NEW

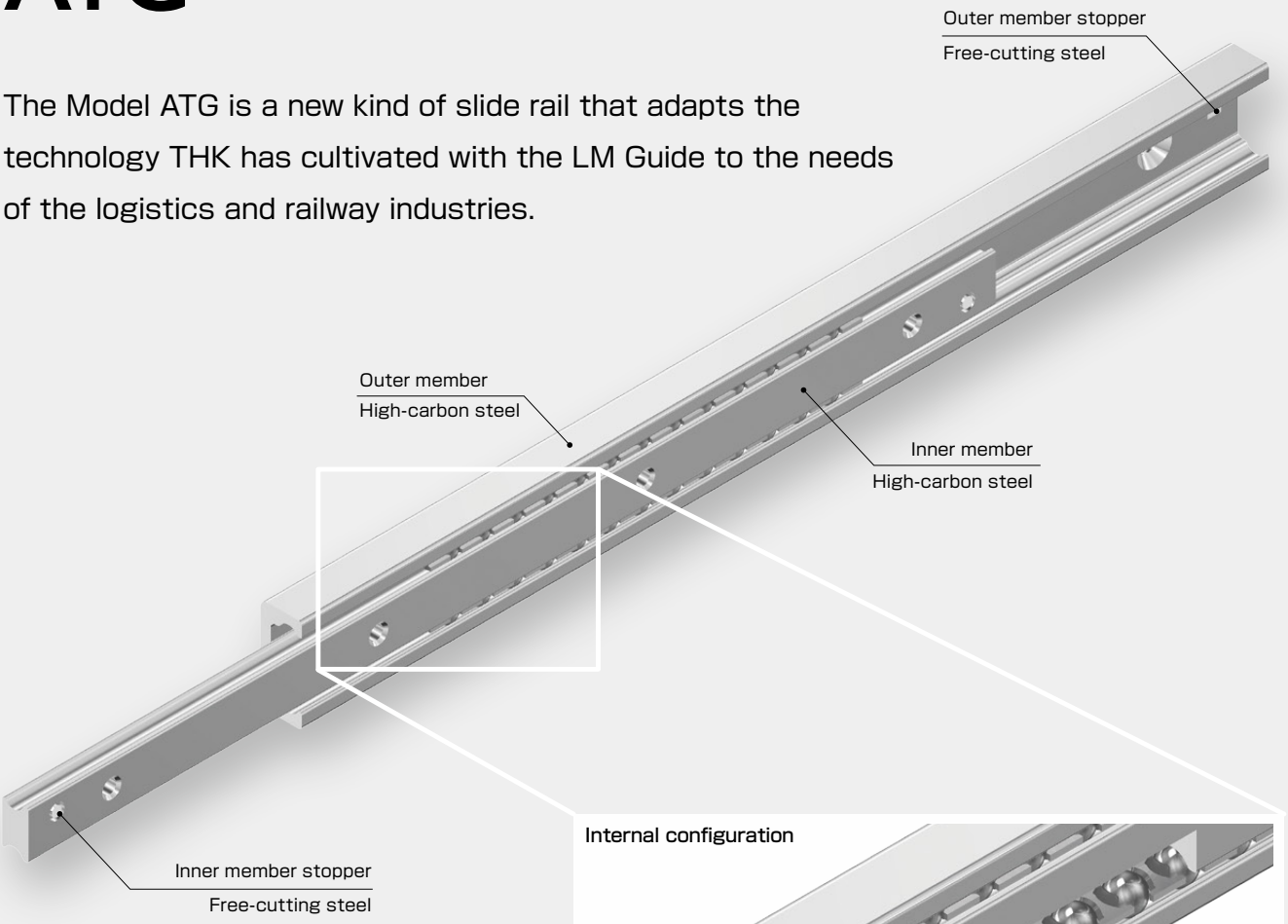
Utility Slide

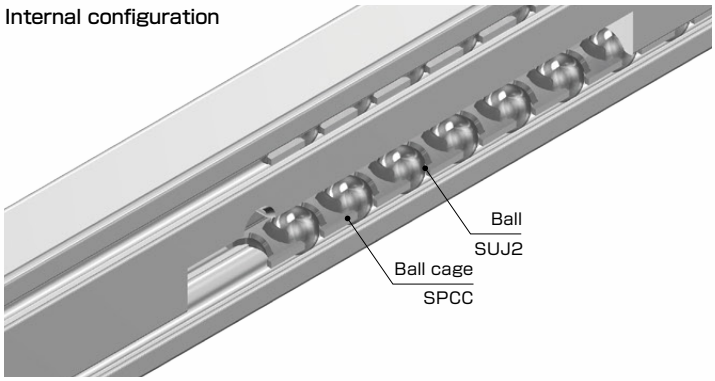
ATG

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

Utility Slide
ATG

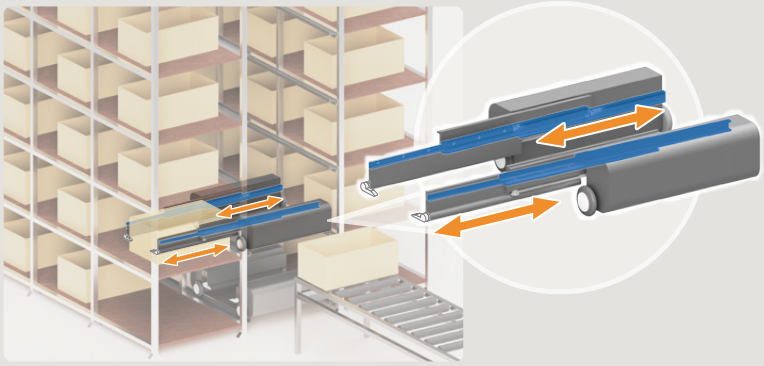
The Model ATG is a new kind of slide rail that adapts the technology THK has cultivated with the LM Guide to the needs of the logistics and railway industries.





The inner member slides inside the outer member, forming a structure that can extend and retract. The Model ATG also offers improved permissible load and service life compared to conventional slide rails.

Applicable Fields

Logistics	Railways
	
▲ Automated warehouse racks	▲ Railway vehicle doors

