NEW

Utility Slide

ATG



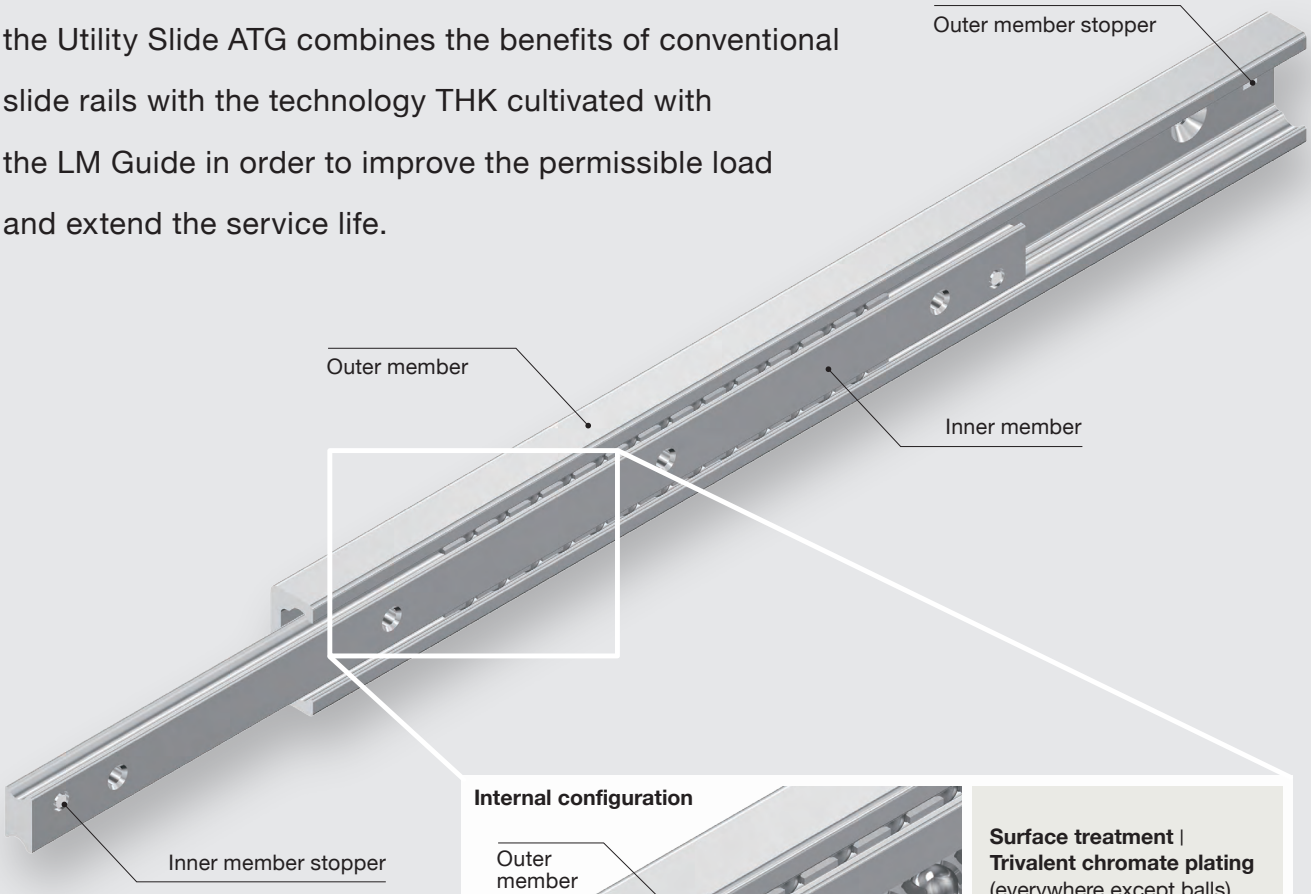


A new slide rail from THK that meets the needs of the logistics and railway industries

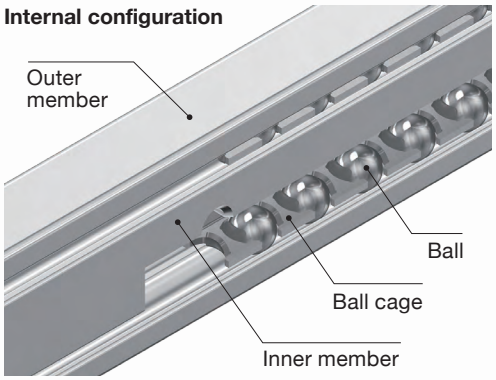
Utility Slide

ATG

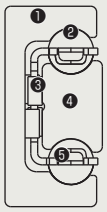
To meet the needs of the **logistics** and **railway industries**, the Utility Slide ATG combines the benefits of conventional slide rails with the technology THK cultivated with the LM Guide in order to improve the permissible load and extend the service life.



