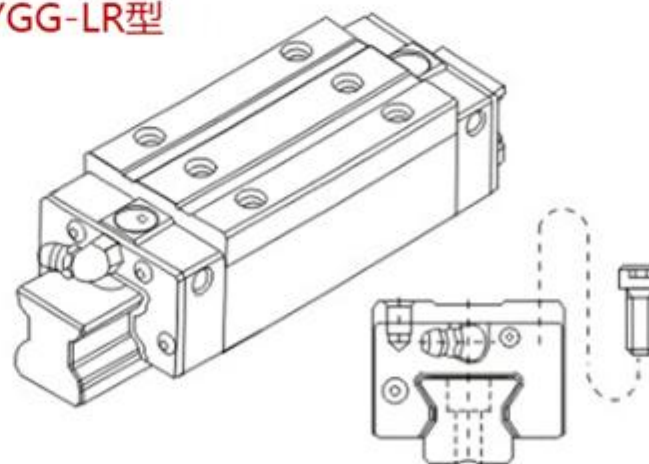
• YGG-R型



缩小滑块的宽度，可以从滑块的上面进行装配

Reduce the width of the block, can install from the upside of the block

• YGG-LR型



与YGG-R型具有相同的断面尺寸，增加了滑轨的长度，并增加了负荷滚柱数，提升整体的负荷能力

Same cross section to TRG-B, lengthened the block's length, increase the quantity of roller, enhance the rated load capacity

YOSO MOTION LINEAR GUIDE

5-5 Roller Linear Guide

A

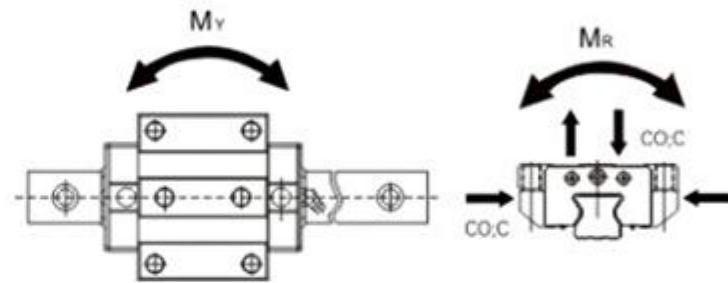
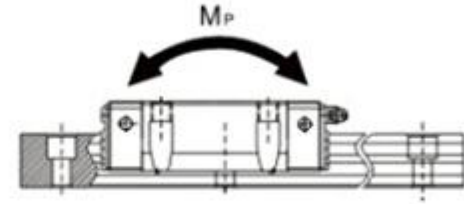
Linear Guide

Model	Component			Slider Dimensions													Grease Nipple Specification
	H	H1	N	W	B	B1	C	L1	L	K1	K2	G	MXL	T	H2	H3	
YGG20R	34	5	12	44	32	6	36	57.5	86	15.8	6	5.3	M5X8	8	8.3	8.3	G-M6
YGG20LR							50	77.5	106	18.8							
YGG25R	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	G-M6
YGG25LR							50	81	114.4	21.5							
YGG30R	45	6	16	60	40	10	40	71	109.8	23.5	8	12	M8X10	9.5	9.5	10.3	G-M6
YGG30LR							60	93	131.8	24.5							
YGG35R	55	6.5	18	70	50	10	50	79	124	22.5	10	12	M8X12	12	16	19.6	G-M6
YGG35LR							72	106.5	151.5	25.5							
YGG45R	70	8	20.5	86	60	13	60	106	153.2	31	10	12.9	M10X17	16	20	24	G-PT1/8
YGG45LR							80	139.8	187	37.9							
YGG55R	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	G-PT1/8
YGG55LR							95	173.8	232	51.9							
YGG65R	90	12	31.5	126	76	25	70	160	232	60.8	15.8	12.9	M16X20	25	15	15	G-PT1/8
YGG65LR							120	223	295	67.3							

