MOTION & CONTROL
NSK

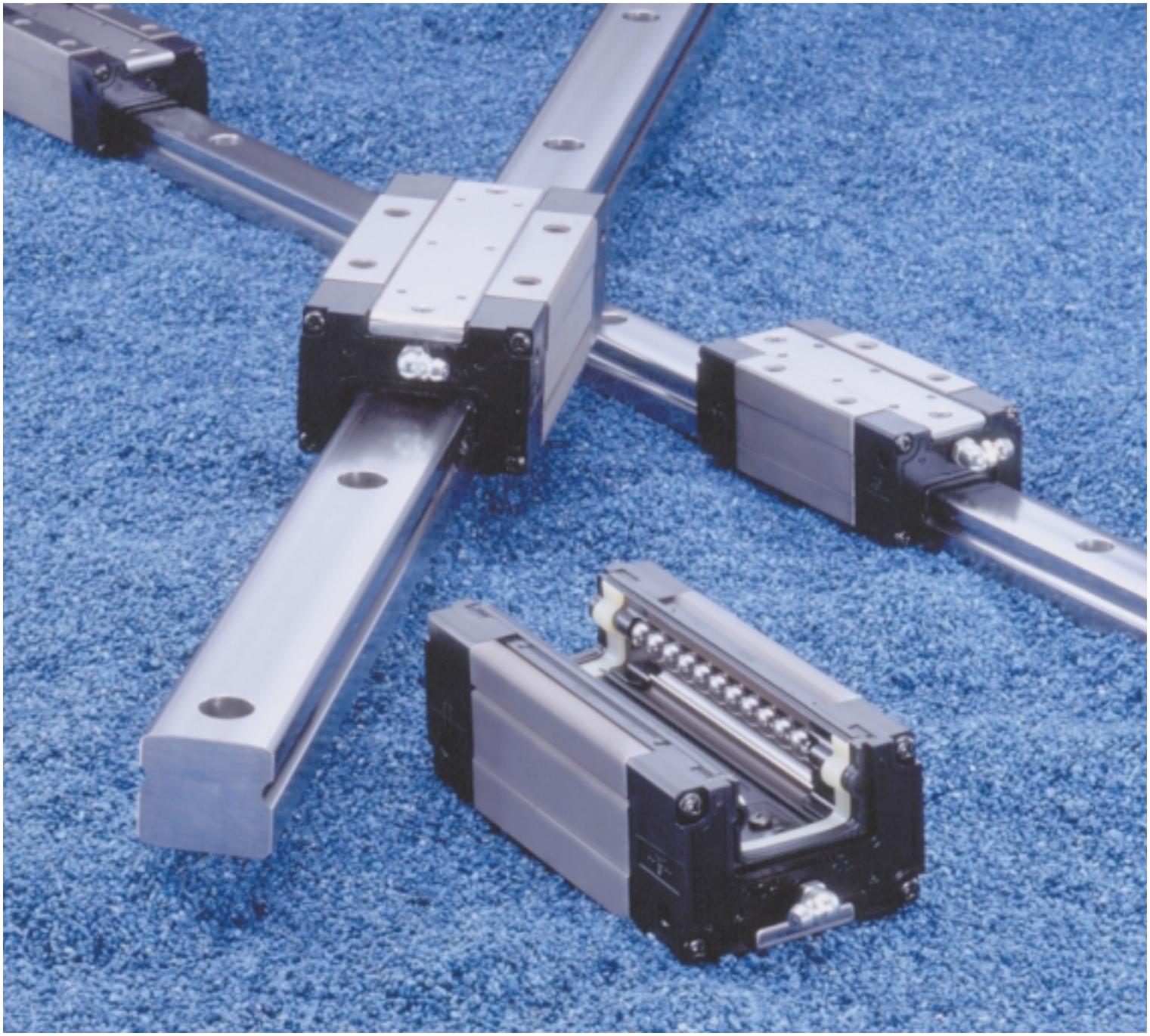
New Type of Rolling Element Linear Motion Bearing

