

THK



New

LM Guide Actuator

Optimal for clean rooms
Compact, High rigidity

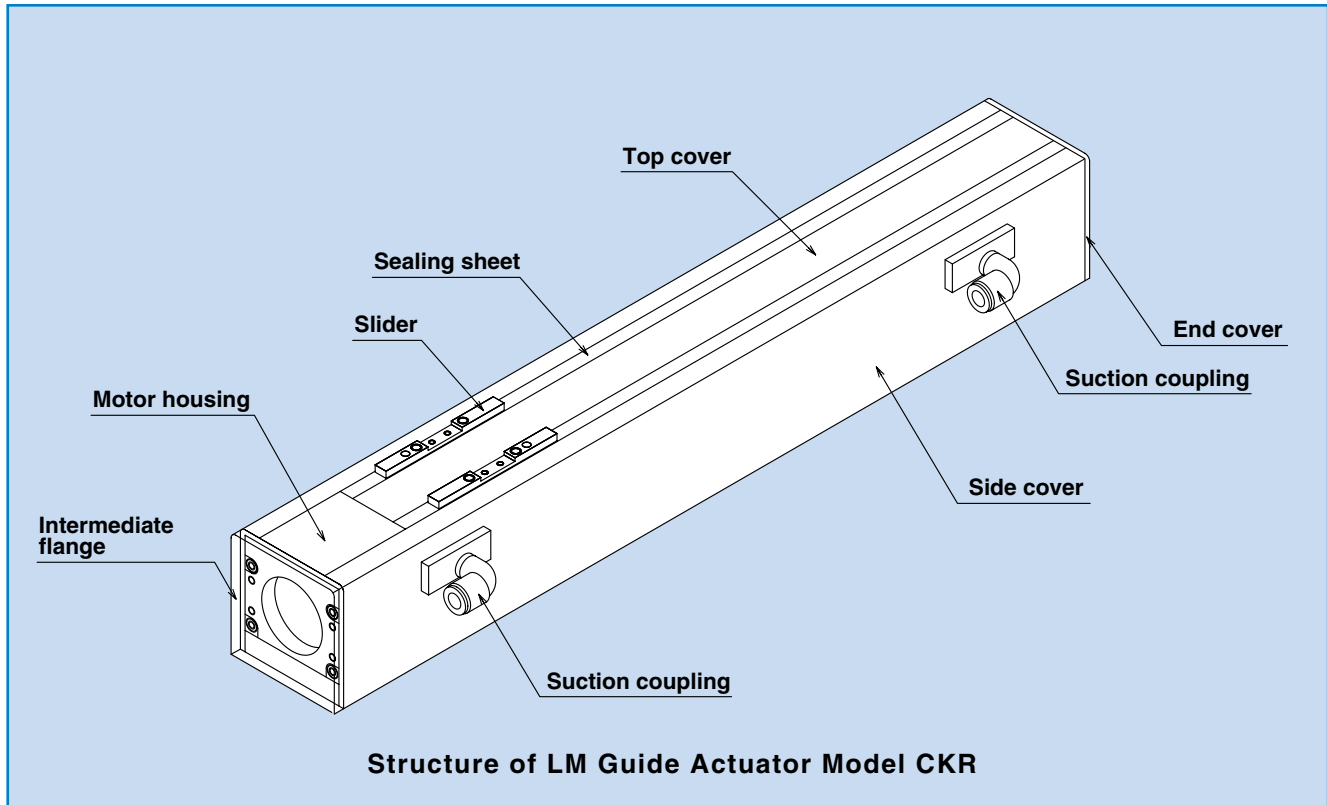
CKR



THK CO., LTD.
TOKYO, JAPAN

IMTS-CATALOG No.3

LM Guide Actuator Model CKR



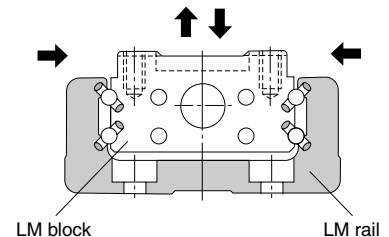
Features of Model CKR

•Low dust-generating design

Use of a unique sealing mechanism achieves cleanliness of Class 4 under ISO14644-1: 1999, which is equivalent to Class 10 under Fed. Std. 209E (internal suction, under down flow environment).

