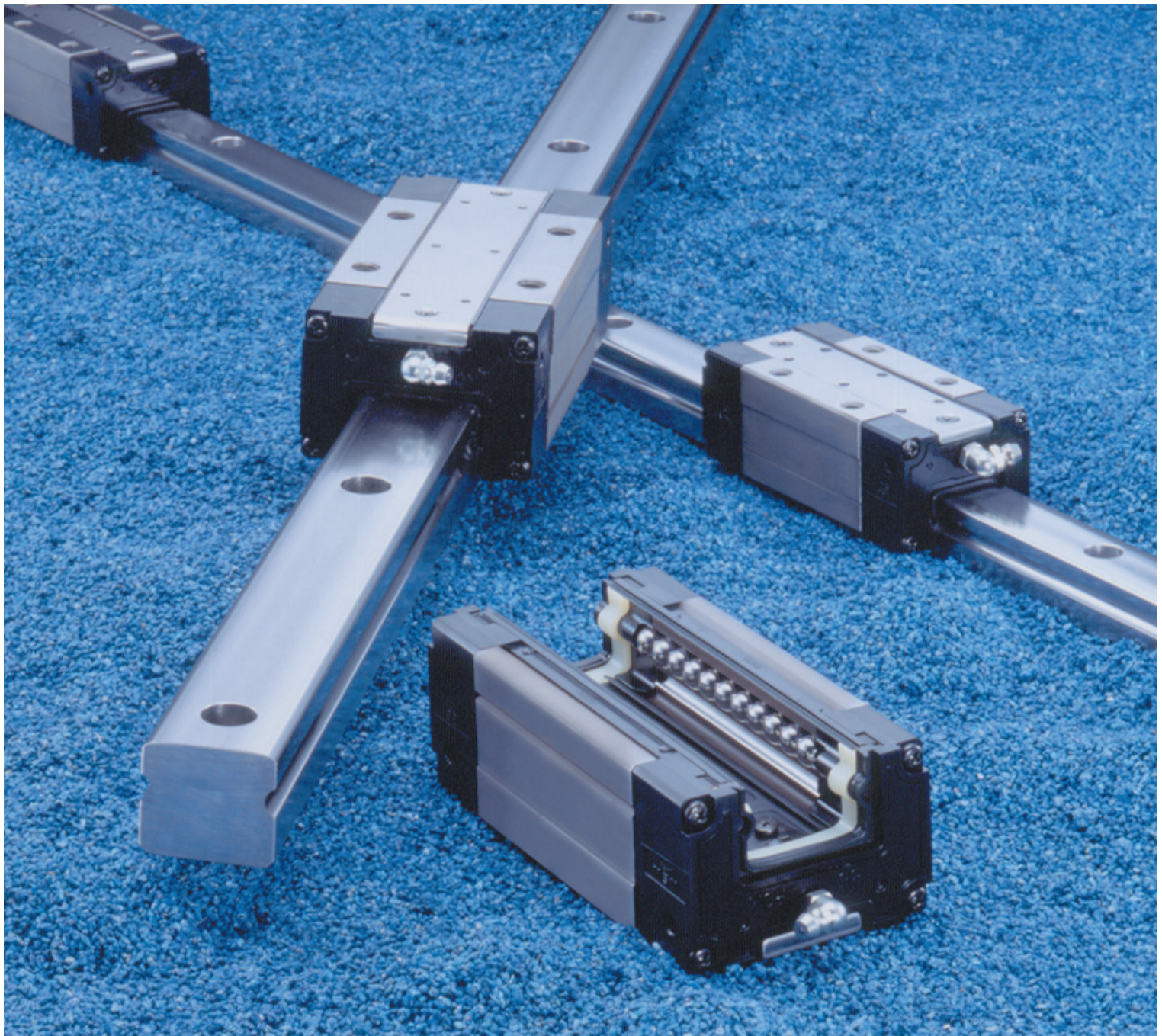


# New Type of Rolling Element Linear Motion Bearing

## Translide™

Extended lineup with individual parts for rails and sliders available for purchase. Innovative rolling element linear motion bearing achieves superior cost effectiveness. Standard features include NSK K1™ lubrication unit and high performance seal; especially suitable for transport equipment.

