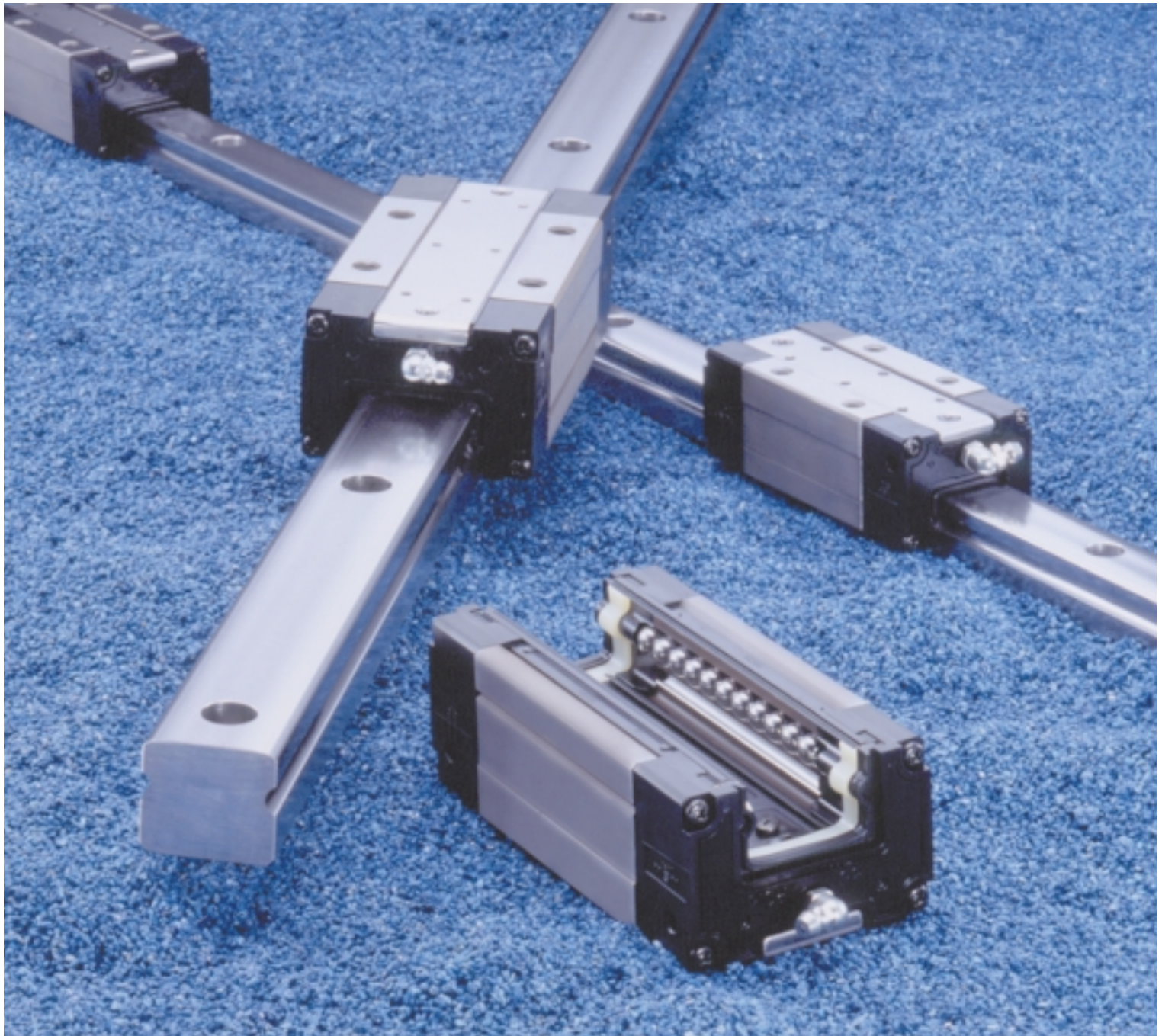


New Type of Rolling Element Linear Motion Bearing

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™

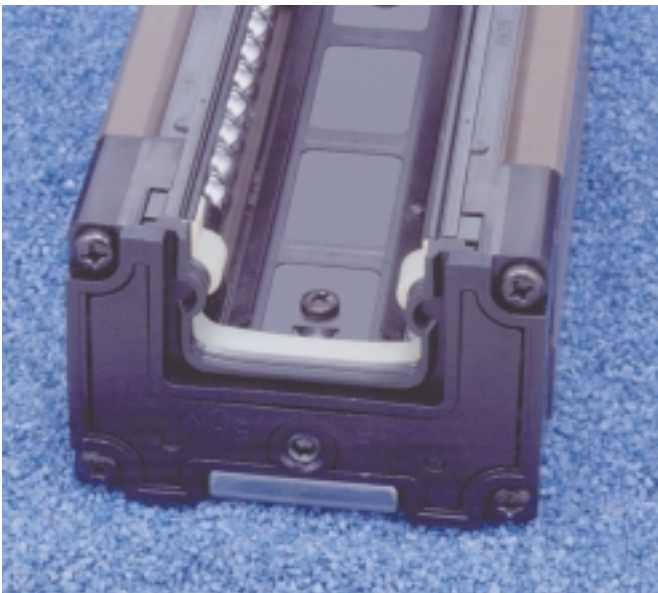
Translide™, a new type of rolling element linear motion bearing, is well suited to transportation equipment; for example, manufacturing lines of automobiles, automobile parts, and the like. It defies all traditional understanding within the industry in every aspect, and is surely a landmark in the progress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