•Compact, high rigidity

Uses proven and established LM Guide Actuator Model KR for the basic structure. Achieves high rigidity, high accuracy and space saving, since in model KR, the LM rail has a U-shaped section that is rigid against an overhung load and the rows of the loaded balls in the LM block are arranged at a contact angle of 45° to form a four-way (i.e., radial, reverse-radial and lateral directions) equal-load structure.



•High corrosion resistance

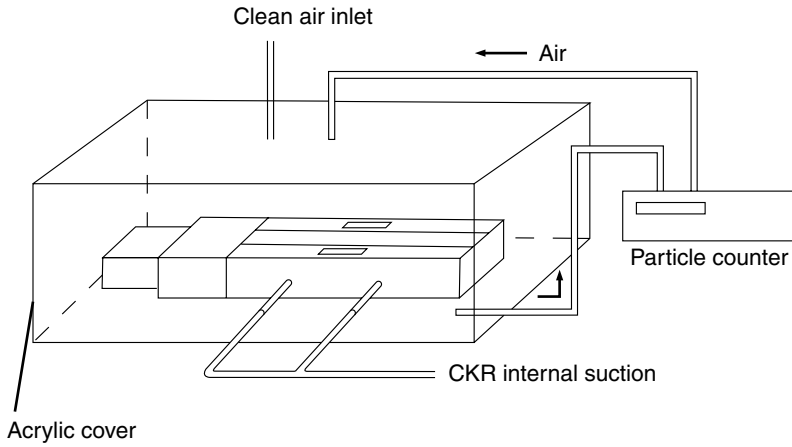
AP-C treatment is provided to the LM rail and the Ball Screw for increased corrosion resistance. The AP-C treatment is black chrome film coating for industrial use and ensures higher corrosion resistance than martensitic stainless steel.

•Low dust-generating grease

Uses clean-room grease, which is superb in low dust generation.

Dust-generation Test

[Measurement Method]



Testing Conditions for Model CKR4610A

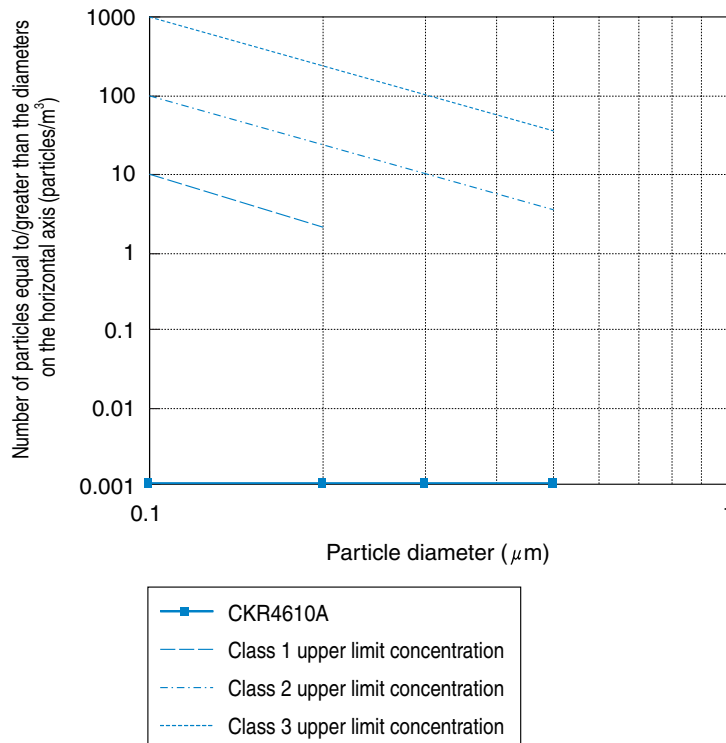
Item	Content
Maximum speed	30 m/min; Ball Screw rotation speed (3,000 rpm)
Acceleration/deceleration	4.9 m/s (0.5G)
Stroke	200 mm
Grease used	THK AFF Grease
Applied load	None