Patent Pending



# Inexpensive linear guide realized through an unprecedented manufacturing process

## New Type of Rolling Element Linear Motion Bearing—Translide™

Translide™, a new type of rolling element linear motion bearing, is well suited to transportation equipment; for example, manufacturing lines of automobiles, automobile parts, and the like. It defies all traditional understanding within the industry in every aspect, and is surely a landmark in the progress of linear motion bearing technology.

### 1 Features

- Inexpensive** ..... Newly developed manufacturing process of rail, and design review of ball slide contribute to substantial cost reductions.
- High capacity** ..... Optimum ball diameter for higher capacity design.
- High dust proof capability** ..... Dust-tight high performance end seals, bottom seals, and inner seals are built-in as a standard feature. (Optional protector is available for protection against hot debris such as welding spatters or hard contamination.)
- Maintenance free** ..... NSK K1™ lubrication unit is equipped as a standard specification for long-term maintenance-free operation.
- Rust prevention** ..... NSK provides a lineup of products with antirust surface treatment for corrosive environments.
- Interchangeable rails and ball slides (New product)** ..... Launched interchangeable type of rails and ball slides for random matching.

### 2 Structure

Enhanced dustproof design and simple structure has contributed toward longer life. (Refer to Fig. 1)

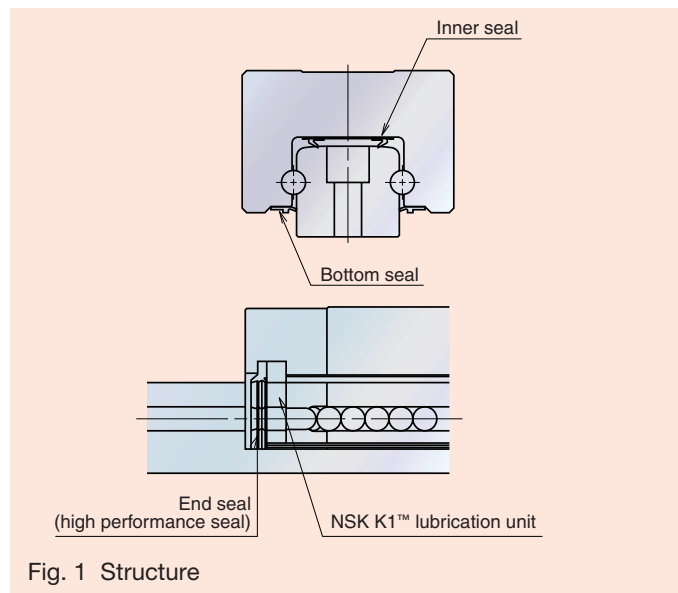
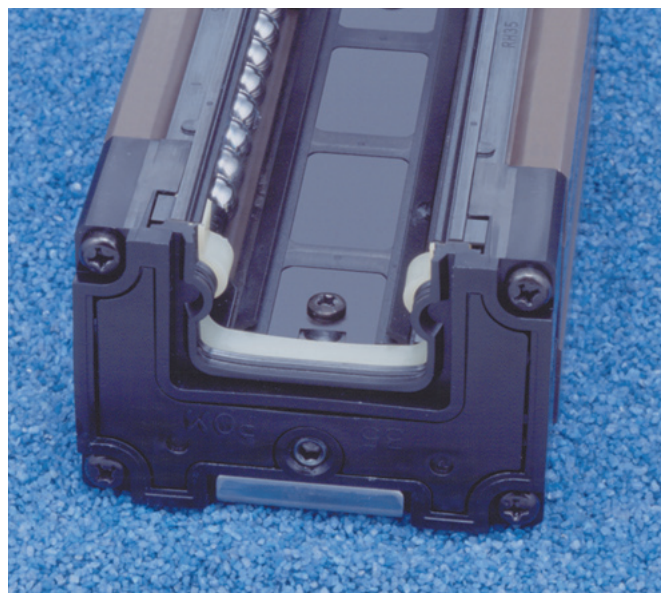


Fig. 1 Structure

Balls are glued to the tracks in order to take this picture.

### 3 Accuracy and Clearance

**Accuracy grade:** Normal grade for transportation **Running parallelism:** 100 μm or less **Clearance:** 60 μm or less

### 4 Application

Suitable for transporting equipment ..... Automobile manufacturing, machine tools (loader/un-loader), tire manufacturing equipment, woodworking machines, automatic doors, and the like.

# Extended lineup to answer various market demands

## 5 Reference Number

Reference numbers are assigned to identify a Translide after finalizing all specifications. These reference numbers will be shown on a specification drawing. Please specify the reference number to identify the product when ordering.