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™

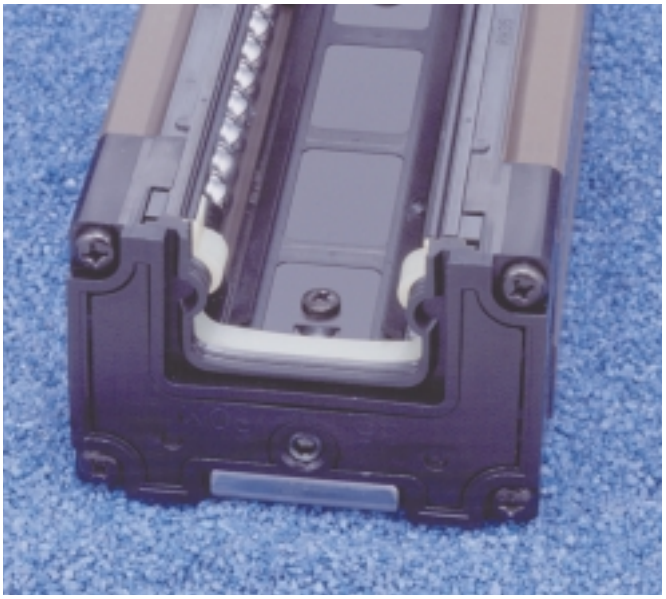
Translide™, a new type of rolling element linear motion bearing, is well suited to transportation equipment; for example, manufacturing lines of automobiles, automobile parts, and the like. It defies all traditional understanding within the industry in every aspect, and is surely a landmark in the progress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

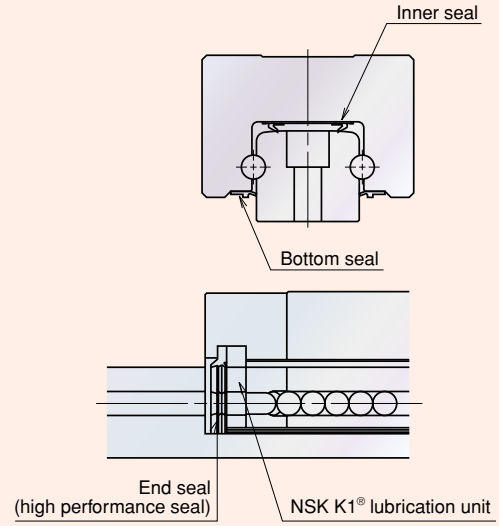


Fig. 1 Structure

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.

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

- TS: Translide
- 30: Model number
- 2400: Rail length (mm)
- AN: Shape code of ball slide
- P: 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)
- 2: Number of ball sliders assembled to a rail
- * *: Design serial number
- KL: Accuracy grade KL: Normal grade for transportation
- S: Preload code S: Clearance of 60 μm or less