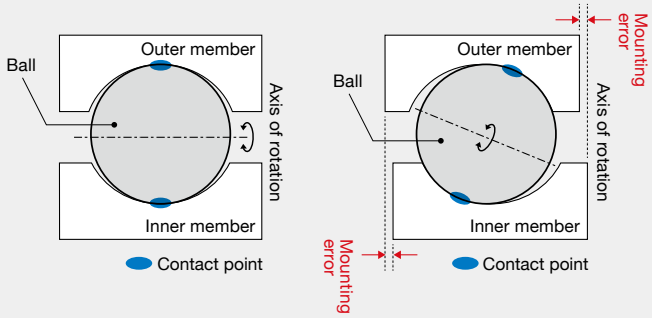
Feature 1 Improved Permissible Load and Extended Service Life

The Model ATG distinguishes itself from conventional slide rails by incorporating the same material used in the LM Guide for its inner and outer members, which is further heat-treated for enhanced strength and surface hardness. The result is a high load capacity, high durability, and improved permissible load and service life compared to conventional products.

Feature 2 Easy Adjustment

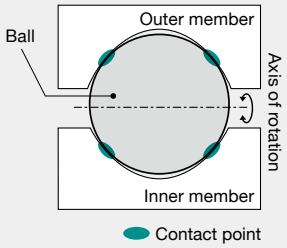
The circular arc grooves make the Model ATG excel at adjusting to slight mounting errors during installation.

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.