### 5.1 Assembled Type

**Example:** **TS 30 2400 AN P 2 - \*\* KL S**

Translide: TS  
 Model number: 30  
 Rail length (mm): 2400  
 Shape code of ball slide: AN

Surface treatment/Rails design code: P  
 Number of ball sliders assembled to a rail: 2  
 Accuracy grade: \*\*  
 Preload code S: Clearance of 60 μm or less  
 Accuracy grade KL: Normal grade for transportation  
 Design serial number: S

Surface treatment/Rails design code:  
 P: No surface treatment/Counterbores on a rail top face (Type I)  
 V: No surface treatment/Tapped holes on a rail bottom face (Type II)  
 R: Fluoride low temperature chrome plating/Counterbores on the top face of rail (Type I)  
 W: Fluoride low temperature chrome plating/Tapped holes on the bottom face of rail (Type II)

### 5.2 Interchangeable

#### (1) Interchangeable ball slide

**Example:** **TAS 30 AN - F**

Translide: Interchangeable ball slide: TAS  
 Model number: 30  
 Shape code of ball slide: AN

No code: No surface treatment + AS2 Grease  
 F: Fluoride low temperature chrome plating + AS2 Grease  
 F50: Fluoride low temperature chrome plating + LG2 Grease

#### (2) Interchangeable rail

**Example:** **T1S 30 2400 L P N T \*\* PL S**

Translide: Interchangeable rail: T1S  
 Model number: 30  
 Rail length (mm): 2400  
 Surface treatment/Rail design code: L P N T

Accuracy grade PL: Normal grade for transportation  
 Clearance code S: Clearance of 60 μm or less  
 Design serial number: S

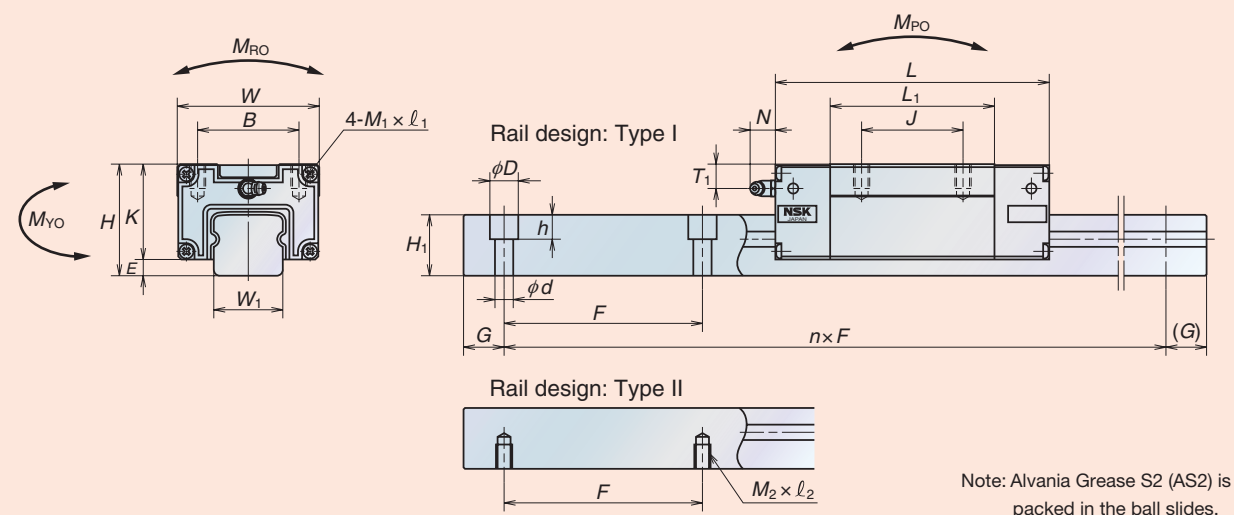
Surface treatment/Rail design code:  
 P: No surface treatment/Counterbores on a rail top face (Type I)  
 V: No surface treatment/Tapped holes on a rail bottom face (Type II)  
 R: Fluoride low temperature chrome plating/Counterbores on a rail top face (Type I)  
 W: Fluoride low temperature chrome plating/Tapped holes on a rail bottom face (Type II)

