

New Type of Rolling Element Linear Motion Bearing

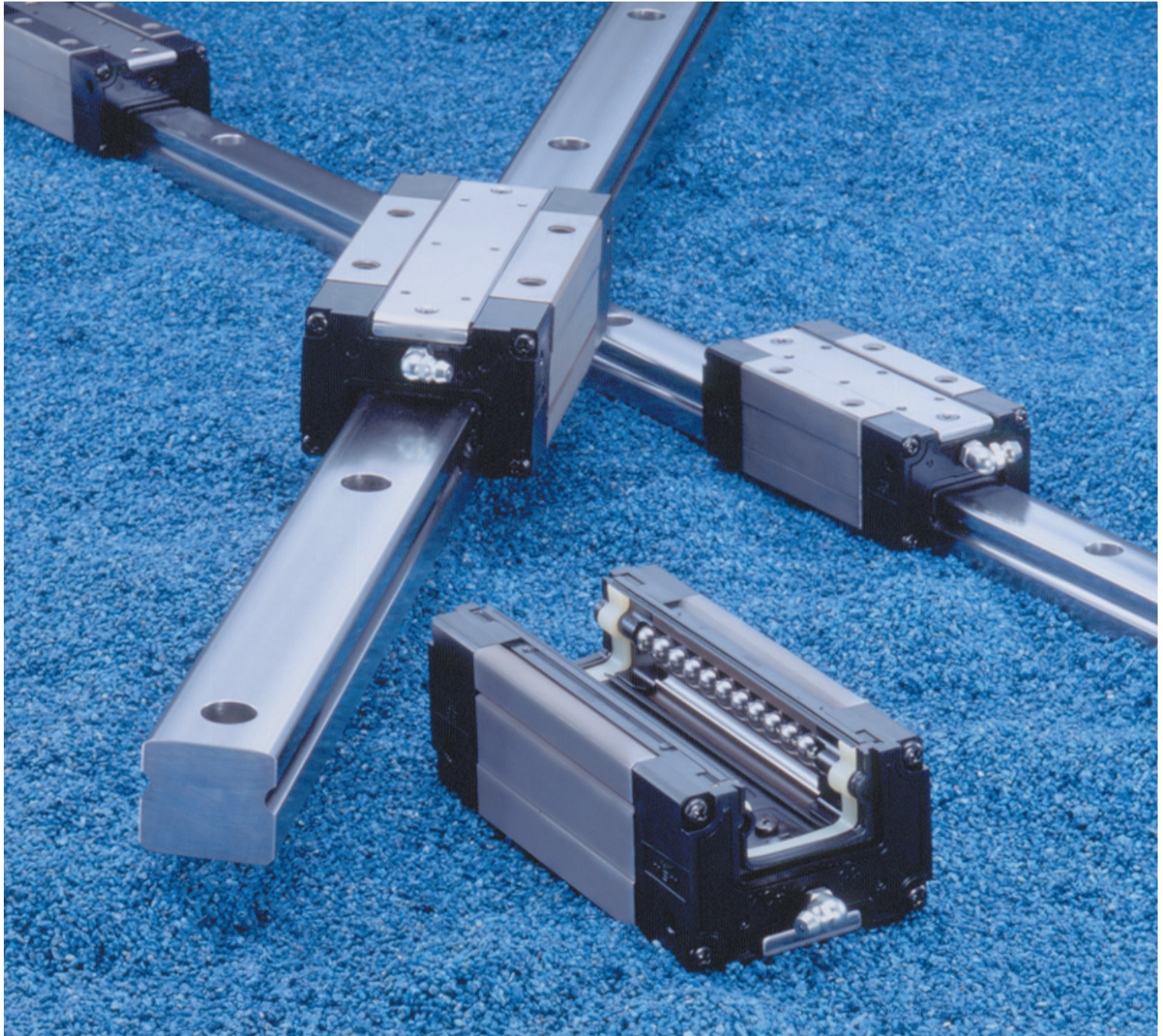
Translide™

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

Extended
Lineup

New!