Measurement Conditions for Model CKR4610A

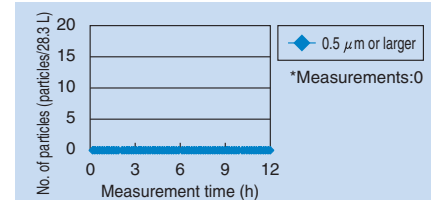
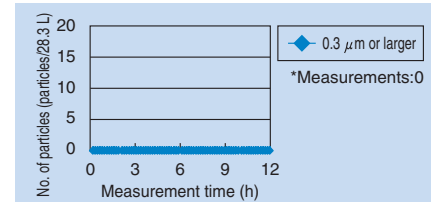
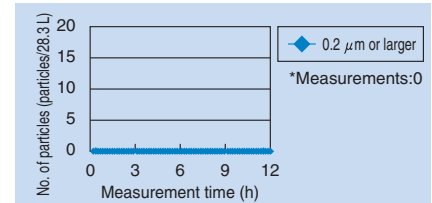
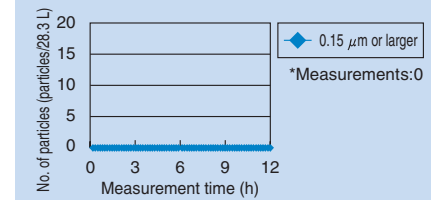
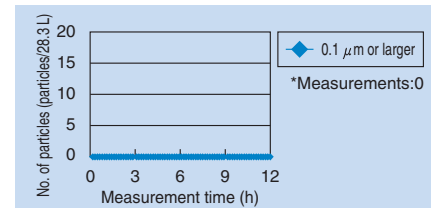
Item	Content
Measuring instrument	Particle counter (KC-18, manufactured by RION)
Suction volume	60 L/min
Measuring unit flow rate	2.5 m/s
Measurement air capacity	28.3 L (0.1 CF)
Measurement time	566 sec/measurement

[Dust-generation Data]

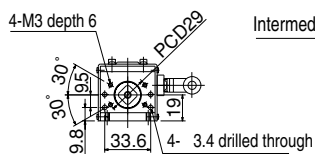
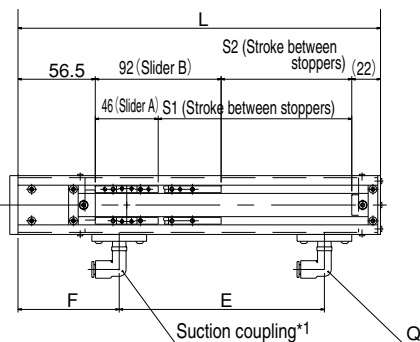
■ Average number of particles immediately after model CKR4610A started traveling: measured for 12 hours



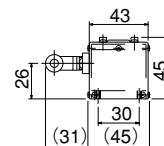
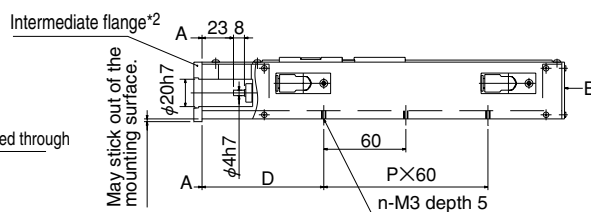
■ Dust Generation Test with Model CKR4610A: Measured for 12 Hours



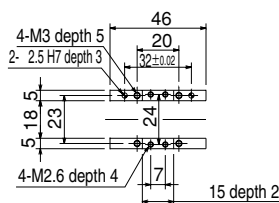
Model CKR20



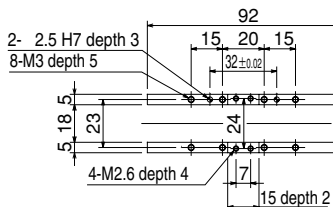
A-A arrow view



B arrow view



Detail drawing of slider A



Detail drawing of slider B

(*1) If a photo sensor is used, it cannot be mounted on the same plane as the suction coupling(s). The suction coupling(s) can be mounted on either side.