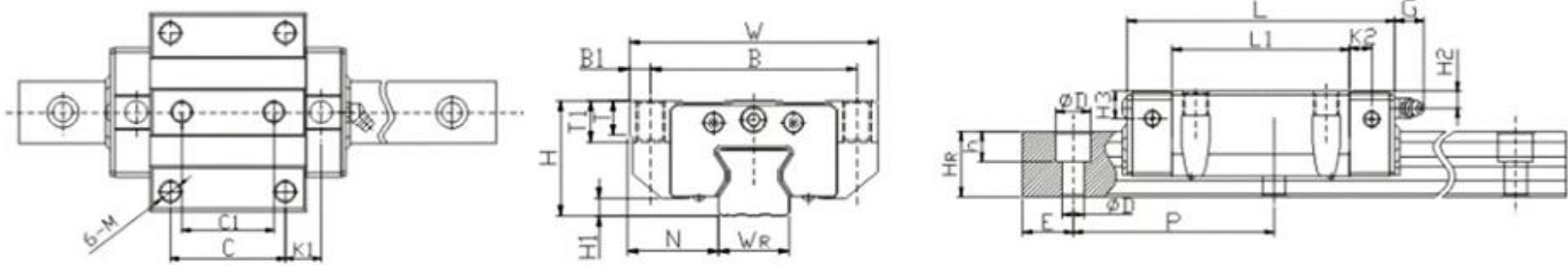
Model	Rail Dimensions(mm)							Tightening Bolt of Rail (mm)	Basic Load Rating		Allowable Static Torque			Weight	
	WR	HR	D	h	d	P	E		C(KN)	Co(KN)	MR KN-m	MP KN-m	MY KN-m	Block(kg)	Rail(kg/m)
YGG20R	20	21	9.5	8.5	6	30	20	M5X20	21.3	46.7	0.647	0.46	0.46	0.44	2.76
YGG20LR									26.9	63	0.872	0.837	0.837	0.62	
YGG25R	23	23.6	11	9	7	30	20	M6X20	27.7	57.1	0.758	0.605	0.605	0.67	3.08
YGG25LR									33.9	73.4	0.975	0.991	0.991	0.86	
YGG30R	28	28	14	12	9	40	20	M8X25	39.1	82.1	1.445	1.06	1.06	1.06	4.41
YGG30LR									48.1	105	1.846	1.712	1.712	1.42	
YGG35R	34	30.2	14	12	9	40	20	M8X25	57.9	105.2	2.17	1.44	1.44	1.61	6.06
YGG35LR									73.1	142	2.93	2.6	2.6	2.21	
YGG45R	45	38	20	17	14	52.5	22.5	M12X35	92.6	178.8	4.52	3.05	3.05	3.22	9.97
YGG45LR									116	230.9	6.33	5.47	5.47	4.41	
YGG55R	53	44	23	20	16	60	30	M14X45	130.5	252	8.01	5.4	5.4	5.18	13.98
YGG55LR									167.8	348	11.15	10.25	10.25	7.34	
YGG65R	63	53	26	22	18	75	35	M16X50	213	411.6	16.2	11.59	11.59	11.04	20.22
YGG65LR									275.3	572.7	22.55	22.17	22.17	15.75	