Inexpensive linear guide realized through an unprecedented manufacturing process

New Type of Rolling Element Linear Motion Bearing—Translide™

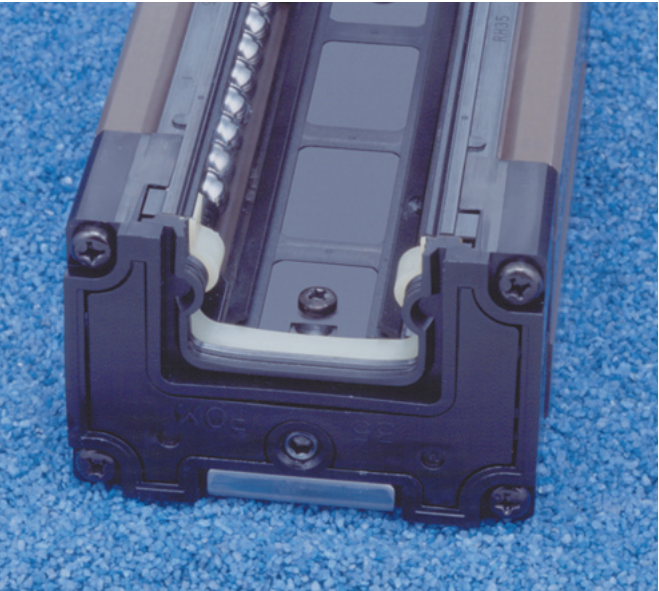
Translide™, a new type of rolling element linear motion bearing, is well suited to transportation equipment; for example, manufacturing lines of automobiles, automobile parts, and the like. It defies all traditional understanding within the industry in every aspect, and is surely a landmark in the progress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

1 Features

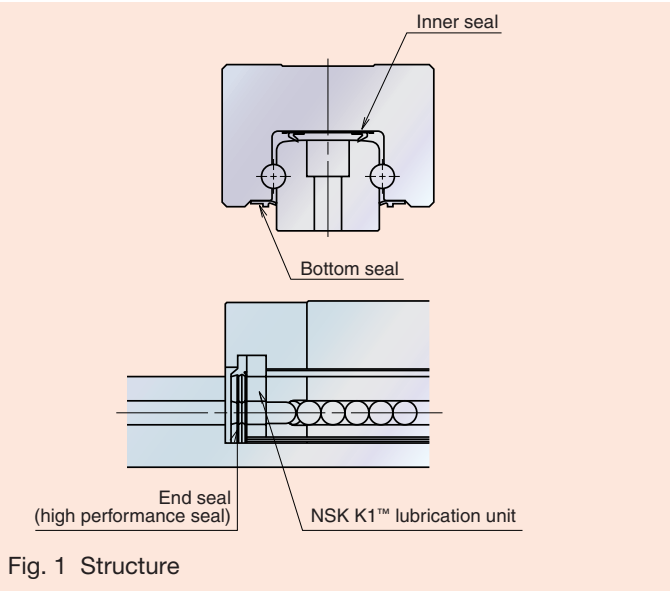
- Inexpensive** Newly developed manufacturing process of rail, and design review of ball slide contribute to substantial cost reductions.
- High capacity** Optimum ball diameter for higher capacity design.
- High dust proof capability** Dust-tight high performance end seals, bottom seals, and inner seals 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: 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 KL: Normal grade for transportation
Preload code S: Clearance of 60 μm or less
Design serial number: * *

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**

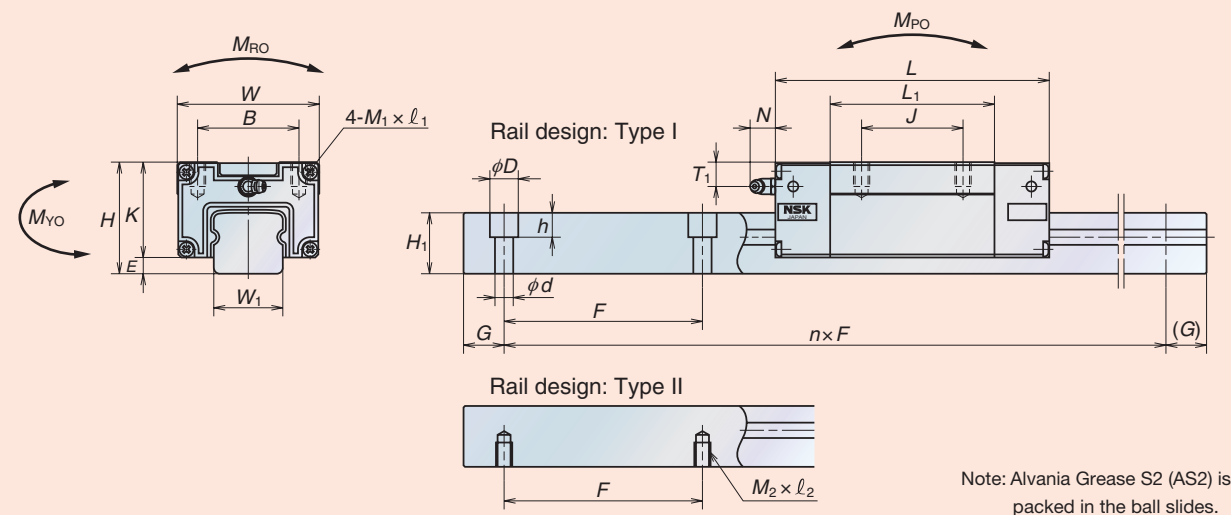
Translide: Interchangeable rail: T1S
Model number: 30
Rail length (mm): 2400
Surface treatment/Rail design code: L
Butting rail code: P
Design serial number: N
Accuracy grade PL: Normal grade for transportation
Clearance code S: Clearance of 60 μm or less
Butting rail code: T
Butting rail code: * *
Butting rail code: PL
Butting rail code: 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)