Internal configuration

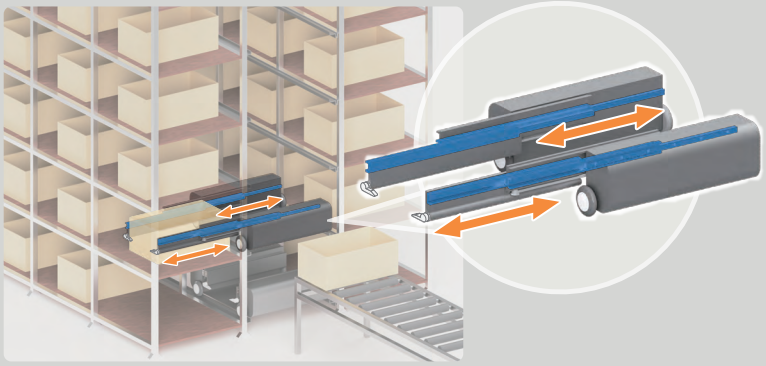
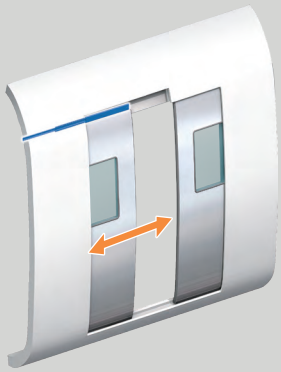


Surface treatment | Trivalent chromate plating
(everywhere except balls)



❶Outer member: High-carbon steel
❷Balls: SUJ2
❸Stoppers: Free-cutting steel
❹Inner member: High-carbon steel
❺Ball cages: SPCC

Applicable Fields

Logistics	Railways
	
▲ Transfer shuttles in automated warehouses	▲ Railway vehicle doors

Utility Slide ATG

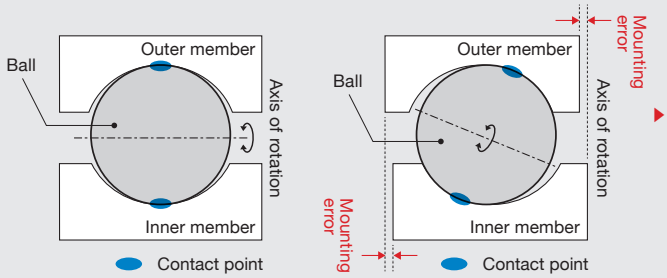
Feature 1 Improved Permissible Load and Extended Service Life

The Model ATG distinguishes itself from conventional slide rails by heat treating the outer and inner members to increase surface hardness and strength. The result is a high load capacity, high durability, and improved permissible load and service life compared to conventional products.

Feature 2 Easy to Install

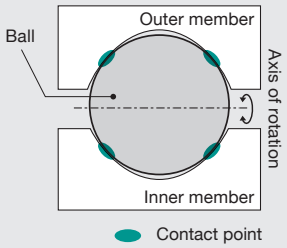
The circular arc grooves make the Model ATG excel at adjusting to slight inaccuracies in the mounting surface during installation.

2-Point Circular Arc Contact



- Circular arc grooves have the ability to absorb any mounting errors by shifting the point where the balls contact the groove.