(*2) Various types of intermediate flanges are available to support different motors. Contact THK for details. Depending on the motor type, the intermediate flange may stick out of the mounting surface.

Model No.	Stroke between stoppers		L (overall length) (mm)	C (mm)	D (mm)	P	n (pcs)	F (mm)	E (mm)	Q (pcs)
	S1	S2								
CKR20 □□□□-100L □	41.5	—	166	60	69	1	4	99	—	1
CKR20 □□□□-150L □	91.5	45.5	216	120	64	2	6	74	100	2
CKR20 □□□□-200L □	141.5	95.5	266	120	89	2	6	74	150	2

Model number coding

CKR20 □□□□ - ***L □□□□

1 2 3 4 5

1 Lead: 01, 06 2 Slider: A, B 3 Rail length: 100, 150, 200 4 Accuracy: No symbol (normal grade), H (high grade), P (precision grade)

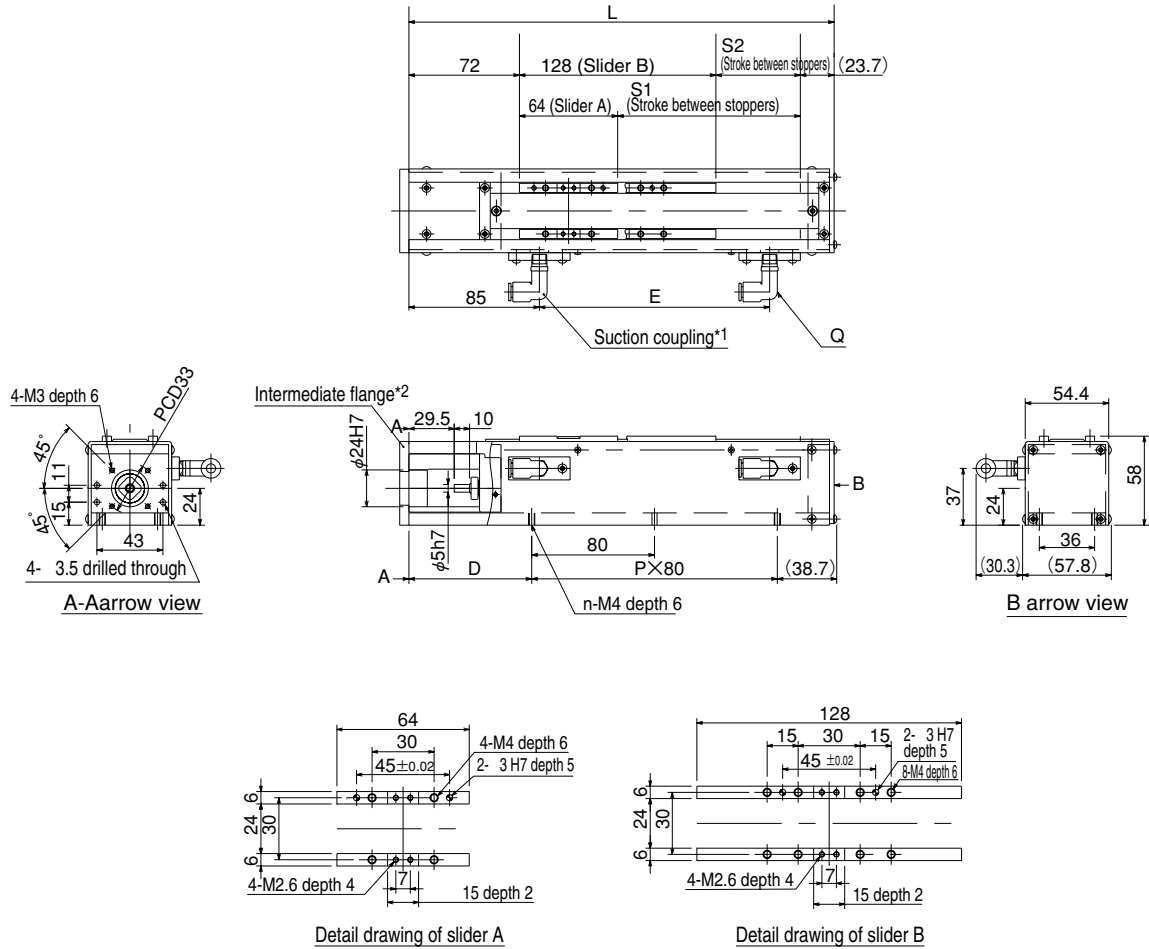
5 Major options: F (intermediate flange), J (coupling), S (proximity sensor), K (photo sector), M (motor)