1 Features

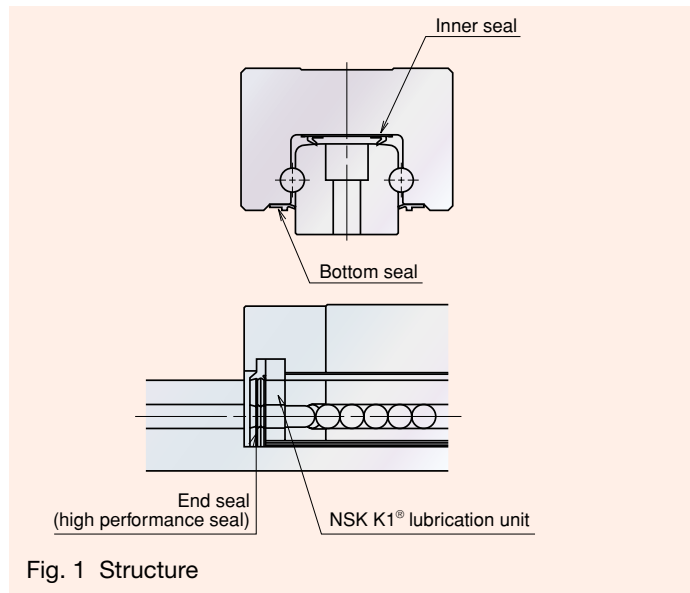
- Inexpensive** Newly developed manufacturing process of rail, and design review of ball slide contribute to substantial cost reductions.
- High capacity** Optimum ball diameter for higher capacity design.
- High dust proof capability** Dust-tight high performance end seals, bottom seals, and inner seals 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)



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

Model number

Rail length (mm)

Shape code of ball slide

Preload code S: Clearance of 60 μm or less

Accuracy grade KL: Normal grade for transportation

Design serial number

Number of ball sliders assembled to a rail

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

Model number

Shape code of ball slide

No code: No surface treatment + AV2 Grease

F: Fluoride low temperature chrome plating + AV2 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

Model number

Rail length (mm)

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)