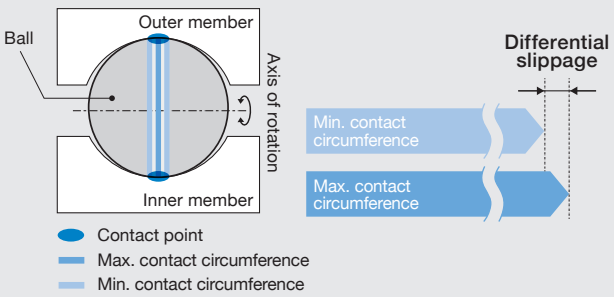
4-Point Gothic Arch Contact



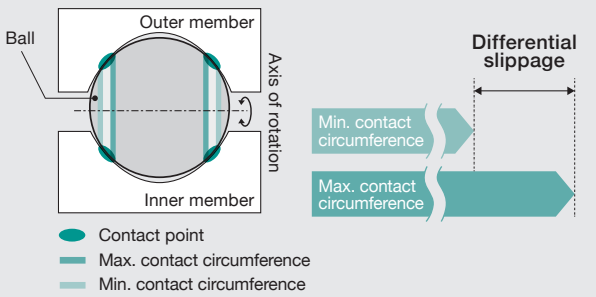
Feature 3 Helps Prevent Locking at the Stroke End

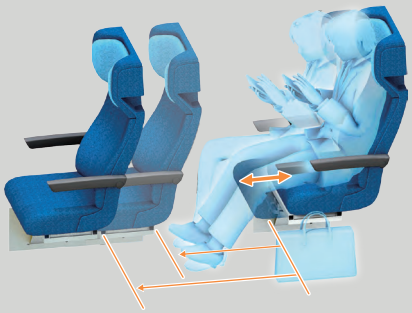
Since the Model ATG features circular arc grooves, it experiences less differential slippage than conventional (Gothic arch groove) products, which helps keep balls from becoming misaligned and causing the product to lock at the stroke end. Locking cannot be entirely avoided, so this helps improve the stability of machine operations.

2-Point Circular Arc Contact

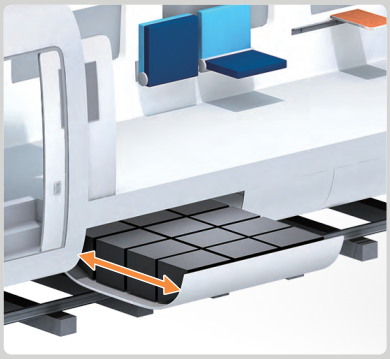


4-Point Gothic Arch Contact





▲ Passenger seating



▲ Storage space for railway vehicle maintenance

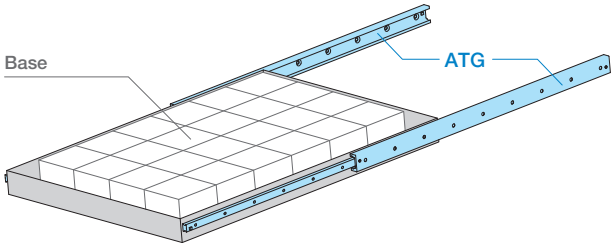


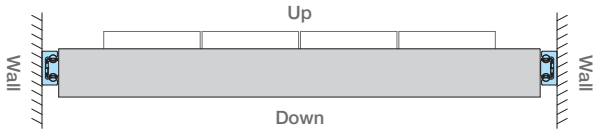
▲ Sliding steps for railway doors

Product Specifications

Mounting Orientation

The Model ATG is intended to be used in a set with two slide rails mounted on a wall.
Please consult THK if you are considering using only one slide rail or installing the product in something other than a wall-mounted orientation.





- Front view -

General Specifications

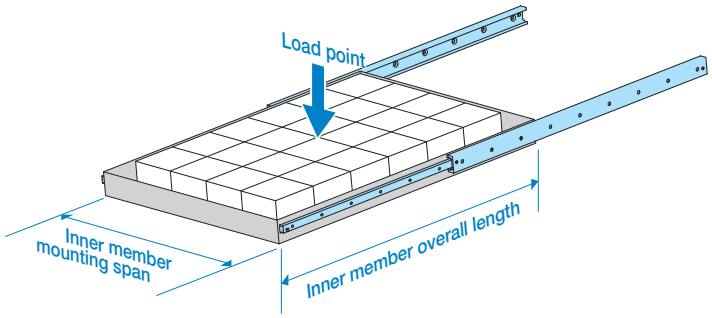
Item	Unit	Model		
		ATG22S	ATG28S	ATG35S
Product width	mm	22	28	35
Permissible load[1]	N/set	1,690 to 3,920	3,410 to 6,600	5,150 to 9,740
Max. sliding resistance[2]	N	3	5	5
Operating temperature range[3]	℃	-15℃ to 100℃		
Grease	—	AFB-LF		

1. The permissible loads are the values for one set of two slide rails. They are calculated from the permissible surface pressure based on a load centered between the inner members.
2. When assembled, the balls are adjusted to aim for zero clearance and to keep the sliding resistance at or below the upper limit.
3. Contact THK if the product will be used in an environment outside of the specified temperature range.