Butting rail code:  
 N: No butting  
 L: Rail for butting

## 6 Dimensions

### 6.1 Assembled Type

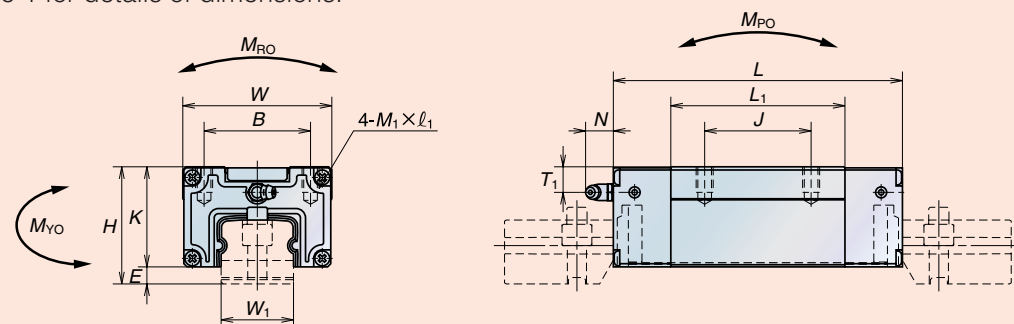
Dimensions are shown in Table 1.



### 6.2 Interchangeable Type

#### (1) Interchangeable ball slide

Refer to Table 1 for details of dimensions.



#### (2) Interchangeable rail

Refer to 6.1 Assembled Type for rail type, and Table 1 for details of dimensions.

## 7 Result of Endurance Test

Deterioration in surface roughness is not observed on ball tracks of a rail after running the distance of the estimated life. (Refer to Fig. 2)