Basic Specifications

Model No.	Lead (mm)	Rail length*1	Positioning repeatability (mm)			Rough suction volume (Nl/min)	Indicated mass of the main unit (kg)	
			Normal grade	High grade	Precision grade		Slider A type	Slider B type
CKR20	1 · 6	100	±0.010	±0.005	±0.003	30 to 60	1.1	—
		150					1.4	1.6
		200					1.6	1.8

(*1): The rail length is not the stroke at which the system is capable of operating. For the stroke between the stoppers, see the basic dimensional table.

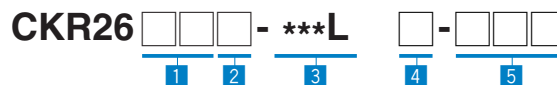
Model CKR26



(*1) If a photo sensor is used, it cannot be mounted on the same plane as the suction coupling(s). The suction coupling(s) can be mounted on either side.
 (*2) Various types of intermediate flanges are available to support different motors. Contact THK for details.

Model No.	Stroke between stoppers		L (overall length) (mm)	C (mm)	D (mm)	P	n (pcs)	E (mm)	Q (pcs)
	S1	S2							
CKR26 □□□-150L □	69	—	228.7	80	95	1	4	100	2
CKR26 □□□-200L □	119	55	278.7	160	80	2	6	150	2
CKR26 □□□-250L □	169	105	328.7	160	105	2	6	200	2
CKR26 □□□-300L □	219	155	378.7	240	90	3	8	250	2
CKR26 □□□-350L □	269	205	428.7	240	115	3	8	300	2