Permissible Load

As shown in the figure below, the Model ATG's permissible load is calculated from the permissible surface pressure based on a load centered between the inner members.

*Please do not install the Model ATG's inner members more than around 300 mm apart. If the distance between the installed inner members will be wider than 300 mm, factor in the load that will be caused by deflection of the mounting components. Contact THK for details.



Safety Factor

When the Model ATG is stationary or in motion, an unexpected external force may be applied due to vibrations, impacts, or inertia caused by starting and stopping. It is necessary to take a safety factor into account with regard to this type of applied load.

$$f_S = \frac{P_0}{P_C}$$

f_S: Safety factor
P_0: Permissible load (N)
P_C: Applied load (N)

Standard Values for the Safety Factor

Based on the usage conditions, treat the safety factor values in the table to the right as the lower limit of the standard value. When selecting the model and member length, make sure that the value is higher than the lower limit of the safety factor fs obtained by dividing the permissible load by the applied load.

Standard Values for the Safety Factor (fs)

Machine type	Load conditions	Lower limit of fs
General industrial machinery (Automated warehouses, doors, etc.)	Without vibrations or impacts	1.0 to 3.5
	With vibrations or impacts	2.0 to 5.0

Lubrication

Standard Grease

AFB-LF Grease is a general-purpose grease that provides excellent extreme pressure and mechanical stability properties through the use of a refined mineral oil base oil and a lithium-based consistency enhancer.

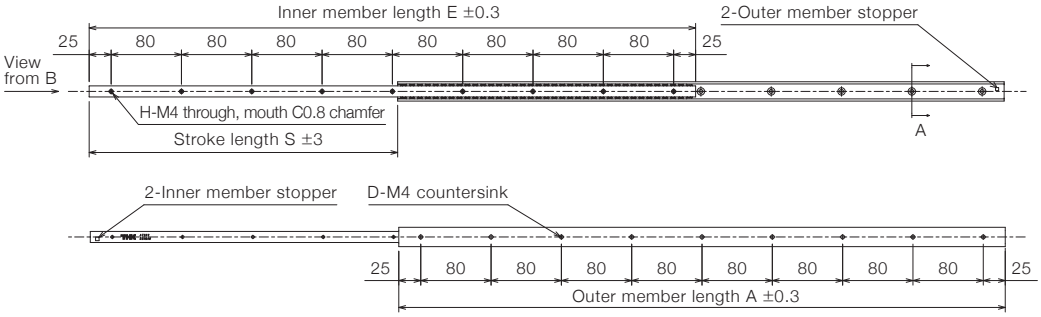
*Non-standard greases are also available. Contact THK for details.

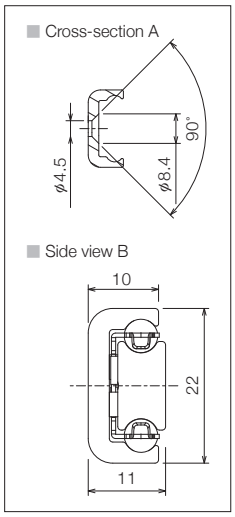
AFB-LF Representative Physical Properties

Item		Representative property	Testing method
Consistency enhancer		Lithium-based	
Base oil		Refined mineral oil	
Base oil kinematic viscosity: mm^2/s (40℃)		170	JIS K 2220 23
Worked penetration (25℃, 60 W)		275	JIS K 2220 7
Mixing stability (100,000 W)		345	JIS K 2220 15
Dropping point: ℃		193	JIS K 2220 8
Evaporation volume: mass% (99℃, 22 h)		0.4	JIS K 2220 10
Oil separation rate: mass% (100℃, 24 h)		0.6	JIS K 2220 11
Copper plate corrosion (B method, 100℃, 24 h)		Passed	JIS K 2220 9
Low-temperature torque: mN·m (-20℃)	Starting	130	JIS K 2220 18
	Rotational	51	
4-ball testing (welding load): N		3089	ASTM D2596
Operating temperature range: ℃		-15 to 100	
Color		Yellowish brown	