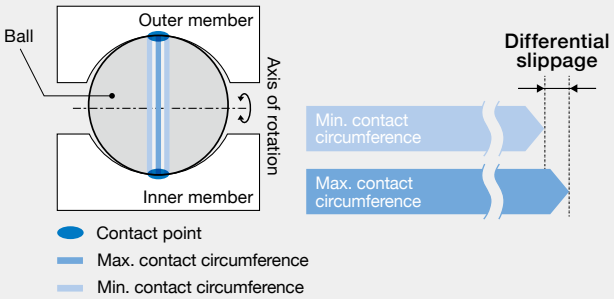
4-Point Gothic Arch Contact



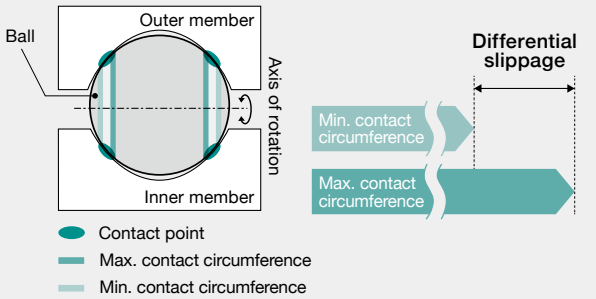
Feature 3 Helps Prevent Locking at the Stroke End

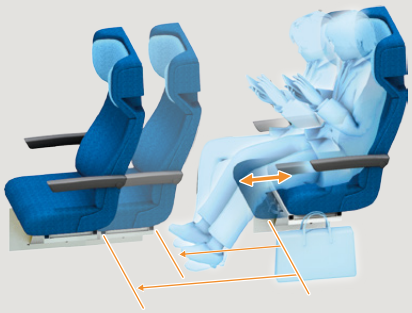
Thanks to its circular arc grooves, the Model ATG experiences less differential slippage than conventional (Gothic-arch groove) products, which helps keep ball cages from becoming misaligned. This in turn reduces locking at the stroke end and contributes to the stable running of equipment.

2-Point Circular Arc Contact

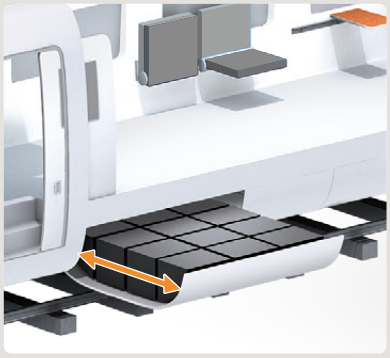


4-Point Gothic Arch Contact

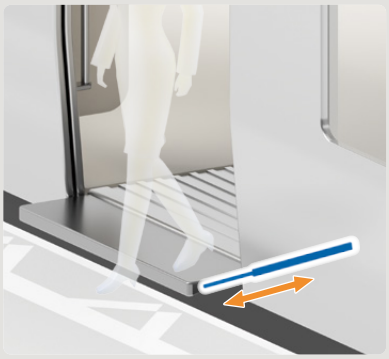




▲ Passenger seating



▲ Storage space for railway vehicle maintenance



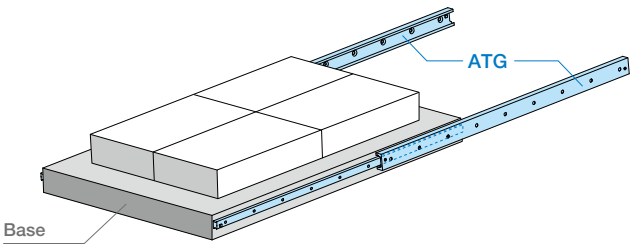
▲ Sliding steps for railway doors

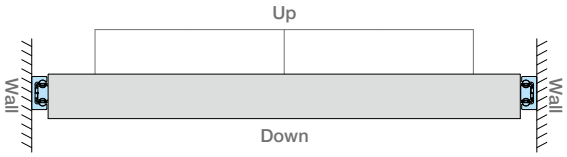
Product Specifications

Mounting Orientation

The Model ATG is intended to be used in a set with two slide rails mounted on a wall.

Note: 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

Basic Specifications

Item	Unit	Model No.			
		ATG22S	ATG28S	ATG35S	ATG43S
Product width	mm	22	28	35	43
Permissible load[1]	N/pair	1,690 to 3,920	3,410 to 6,600	5,150 to 9,740	6,490 to 13,470
Max. sliding resistance[2]	N	3	5	5	5
Operating temperature range[3]	°C	-15 to 100			
Grease	—	AFB-LF			
Heat treatment[4]	—	High-frequency induction hardening			
Surface treatment[5]	—	Trivalent chromate plating			

[1] See the Permissible Load section below for details on calculating the permissible load.