6 Dimensions

6.1 Assembled Type

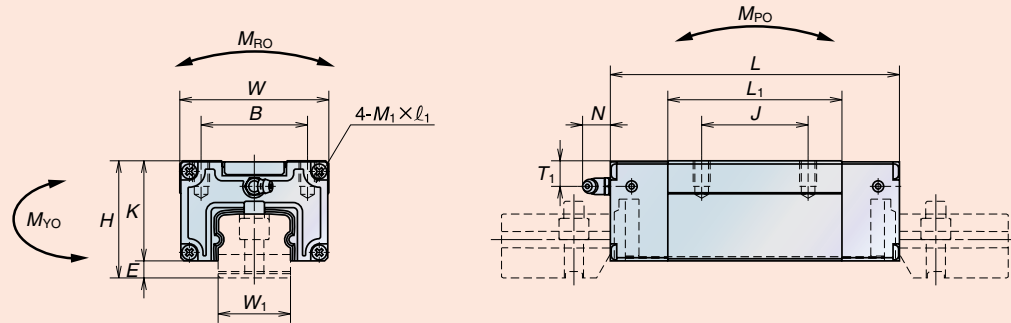
Dimensions are shown in Table 1.



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.

Table 1 Dimensions

Model number	Assembly		Ball slide										Rail							Basic load rating					Ball diameter	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 $M_2 \times \text{Pitch} \times \ell_2$	G (Recommended)	Max. length $L_{0\text{max}}^*$	Dynamic	Static	Allowable static moment load (N·m)			D_w	Ball slide (kg)	Rail (kg/m)
					B	J	$M_1 \times \text{Pitch} \times \ell_1$			Screw size	T_1	N								C (N)	C_0 (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	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).

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)

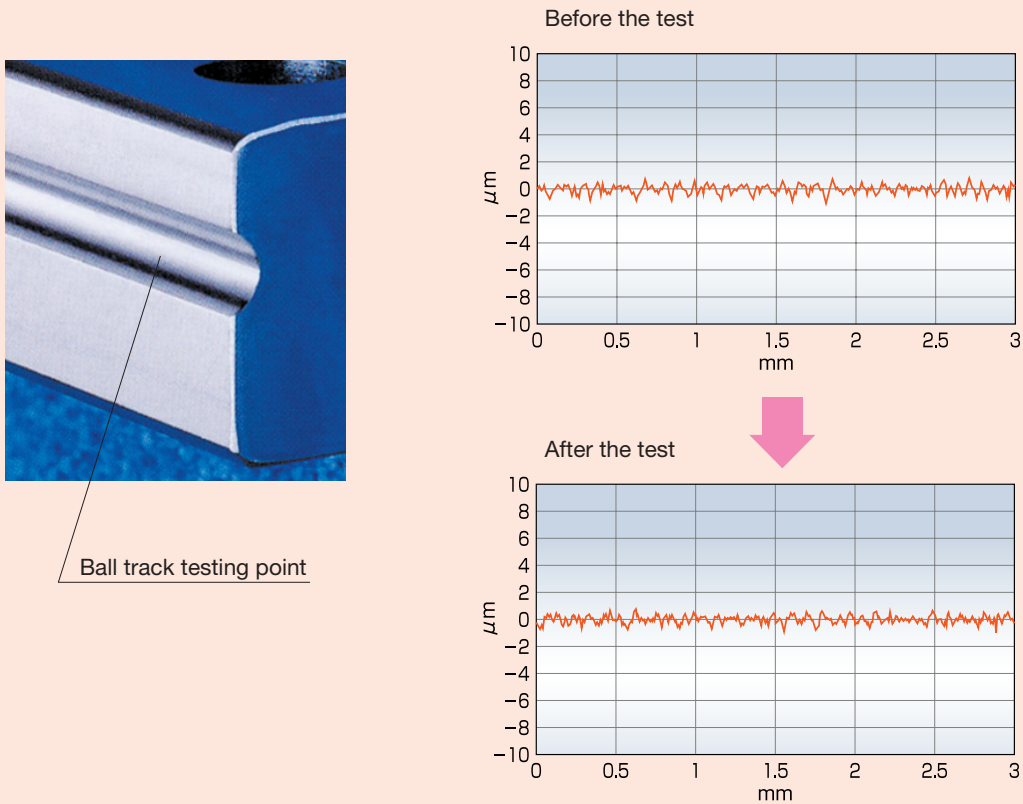


Fig. 2 Comparison of surface roughness before and after the test

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.

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