Specification Tables

ATG22





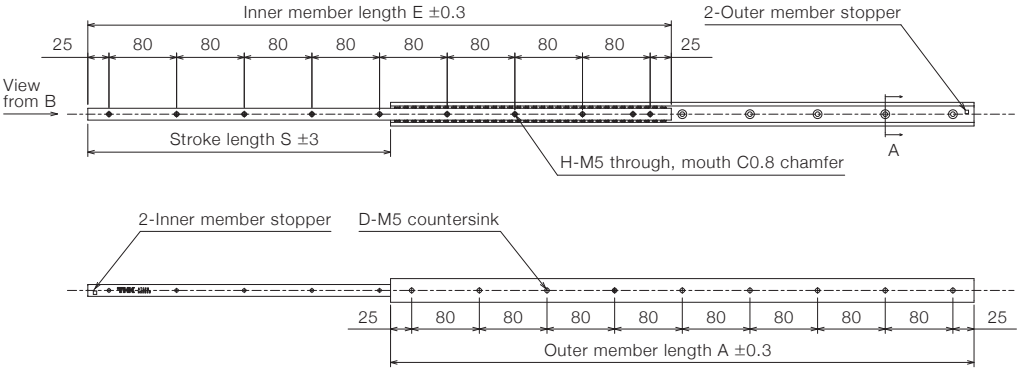
ATG22 Specifications

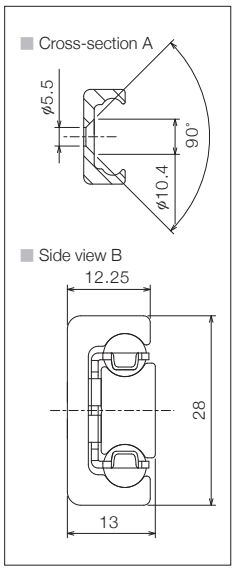
Unit: mm

Model	Stroke S	Outer member length A	Inner member length E	No. of mounting holes		Permissible load N/set	Weight kg/set
				D	H		
ATG22S+130L	79.4	130	130	2	2	1,690	0.35
ATG22S+210L	114.4	210	210	3	3	2,920	0.57
ATG22S+290L	158.4	290	290	4	4	3,010	0.79
ATG22S+370L	202.4	370	370	5	5	3,120	1.01
ATG22S+450L	237.4	450	450	6	6	3,490	1.24
ATG22S+530L	281.4	530	530	7	7	3,500	1.46
ATG22S+610L	316.4	610	610	8	8	3,730	1.68
ATG22S+690L	351.4	690	690	9	9	3,920	1.91

Note 1) The permissible load and weight are the values for one set of two slide rails.
Note 2) Contact THK if a non-standard length longer than the maximum standard length, a special length, or a special stroke is desired.