5-5 Roller Linear Guide

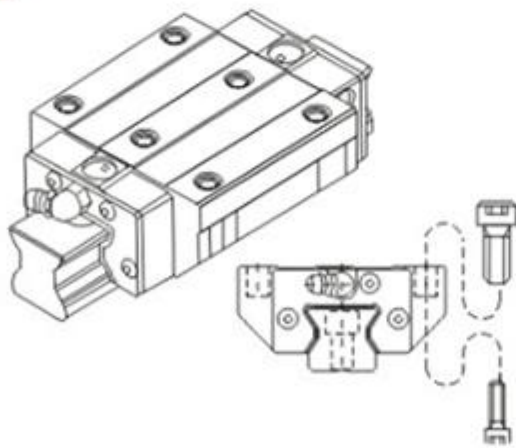
YGG-C/YGG-LC Series Specifications



• YGG-C型 YGG-LC型



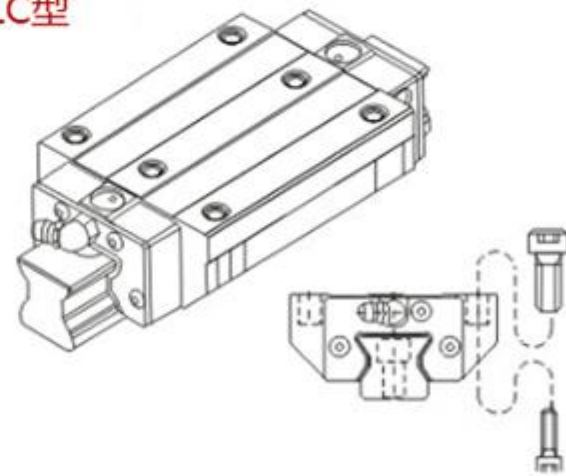
• YGG-C型



除了可以从滑块的上面进行装配外，同时又适用于螺栓无法贯穿工作台的状态下使用，从滑块的底面往上进行装配

Can install from the upside of block,can also install from the bottom of the block when bolt can't run through the operating platform

• YGG-LC型



与YGG-C型具有相同断面尺寸，增加了滑块的长度，增加负荷滚柱数，提升整体的负荷能力

Same cross section to YGG-C, lengtened the block's length,increase the quantity of roller,enhance the rated load capacity

YOSO MOTION LINEAR GUIDE

5-5 Roller Linear Guide

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Linear Guide

Model	Component			Slider Dimensions															Grease Nipple Specification
	H	H1	N	W	B	B1	C	C1	L1	L	K1	K2	G	M	T	T1	H2	H3	
YGG20C	30	5	21.5	63	53	5	40	35	57.5	86	13.8	6	5.3	M6	8	10	4.3	4.3	G-M6
YGG20LC									77.5	106	12.8								
YGG25C	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	G-M6
YGG25LC									81	114.4	24								
YGG30C	42	6	31	90	72	9	52	44	71	109.8	17.5	8	12	M10	9.5	10	6.5	7.3	G-M6
YGG30LC									93	131.8	28.5								
YGG35C	48	6.5	33	100	82	9	62	52	79	124	16.5	10	12	M10	12	13	9	12.6	G-M6
YGG35LC									106.5	151.5	30.25								
YGG45C	60	8	37.5	120	100	10	80	60	106	153.2	21	10	12.9	M12	14	15	10	14	G-PT1/8
YGG45LC									139.8	187	37.9								
YGG55C	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	G-PT1/8
YGG55LC									173.8	232	51.9								
YGG65C	90	12	53.5	170	142	14	110	82	160	232	40.8	15.8	12.9	M16	22	23	15	15	G-PT1/8
YGG65LC									223	295	72.3								

Model	Rail Dimensions(mm)							Tightening Bolt of Rail (mm)	Basic Load Rating		Allowable Static Torque			Weight	
	WR	HR	D	h	d	P	E		C(KN)	Co(KN)	MR KN-m	MP KN-m	MY KN-m	Block(kg)	Rail(kg/m)
YGG20C	20	21	9.5	8.5	6	30	20	M5X20	21.3	46.7	0.647	0.46	0.46	0.44	2.76
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YGG25C	23	23.6	11	9	7	30	20	M6X20	27.7	57.1	0.758	0.605	0.605	0.67	3.08
YGG25LC									33.9	73.4	0.975	0.991	0.991	0.86	
YGG30C	28	28	14	12	9	40	20	M8X25	39.1	82.1	1.445	1.06	1.06	1.06	4.41
YGG30LC									48.1	105	1.846	1.712	1.712	1.42	
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YGG55LC									167.8	348	11.15	10.25	10.25	7.34	
YGG65C	63	53	26	22	18	75	35	M16X50	213	411.6	16.2	11.59	11.59	11.04	20.22
YGG65LC									275.3	572.7	22.55	22.17	22.17	15.75	