[2] This is the maximum sliding resistance value when the product has been assembled with zero clearance between the balls and the raceway grooves of the inner and outer members.

[3] Contact THK if the product will be used in an environment outside of the specified temperature range.

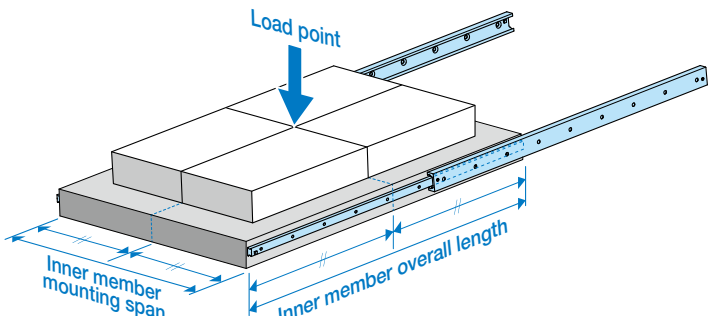
[4] Induction hardening is performed on the raceway grooves of the inner and outer members.

[5] Surface treatment applies to all components except for the balls.

Permissible Load

As shown in the figure below, the permissible load is calculated from the permissible surface pressure based on a load centered at a point halfway between the inner members and halfway down the length of an inner member extended the full length of its stroke (indicated by the load point arrow in the figure).

Note: 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)

Reference Values for the Safety Factor

Treat the safety factor values in the table to the right as the reference minimum values for the given operating conditions. When selecting the model and member length, make sure that the safety factor f_s obtained by dividing the permissible load by the applied load is a value greater than the applicable minimum value.

Reference Values for the Safety Factor (f_S)

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.

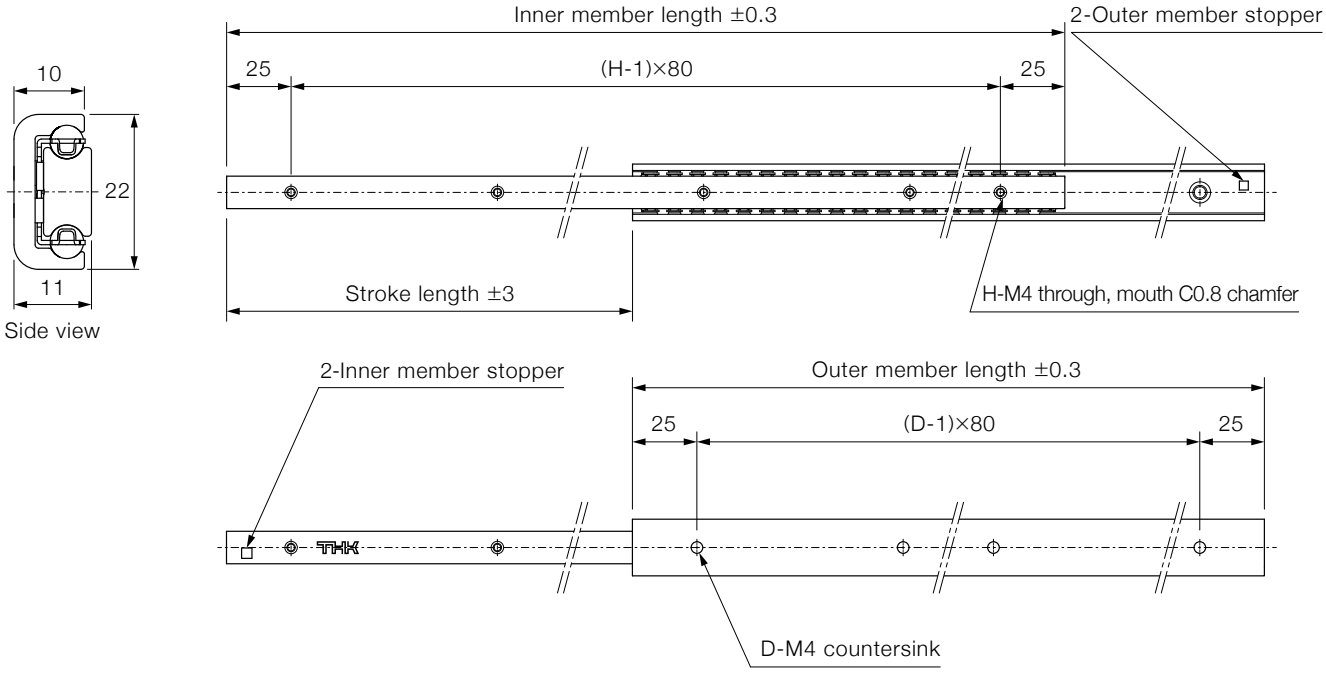
Note: Non-standard greases are also available. Contact THK for details.