ATG28





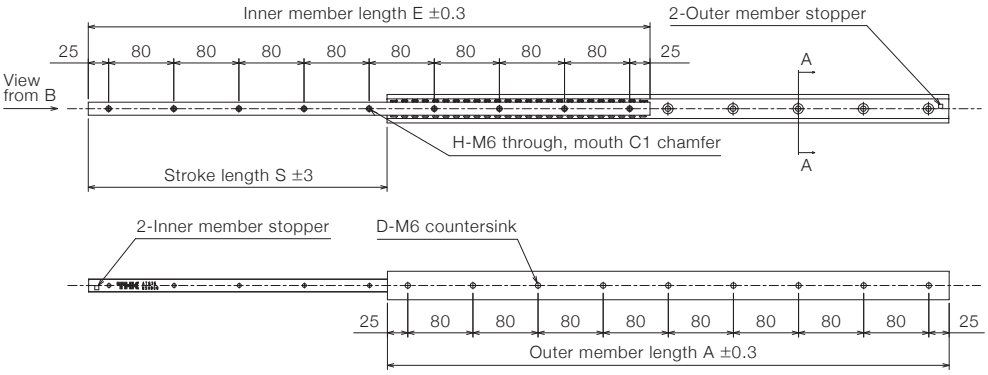
ATG28 Specifications

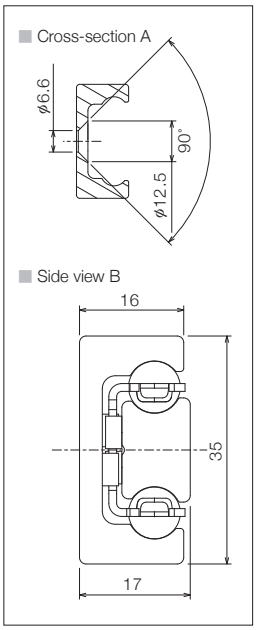
Unit: mm

Model	Stroke S	Outer member length A	Inner member length E	No. of mounting holes		Permissible load N/set	Weight kg/set
				D	H		
ATG28S+130L	75	130	130	2	2	3,410	0.50
ATG28S+210L	117	210	210	3	3	4,560	0.83
ATG28S+290L	149.5	290	290	4	4	6,000	1.15
ATG28S+370L	191.5	370	370	5	5	6,220	1.47
ATG28S+450L	233.5	450	450	6	6	6,370	1.80
ATG28S+530L	275.5	530	530	7	7	6,470	2.12
ATG28S+610L	317.5	610	610	8	8	6,540	2.44
ATG28S+690L	359.5	690	690	9	9	6,600	2.86

Note 1) The permissible load and weight are the values for one set of two slide rails.
Note 2) Contact THK if a non-standard length longer than the maximum standard length, a special length, or a special stroke is desired.

ATG35





ATG35 Specifications

Unit: mm

Model	Stroke S	Outer member length A	Inner member length E	No. of mounting holes		Permissible load N/set	Weight kg/set
				D	H		
ATG35S+210L	128.7	210	210	3	3	5,150	1.33
ATG35S+290L	157.9	290	290	4	4	7,990	1.87
ATG35S+370L	199.8	370	370	5	5	8,610	2.40
ATG35S+450L	254.4	450	450	6	6	7,970	2.90
ATG35S+530L	283.6	530	530	7	7	9,320	3.44
ATG35S+610L	325.5	610	610	8	8	9,540	3.97
ATG35S+690L	367.4	690	690	9	9	9,740	4.50

Note 1) The permissible load and weight are the values for one set of two slide rails.
Note 2) Contact THK if a non-standard length longer than the maximum standard length, a special length, or a special stroke is desired.

Model Number Coding Example

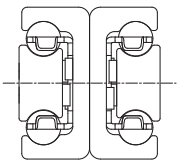
Select an option Fixed symbol

ATG	35	S	+	210 L
Model	Size: 22, 28, 35	Type S: Single		Outer member length

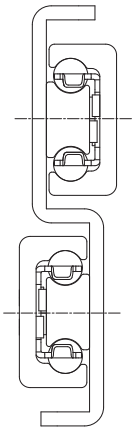
*When ordering the Model ATG, specify the number of individual slide rails needed. The Model ATG can be ordered in any quantity of one or more.

Example Combinations

Double



Parallel



*Combinations can be specified when you place your order.
Please contact THK.

Precautions on Use

- The outer member and inner member stoppers are not designed to handle impact loads. Be certain to provide external stoppers at the stroke ends.
- When installing this product, mount two slide rails on the wall as a set. Be certain to contact THK if you will be using only one slide rail or changing the mounting orientation to something other than what is indicated in the mounting orientation diagram.
- The greasing interval varies depending on the usage conditions and environment. Ultimately, the greasing interval and amount of grease applied should be set using the actual device or machine.
- Do not enter the movement range of moving parts while the device is operating or in an operable state. In particular, do not touch any moving parts during operation.
- Stop the machine (turn off the power) before moving, installing, or performing a maintenance inspection on this product.
- If performing an installation, maintenance inspection, or other task involving multiple people, confirm how to perform the work, what signals will be used, and how to handle problems before beginning, and assign another person to monitor the work.
- Do not place anything on this product or its packaging. Do not apply a strong impact to this product.
- Do not apply a load that exceeds the permissible load.
- Do not disassemble or alter this product.
- Securely fasten the product before use.
- If an abnormality occurs, stop the machine immediately.
- Do not use a product that is malfunctioning or broken.
- Avoid impacts when transferring objects.
- Contact THK if the product will be used in an environment outside of the specified temperature range.
- Ball cages may become misaligned due to factors such as machine vibration.
  To realign ball cages, remove any borne load, then fully open and close the product. During realignment, it will take more force to move because the balls will be sliding.
  Exceeding the stroke range may cause components to break.
- When installing the product, adjust the mounting so that the product runs steadily at a force of 15 N or less when not bearing a load.

Utility Slide **ATG**

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