Model number coding



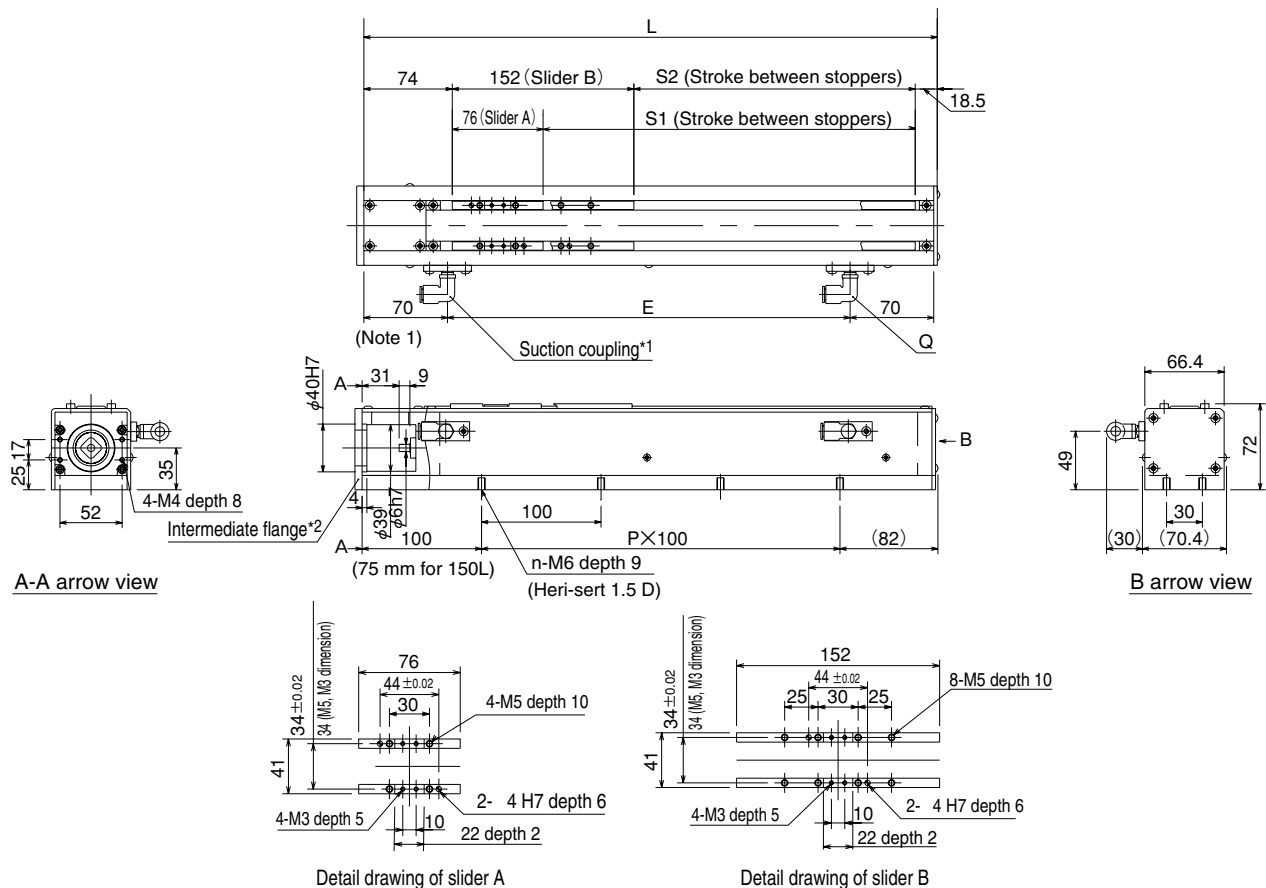
1 Lead: 02, 06 2 Slider: A, B 3 Rail length: 150, 200, 250, 300, 350 4 Accuracy: No symbol (normal grade), H (high grade), P (precision grade)
 5 Major options: F (intermediate flange), J (coupling), S (proximity sensor), K (photo sector), M (motor)

Basic Specifications

Model No.	Lead (mm)	Rail length*1	Positioning repeatability (mm)			Rough suction volume (Nl/min)	Indicated mass of the main unit (kg)	
			Normal grade	High grade	Precision grade		Slider A type	Slider B type
CKR26	2 · 6	150	±0.010	±0.005	±0.003	30 to 60	1.8	—
		200					2.1	2.6
		250					2.4	2.9
		300					2.7	3.2

(*1): The rail length is not the stroke at which the system is capable of operating. For the stroke between the stoppers, see the basic dimensional table.

Model CKR33



(*1) If a photo sensor is used, it cannot be mounted on the same plane as the suction coupling(s). The suction coupling(s) can be mounted on either side.
 (*2) Various types of intermediate flanges are available to support different motors. Contact THK for details.

Model No.	Stroke between stoppers		L (overall length) (mm)	P	n (pcs)	E (mm)	Q (pcs)
	S1	S2					
CKR33 □□□-150L □	61.5	—	232	1	4	—	1
CKR33 □□□-200L □	111.5	—	282	1	4	137.0	2
CKR33 □□□-300L □	211.5	135.5	382	2	6	237.0	2
CKR33 □□□-400L □	311.5	235.5	482	3	8	168.5	3
CKR33 □□□-500L □	411.5	335.5	582	4	10	218.5	3
CKR33 □□□-600L □	511.5	435.5	682	5	12	268.5	3

(*1): The rail length is not the stroke at which the system is capable of operating. For the stroke between the stoppers, see the basic dimensional table.