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°C)		170	JIS K 2220 23
Worked penetration (25°C, 60 W)		275	JIS K 2220 7
Mixing stability (100,000 W)		345	JIS K 2220 15
Dropping point: °C		193	JIS K 2220 8
Evaporation volume: mass% (99°C, 22 h)		0.4	JIS K 2220 10
Oil separation rate: mass% (100°C, 24 h)		0.6	JIS K 2220 11
Copper plate corrosion (B method, 100°C, 24 h)		Passed	JIS K 2220 9
Low-temperature torque: mN·m (-20°C)	Starting	130	JIS K 2220 18
	Rotational	51	
4-ball testing (welding load): N		3,089	ASTM D2596
Operating temperature range: °C		-15 to 100	
Color		Yellowish brown	

Dimensional Table

ATG22



Unit: mm

Model No. + Outer member length	Stroke length	Outer member length	Inner member length	No. of mounting holes		Permissible load N/set	Mass 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: The permissible load and mass are the values for one set of two slide rails.
The outer member lengths in the table above are the standard lengths. Please contact THK if you would like to order a non-standard length or a special stroke length.

Model Number Coding

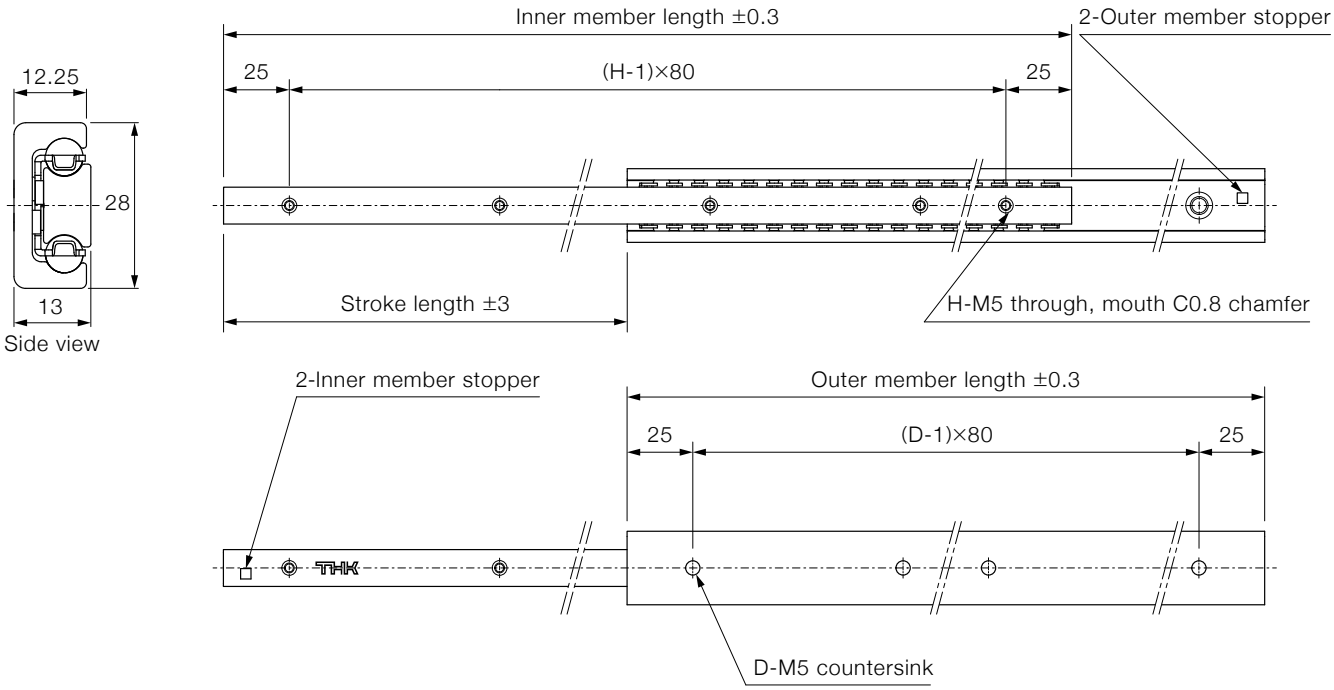
Select an option | Fixed symbol

ATG22S + 210L

ATG22S: Model No.
210L: Outer member length

Note: 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.

ATG28



Unit: mm

Model No. + Outer member length	Stroke length	Outer member length	Inner member length	No. of mounting holes		Permissible load N/set	Mass 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: The permissible load and mass are the values for one set of two slide rails.
The outer member lengths in the table above are the standard lengths. Please contact THK if you would like to order a non-standard length or a special stroke length.

Model Number Coding

Select an option Fixed symbol

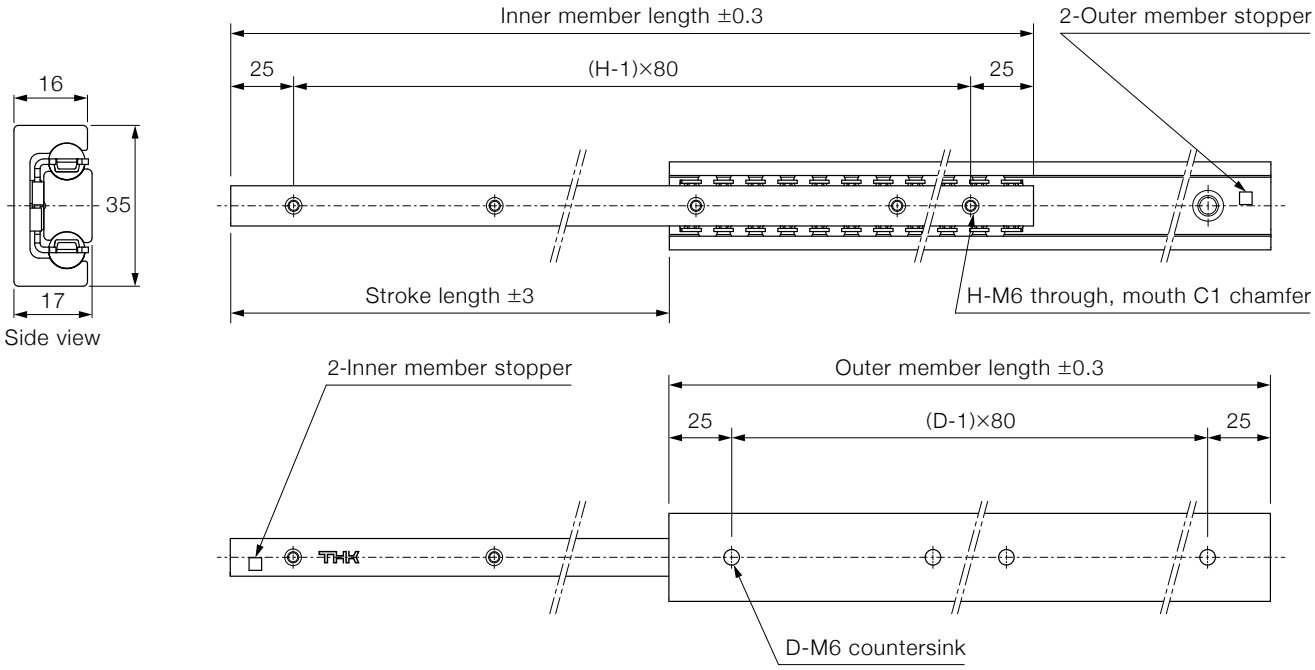
ATG28S + 210L

ATG28S: Model No.
210L: Outer member length

Note: 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.

