

# Linear Guide Specification Sheet For New Applications

Customer Name:

Date:

Customer POC:

PO Number:

Customer Phone:

Customer Email:

Application:

ex: machine tool, transport, etc



Phone: 1-800-255-4773  
Fax: (317)738-5050

### Speed and Travel:

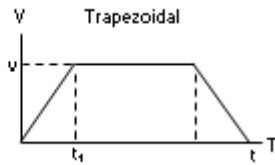
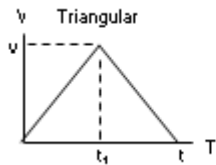
Stroke:  mm

Stroke Time (t):  sec

Max Speed:  m/min

Acceleration:  m/s<sup>2</sup>

Ramp Time (t1):  sec



### Environment:

Temperature Range:  deg C  
 deg F

- General Industry
- Wash Down
- Clean Room
- Vacuum
- Outside Use
- Splash
- Corrosive
- High Humidity
- Contaminated
- Food/Medical

Other Comments:

### Duty Cycle:

Life Expectation:  (Years)

Cycles Per Hour:

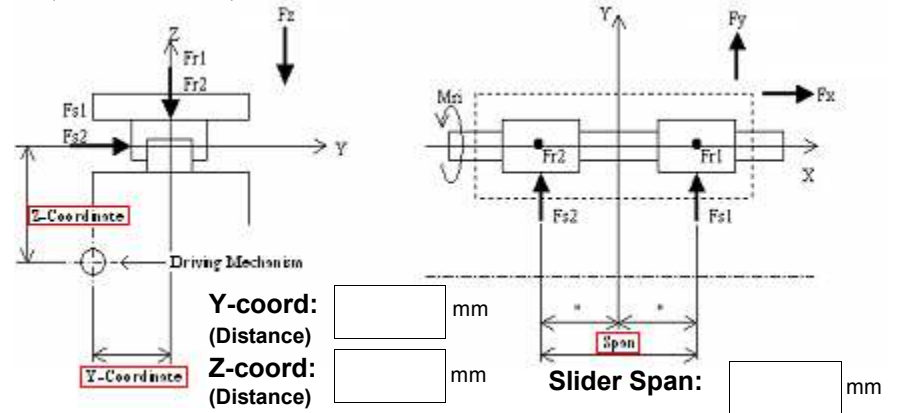
Operating Hours:  (Per Day)

Operating Days:  (Per Year)

Application Details (Please enter any other special considerations not covered):

### Load Conditions:

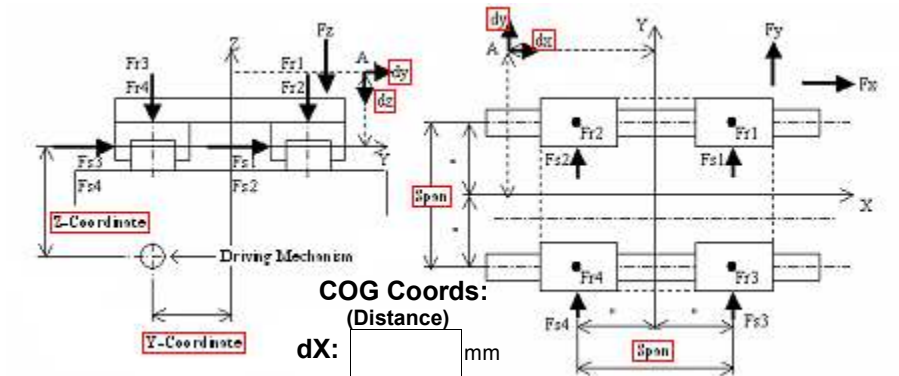
Mounting Position:   
(Horizontal/Vertical)



Y-coord:  mm  
(Distance)

Z-coord:  mm  
(Distance)

Slider Span:  mm



COG Coords: (Distance)

dX:  mm

dY:  mm

dZ:  mm

Slider Span:  mm

Rail Span:  mm

Y-coord:  mm  
(Distance)

Z-coord:  mm  
(Distance)

# Linear Guide Sizing Specification Sheet

Customer Name:

Date:

Customer POC:

PO Number:

Customer Phone:

Customer Email:



Application:  ex: machine tool, transport, etc

Phone: 1-800-255-4773

Fax: (317)738-5050

Series:  See page 2 for more details

Size:  Slider Shape:

Number of Sliders Per Rail:

Grease:

Surface Treatment:

Accuracy:  For interchangeable type part numbers, only PC accuracy is available. See the Precision Machine Components Catalog (pg A22) for more details.