Clearance code S: Clearance of 60 μm or less

Accuracy grade PL: Normal grade for transportation

Design serial number

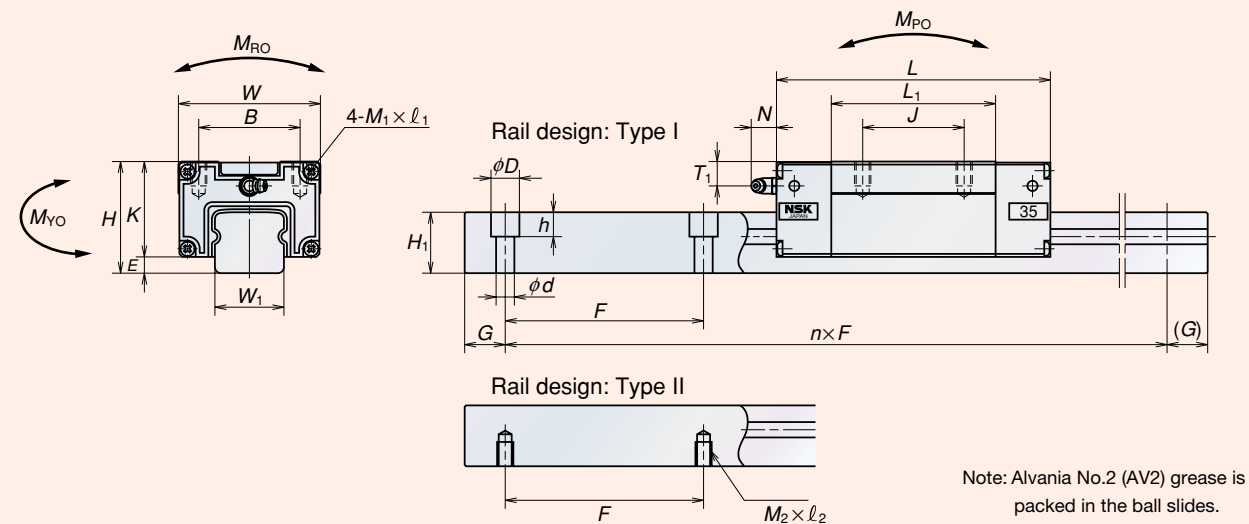
Butting rail code

- N: No butting
- L: Rail for butting

6 Dimensions

6.1 Assembled Type

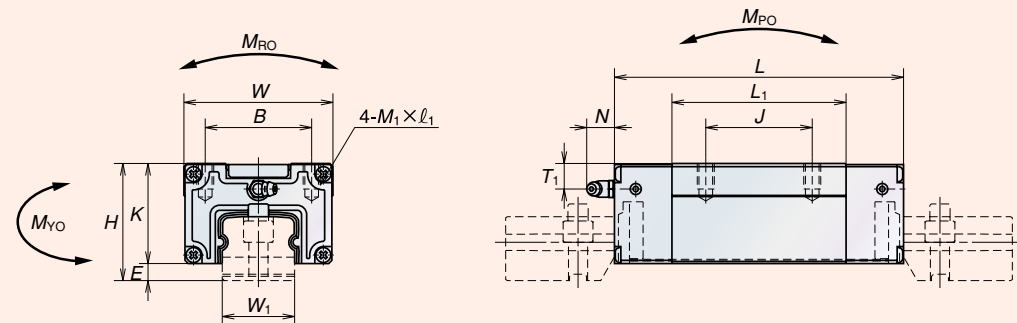
Dimensions are shown in Table 1.



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)

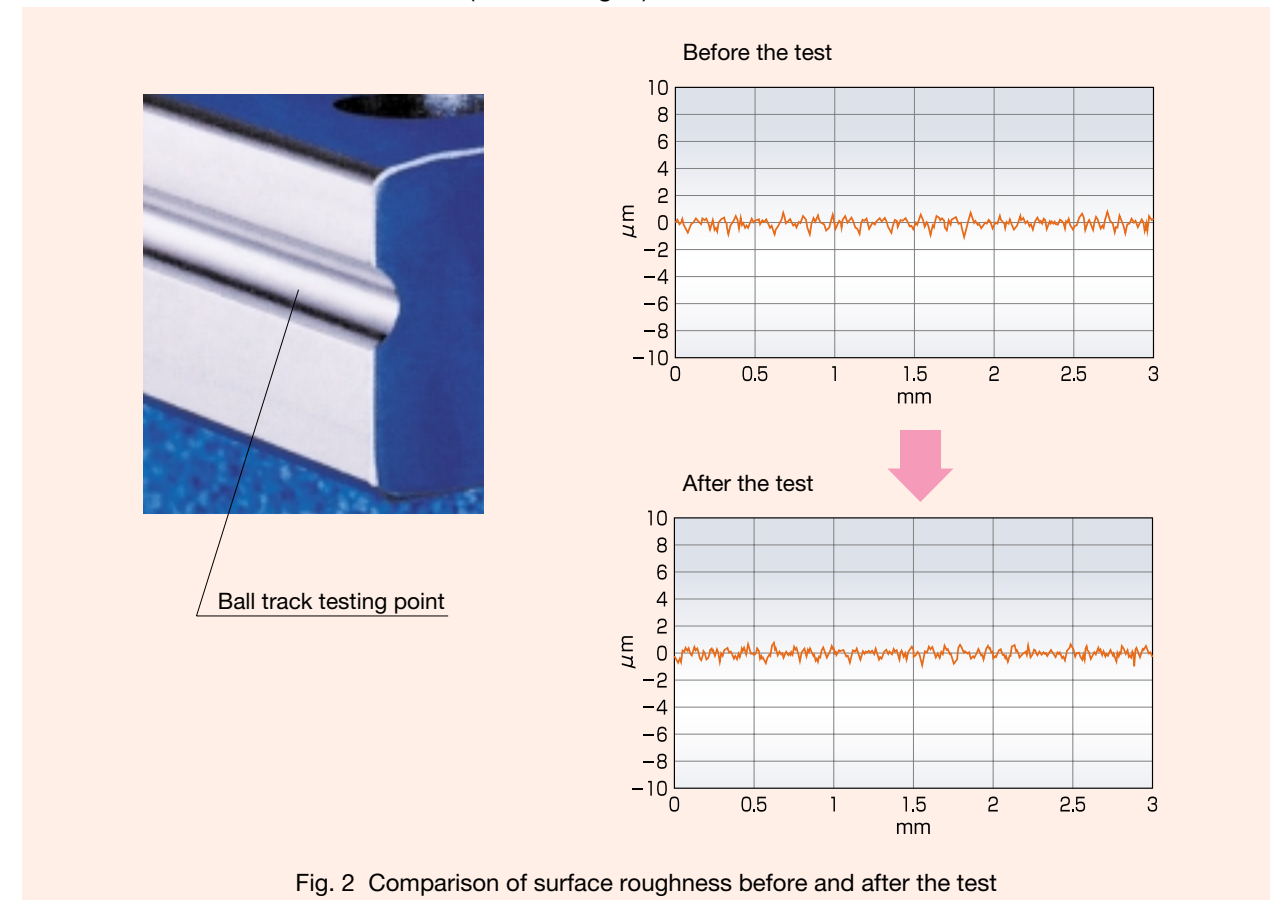


Fig. 2 Comparison of surface roughness before and after the test

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	Tapped 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_{0max}^*	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_{R0}		M_{P0}	M_{Y0}			
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	3 040	7 350	8 760	68	47	51	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	4 000	11 700	14 200	146	102	109	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	16 700	20 000	246	168	168	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	23 900	29 000	435	304	304	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	35 900	40 900	748	489	489	7.937	1.3	7.7

* For a rail over the maximum length, butting rails are available.