Model number coding



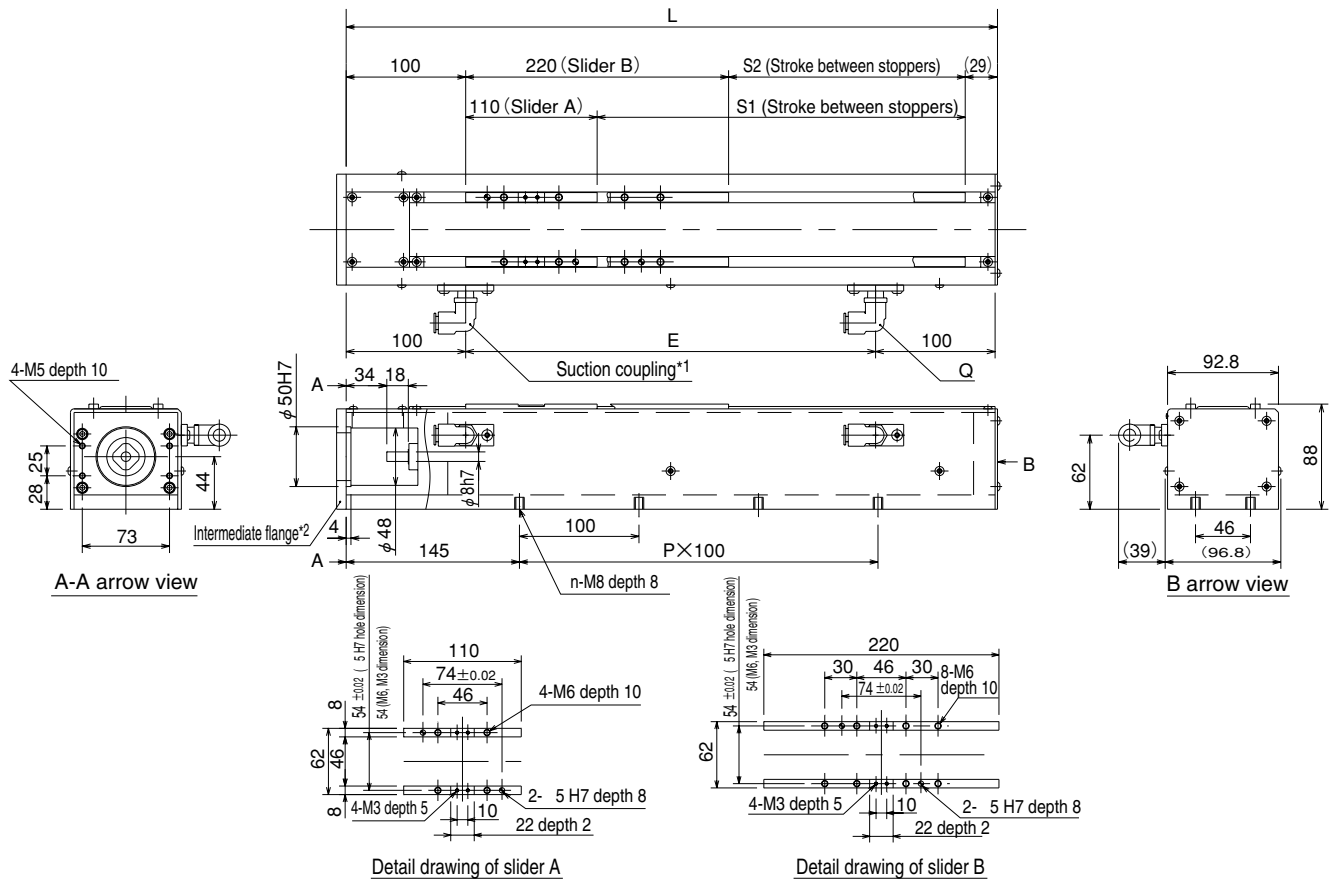
1 Lead: 06, 10 2 Slider: A, B 3 Rail length: 150, 200, 300, 400, 500, 600 4 Accuracy: No symbol (normal grade), H (high grade), P (precision grade)
 5 Major options: F (intermediate flange), J (coupling), S (proximity sensor), K (photo sector), M (motor)

Basic Specifications

Model No.	Lead (mm)	Rail length*1	Positioning repeatability (mm)			Rough suction volume (Nl/min)	Indicated mass of the main unit (kg)	
			Normal grade	High grade	Precision grade		Slider A type	Slider B type
CKR33	6 · 10	150	±0.010	±0.005	±0.003	30 to 60	3.5	—
		200					4.0	—
		300					4.9	5.8
		400					5.9	6.8
		500					7.0	7.9
		600					7.9	8.8

(*1): The rail length is not the stroke at which the system is capable of operating. For the stroke between the stoppers, see the basic dimensional table.