Preload:  See page 2 for more details

Rail Material:  Standard: High Carbon Steel  
Optional: Stainless Steel

Part Number:

Quantity:  Matched Set?  Yes  No

Datum Setup  W2  W3

**Accessories:**

- NSK K1
- Multiple K1  
(Please add comments)
- Double Seals
- Metal Protector
- Brass Rail Hole Caps
- Plastic Rail Hole Caps

**Comments:**

- Standard Cut: +/- 0.5 mm
- Butting Cut: 0~-0.5 mm

Overall Rail Length (mm):

Rail A Length (mm):

Rail B Length (mm):

G1 Dimension (mm):

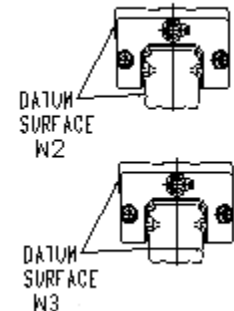
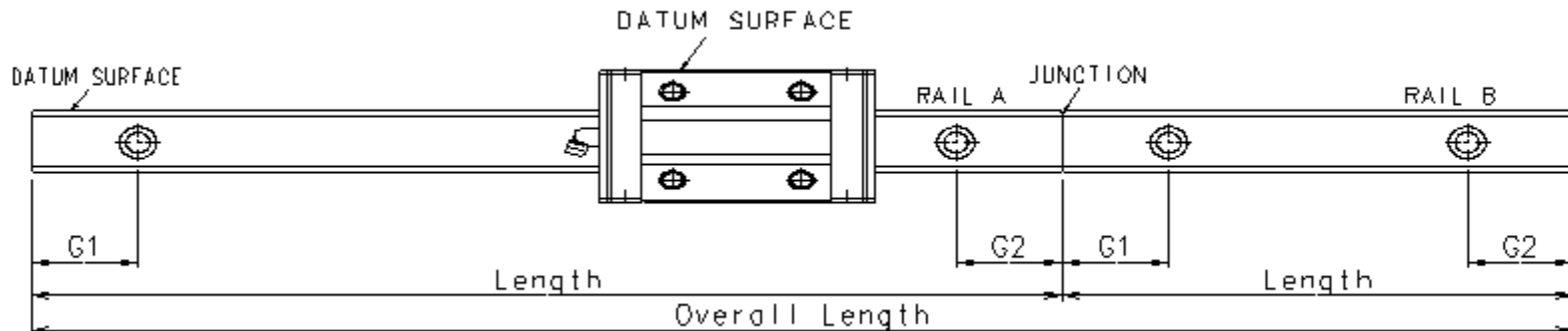
G2 Dimension (mm):

Rail A G1 (mm):

Rail A G2 (mm):

Rail B G1 (mm):

Rail B G2 (mm):



# NSK Linear Guide Explanation of Terms

## Series:

- LH: Self-aligning for high loads in vertical direction, resistant to impact loads
- LS: Self-aligning for medium loads in vertical direction, resistant to impact loads
- LW: Wide design for single rail applications
- LE/PE: Wide miniature design for single rail applications, stainless steel standard
- LU/PU: Miniature design with equal load carrying capacity in vertical and lateral directions

## Shapes:

Series	Ball slide model	Shape/installation method	Series	Ball slide model	Shape/installation method	Series	Ball slide model	Shape/installation method
LH SH	AL AH BN BL		LS SS	AL CL		LW	EL	
	EM GM			EM		LE	AL TL BL UL CL SL AR TR	
							LU	AL TL BL UL AR TR

\*Please refer to the Precision Machine Components catalog for available sizes by series and shape

\*\* EL, GL, FL, and HL shapes for LH and LS series linear guides are equivalent to the EM/GM shapes

## Surface Treatment:

- Available surface treatments are:
- Armoly Coating
  - Low Temp Chrome Plating
  - Fluorine Low Temp Chrome Plating

## Preload:

### LH Series (interchangeable type)

Clearance and preload of interchangeable type in LH Series

Model No.	Unit: $\mu\text{m}$	
	Fine clearance	Slight preload
	ZT	ZZ
LH15	-4~15	-4~0
LH20	-5~15	-5~0
LH25		-5~0
LH30		-7~0
LH35		-7~0
LH45		-7~0
LH55		-9~0
LH65		-9~0

Minus sign denotes that a value is an amount of preload (elastic deformation of balls).

### LW Series (interchangeable type)

Preload and clearance of interchangeable type of LW Series

Model No.	Unit: $\mu\text{m}$	
	Fine clearance	Slight preload
	ZT	ZZ
LW17	-3~15	-3.5~0
LW21	-3~15	-3.5~0
LW27	-4~15	-4~0
LW35	-5~15	-5~0
LW50	-5~15	-7~0

Minus sign denotes that a value is an amount of preload (elastic deformation of balls).