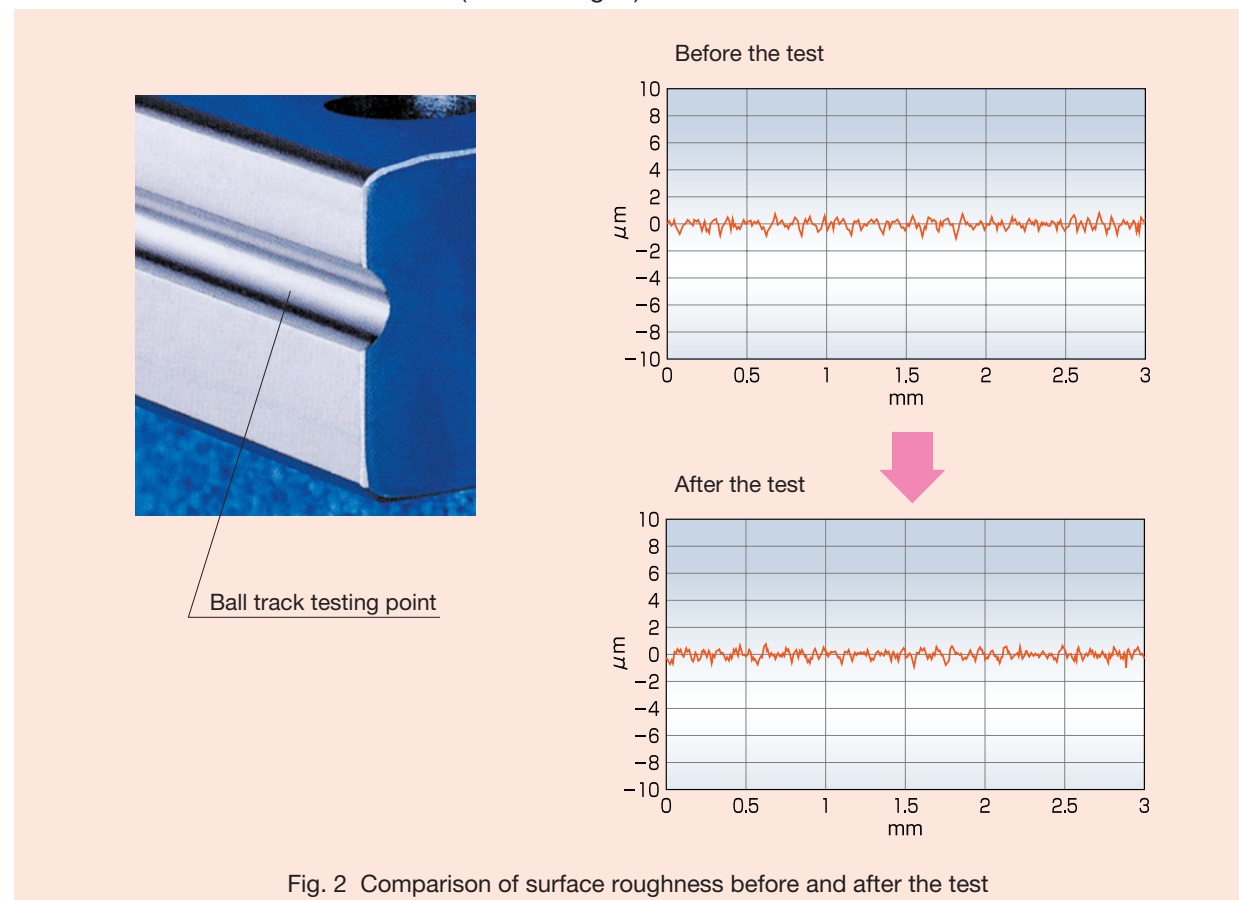


Fig. 2 Comparison of surface roughness before and after the test

### Precautions for using Translide™

Please follow the precautions below for your safety.

- Ambient temperature: 50°C maximum (80°C, instantaneous), Maximum speed: 200 m/min.
- Allowable mounting accuracy: Parallelism of two sets: 100 μm, Height variation of two sets: 500 μm/500 mm.
- Consult with NSK when using a Translide in a single rail configuration.
- Be sure to take safety measures against falling loads if you mount a Translide upside down.
- Never use in an environment where degreasing solvents are present.
- Balls fall out if a ball slide is removed from a rail. Use a provisional rail if you need to dismount a ball slide from a rail. NSK assembles interchangeable ball slides on provisional rails for shipping. Take great care when inserting a ball slide in a rail.

Table 1 Dimensions

Model number	Assembly		Ball slide										Rail							Basic load rating			Ball diameter $D_w$	Mass			
	Height $H^{\pm 0.1}$	$E$	Width $W$	Length $L$	Mounting hole			$L_1$	$K$	Grease fitting			Width $W_1$	Height $H_1$	Pitch $F$	Type I $d \times D \times h$	Type II $M_2 \times \text{Pitch} \times l_2$	G (Recommended)	Max. length $L_{dmax}^*$	Dynamic $C$ (N)	Static $C_0$ (N)	Allowable static moment load (N·m)			Ball slide (kg)	Rail (kg/m)	
	$B$	$J$	$M_1 \times \text{Pitch} \times l_1$	Screw size	$T_1$	$N$	$M_{RO}$			$M_{PO}$	$M_{VO}$																
TS15AN	28	3	34	72.2	26	26	M4 × 0.7 × 6	39	25	φ3	6.5	(5)	15	14	120	4.5 × 7.5 × 5.3	M4 × 0.7 × 6	20	1 960	9 800	11 800	92	64	64	3.968	0.21	1.5
TS20AN	30	3	44	87	32	36	M5 × 0.8 × 8	50	27	M6 × 0.75	6.5	(14)	20	15	120	6 × 9.5 × 8.5	M5 × 0.8 × 8	20	2 920	15 700	19 100	196	137	137	4.762	0.37	2.1
TS25AN	40	4	48	100	35	35	M6 × 1 × 9	58	36	M6 × 0.75	9.5	(14)	23	20	120	7 × 11 × 9	M6 × 1 × 9	20	4 000	21 800	26 000	320	217	217	5.556	0.47	3.4
TS30AN	45	6.5	60	115	40	40	M8 × 1.25 × 10	70	38.5	M6 × 0.75	9.5	(14)	28	25	160	9 × 14 × 12	M8 × 1.25 × 12	20	4 040**	31 000	37 500	565	395	395	6.350	0.77	5.3
TS35AN	55	8	70	135.8	50	50	M8 × 1.25 × 12	81.8	47	M6 × 0.75	12	(14)	34	30	160	9 × 14 × 12	M8 × 1.25 × 12	20	4 040**	46 500	53 000	970	635	635	7.937	1.3	7.7

\* For a rail over the maximum length, rails for butting connection are available. Please consult with NSK.  
\*\* The maximum length of fluoride low temperature chrome plated products is 4 000 (G=80).

The basic dynamic load rating C is a load that furnishes 50 km rating fatigue life; it is a vertical and constant load to the ball slide mounting surface. To convert C to C100 for a 100 km fatigue life, divide C by 1.26.

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