Dimensional Table

ATG35



Unit: mm

Model No. + Outer member length	Stroke length	Outer member length	Inner member length	No. of mounting holes		Permissible load N/set	Mass 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: The permissible load and mass are the values for one set of two slide rails.
The outer member lengths in the table above are the standard lengths. Please contact THK if you would like to order a non-standard length or a special stroke length.

Model Number Coding

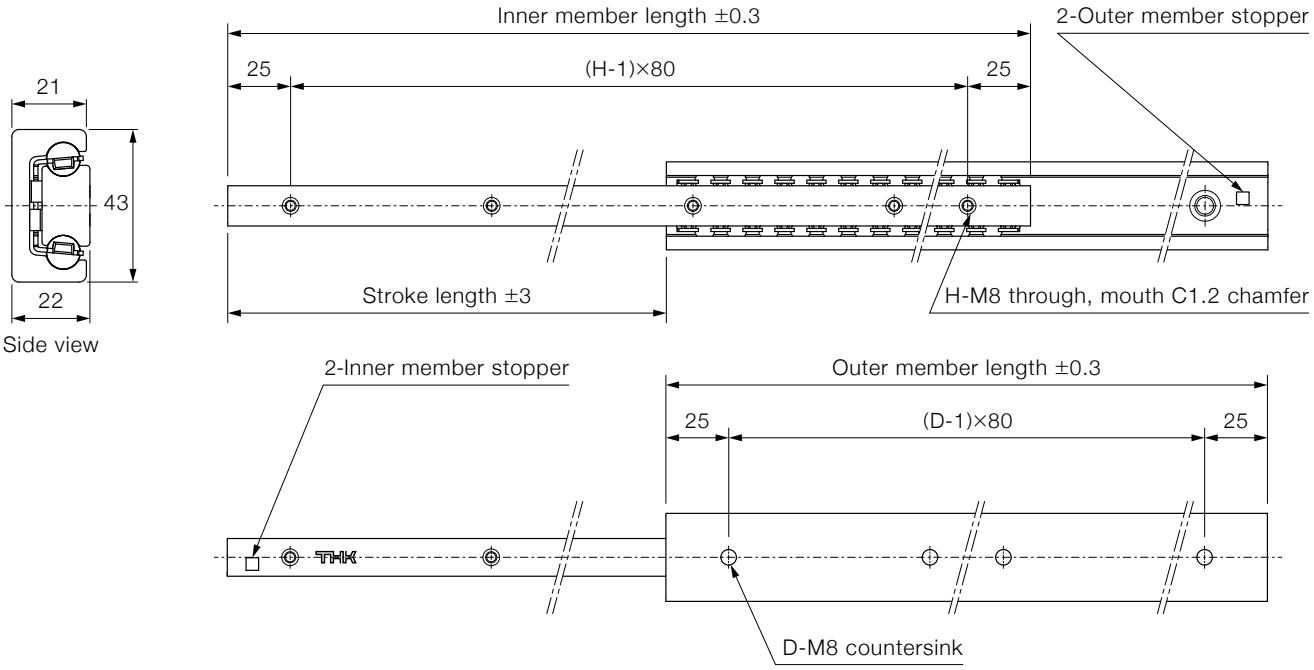
Select an option | Fixed symbol

ATG35S + 210L

ATG35S: Model No.
210L: Outer member length

Note: 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.