### LS Series (interchangeable type)

Preload and clearance of interchangeable type of LS Series

Model No.	Unit: $\mu\text{m}$	
	Fine clearance	Slight preload
	ZT	ZZ
LS15	-4~15	-4~0
LS20	-4~15	-4~0
LS25	-5~15	-5~0
LS30	-5~15	-5~0
LS35	-5~15	-6~0

Minus sign denotes that a value is an amount of preload (elastic deformation of balls).

### LU Series (interchangeable type)

Clearance of interchangeable type of LU Series

Model No.	Unit: $\mu\text{m}$	
	Fine clearance	
	ZT	
LU09	0~15	
LU12		
LU15		

### LE Series (interchangeable type)

Clearance of interchangeable type of LE Series

Model No.	Unit: $\mu\text{m}$	
	Fine clearance	
	ZT	
LE09	0~15	
LE12		
LE15		

### Running parallelism of ball slide

Rail over all length (mm) over   of less	Unit: $\mu\text{m}$	
	Interchangeable type	
	Normal grade PC	
~50	6	
50~80	6	
80~125	6.5	
125~200	7	
200~250	8	
250~315	9	
315~400	11	
400~500	12	
500~630	14	
630~800	16	
800~1000	18	
1000~1250	20	
1250~1600	23	
1600~2000	26	
2000~2500	29	
2500~3150	32	
3150~4000	34	

# NSK Linear Guide Explanation of Terms

## Accuracy:

For interchangeable part numbers, only PC accuracy is available.

Mounting height  $H$  - distance from rail bottom datum face to ball slide top face.

Mounting width - Distance from rail side datum face to ball slide side datum face.

Running parallelism - variation of top of ball slide to bottom of rail or from side of ball slide to side of rail when the ball slide is moving.

Tolerance of LH Series interchangeable type: Normal grade PC

Unit:  $\mu\text{m}$

Model No.		LH15, 20, 25, 30, 35	LH45, 55, 65
Interchangeable type with clearance	Mounting height $H$	$\pm 20$	$\pm 30$
	Variation of mounting height $H$	15① 30②	20① 35②
	Mounting width $W_2$ or $W_3$	$\pm 30$	$\pm 35$
	Variation of mounting width $W_2$ or $W_3$	25	30
Interchangeable type with preload	Mounting height $H$	$\pm 20$	$\pm 30$
	Variation of mounting height $H$	15① 30②	20① 35②
	Mounting width $W_2$ or $W_3$	$\pm 30$	$\pm 35$
	Variation of mounting width $W_2$ or $W_3$	25	30

Tolerance of LS and LW Series interchangeable type: Normal grade PC

Unit:  $\mu\text{m}$

Model No.		LS15, 20, 25, 30, 35 LW17, 21, 27, 35, 50
Mounting height $H$		$\pm 20$
Variation of mounting height $H$		15① 30②
Mounting width $W_2$ or $W_3$		$\pm 30$
Variation of mounting width $W_2$ or $W_3$		25

Tolerance of interchangeable type in LE and LU Series

Normal grade (PC)

Unit:  $\mu\text{m}$

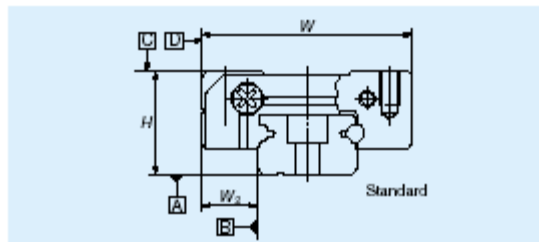
Model No.		LU09, 12, 15 LE09, 12, 15
Mounting height $H$		$\pm 20$
Variation of $H$		40
Mounting width $W_2$ or $W_3$		$\pm 20$
Variation of width $W_2$ or $W_3$		40

Note:

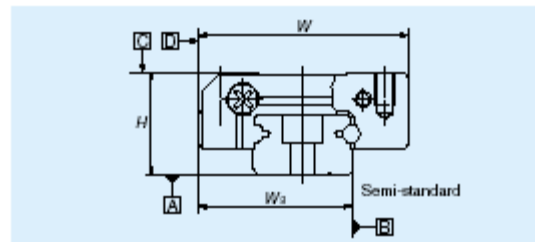
① Variation on the same rail

② Variation on multiple rails

## Datum Setup:



Mounting width ( $W_2$ )



Mounting width ( $W_3$ )

## Matched Set:

A matched set is a set of two or more rail and ball slide setups that are ground to the appropriate height variation tolerances.