5.2 Interchangeable

(1) Interchangeable ball slide

Example: TAS 30 AN - F

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

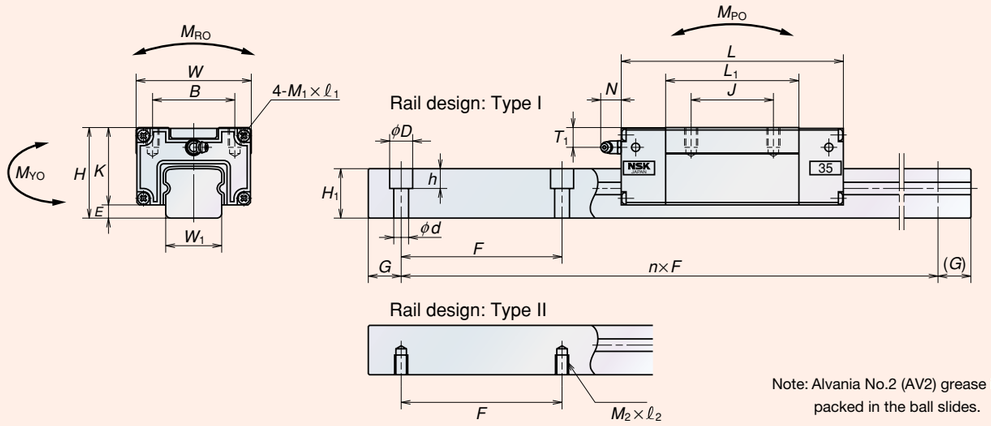
Example: T1S 30 2400 L P N T- * * PL S

- T1S: Translide: Interchangeable rail
- 30: Model number
- 2400: Rail length (mm)
- L: Butting rail code
  - N: No butting
  - L: Rail for butting
- P: 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)
- N: Butting rail code
- T-: Design serial number
- * *: Design serial number
- PL: Accuracy grade PL: Normal grade for transportation
- S: Clearance code S: Clearance of 60 μm or less

6 Dimensions

6.1 Assembled Type

Dimensions are shown in Table 1.

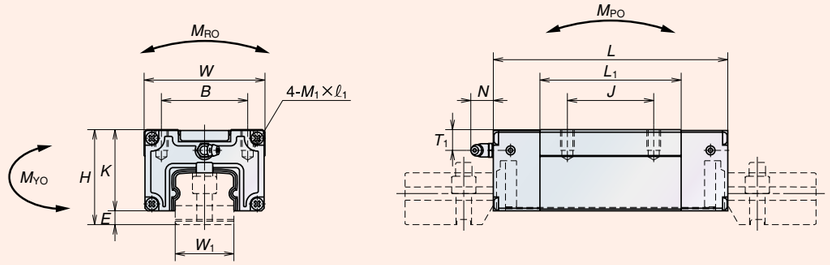


Note: Alvania No.2 (AV2) grease is packed in the ball slides.

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)

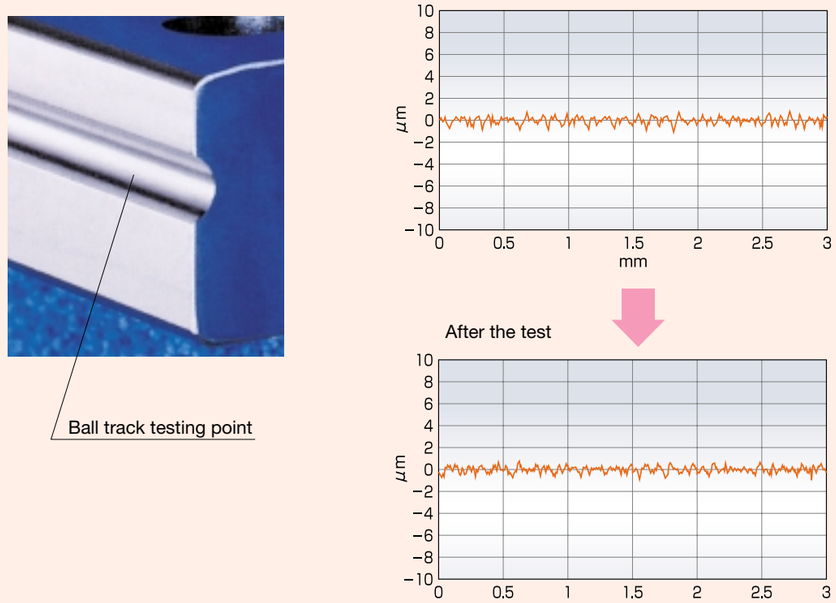


Fig. 2 Comparison of surface roughness before and after the test

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

Unit: mm

Model number	Assembly		Ball slide										Rail							Basic load rating					Ball diameter	Mass	
	Height		Width	Length	Tapped hole					Grease fitting			Width	Height	Pitch	Type I	Type II	G	Max. length	Dynamic	Static	Allowable static moment load (N•m)				Ball slide	Rail
	$H^{\pm 0.1}$	E	W	L	B	J	$M_1 \times$ Pitch $\times \ell_1$	L_1	K	Screw size	T_1	N	W_1	H_1	F	$d \times D \times h$	$M_2 \times$ Pitch $\times \ell_2$	(Recommended)	L_{0max}*	C (N)	C_0 (N)	M_{R0}	M_{P0}	M_{Y0}	D_w	(kg)	(kg/m)
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.