ATG43



Unit: mm

Model No. + Outer member length	Stroke length	Outer member length	Inner member length	No. of mounting holes		Permissible load N/set	Mass kg/set
				D	H		
ATG43S+210L	132.6	210	210	3	3	6,490	2.22
ATG43S+290L	167.6	290	290	4	4	9,650	3.10
ATG43S+370L	217.6	370	370	5	5	9,810	3.96
ATG43S+450L	252.6	450	450	6	6	11,560	4.84
ATG43S+530L	287.6	530	530	7	7	12,890	5.72
ATG43S+610L	322.6	610	610	8	8	13,930	6.60
ATG43S+690L	372.6	690	690	9	9	13,470	7.44

Note: The permissible load and mass are the values for one set of two slide rails.
The outer member lengths in the table above are the standard lengths. Please contact THK if you would like to order a non-standard length or a special stroke length.

Model Number Coding

Select an option Fixed symbol

ATG43S + 210L

ATG43S: Model No.
210L: Outer member length

Note: 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.

MEMO

Handling

(1) Do not disassemble the parts. This may result in loss of functionality.
(2) Take care not to drop or strike the product. Otherwise, it may cause injury or damage the unit.
Even if there is no outward indication of damage, a sudden impact could prevent the unit from functioning properly.
(3) Wear appropriate safety gear, such as protective gloves and safety shoes, when handling the product.
(4) Tilting the product may cause it to move under its own weight.
(5) Handling should be performed with care to avoid having one's hand caught between the inner and outer members and to prevent damage due to interference from bolts.

Use

(1) The outer member and inner member stoppers are not designed to handle impact loads. Be certain to provide external stoppers at the stroke ends.
(2) 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.
(3) When installing a pair of these products together, ensure that both sides of the pair will remain parallel to one another at all times by adjusting the way they are mounted so as to obtain a rolling resistance of 15 N or less when they are not bearing a load.
(4) Prevent foreign material, such as cutting chips or coolant, from entering the product. Failure to do so could damage the product.
(5) If the product is used in an environment where cutting chips, coolant, corrosive solvents, or water may enter the product, use bellows or covers to prevent them from entering the product.
(6) If foreign materials such as cutting chips adhere to the product, replenish the grease after cleaning the product.
(7) Do not apply a load that exceeds the permissible load.
(8) Do not forcibly drive a pin, key, or other positioning device into the product. This could create indentations on the raceway and impair the product's function.
(9) Contact THK if the product will be used in an environment outside of the specified temperature range of -15°C to 100°C.
(10) Do not subject this product to harsh conditions such as damp or dusty environments or intense repeated motion that would cause it to heat up due to friction.
(11) The durability of the product varies depending on factors such as the dimensions of the drawer, travel distance, mounting conditions, environment, and operating frequency. Take these factors into account when making a selection.
(12) Ball cages may become misaligned due to factors such as a vertical mounting orientation or 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.
(13) If the mounting material lacks sufficient rigidity or accuracy, the bearing load will be concentrated at one location and performance will dramatically decrease.
Therefore, carefully consider the rigidity and accuracy of the housing and base as well as the strength of the securing bolts.
(14) If this product breaks due to an accident or other cause, the inner member may come out of the outer member and fall.

Lubrication

(1) How often lubricant should be replenished varies depending on the operating conditions and environment. We recommend lubricating the system approximately every 100 km traveled (3 to 6 months). The final lubrication interval/amount should be set at the actual machine.
(2) To lubricate the product, apply lubricant directly to the raceway surface and execute a few preliminary strokes to ensure that the interior is fully lubricated.
(3) The viscosity of grease changes according to the temperature. Take note that the slide rail's sliding resistance may be affected by changes in viscosity.
(4) After lubrication, the sliding resistance of the product may increase due to the stirring resistance of the grease.
Be sure to let the grease break in fully before use.
(5) Excess grease may spatter after lubrication. Wipe off spattered lubricant as necessary.
(6) Grease deteriorates over time, which decreases its lubricity, so perform regular inspections and replenish lubricant based on frequency of use.

Storage

When storing this product, pack it as designated by THK and store it indoors in a horizontal position away from high or low temperatures and high humidity.
Please note that if the product has been kept in storage for an extended period, the lubricant inside may have deteriorated. Please ensure that you replenish the lubricant before use.

Disposal

The product should be treated as industrial waste and disposed of appropriately.

Utility Slide **ATG**

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