Model CKR46



(*1) If a photo sensor is used, it cannot be mounted on the same plane as the suction coupling(s). The suction coupling(s) can be mounted on either side.
 (*2) Various types of intermediate flanges are available to support different motors. Contact THK for details.

Model No.	Stroke between stoppers		L (overall length) (mm)	P	n (pcs)	E (mm)	Q (pcs)
	S1	S2					
CKR46 □□□-340L □	208	98	447	2	6	243	2
CKR46 □□□-440L □	308	198	547	3	8	343	2
CKR46 □□□-540L □	408	298	647	4	10	221.5×2	3
CKR46 □□□-640L □	508	398	747	5	12	271.5×2	3
CKR46 □□□-740L □	608	498	847	6	14	321.5×2	3
CKR46 □□□-840L □	708	598	947	7	16	371.5×3	3
CKR46 □□□-940L □	808	698	1047	8	18	281×3	4

■ Model number coding **CKR46** □□□ - **340L** □□□ - □□□□

1
2
3
4
5

1 Lead: 10, 20 2 Slider: A, B 3 Rail length: 340, 440, 540, 640, 740, 940 4 Accuracy: No symbol (normal grade), H (high grade), P (precision grade)
 5 Major options: F (intermediate flange), J (coupling), S (proximity sensor), K (photo sector), M (motor)

Basic Specifications

Model No.	Lead (mm)	Rail length*1	Positioning repeatability (mm)			Rough suction volume (Nl/min)	Indicated mass of the main unit (kg)	
			Normal grade	High grade	Precision grade		Slider A type	Slider B type
CKR46	10 · 20	340	±0.010	±0.005	±0.003	40~90	12.1	14.7
		440					13.9	16.5
		540					15.7	18.3
		640					17.5	20.1
		740					19.2	21.8
		840					21.0	23.5
		940					22.7	25.2

(*1): The rail length is not the stroke at which the system is capable of operating. For the stroke between the stoppers, see the basic dimensional table.

Precautions on use

- **Precautions on handling**
 - Disassembling components may cause dust to enter the system or degrade mounting accuracy of parts. Do not disassemble the product.
 - Dropping or hitting model CKR may damage it. Giving an impact to it could also cause damage to its function even if the product looks intact.
- **Cautions**
 - Do not forcibly press the sealing sheet.
 - Use care not to leave a bend on the sealing sheet when using the product.
 - Since the space inside the covers is vacuumed, particles may adhere to the sealing sheet or around it depending on the surrounding environment. Remove the particles using clean paper and alcohol or the like.
- **Lubrication**
 - Do not mix lubricants of different physical properties.
 - In locations exposed to constant vibrations or in special environments such as vacuum and low/high temperature, normal lubricants may not be used. Contact THK for details.
 - To maximize the performance of model CKR, lubrication is required. Using the product without lubrication may increase wear of the rolling elements or shorten the service life.
- **Precautions on use**
 - Entrance of foreign matter may cause damage to the ball circulating component or functional loss. Prevent foreign matter, such as dust or cutting chips, from entering the system.
 - Do not use the product at temperature of 40°C or higher. When desiring to use the system at temperature of 40°C or higher, contact THK in advance.
 - Exceeding the permissible rotation speed may lead the components to be damaged or cause an accident. The rotation speed during operation must be within the THK specifications.
 - When using the product in locations exposed to constant vibrations or in special environments such as vacuum and low/high temperature, contact THK in advance.
- **Storage**
 - When storing model CKR, enclose it in a package designated by THK and store it at temperature between 10°C and 40°C while avoiding high temperature, low temperature and high humidity.

● “LM Guide,” “Ball Cage,” “,” and “QZ” are registered trademarks of THK CO., LTD.

- The photo may differ slightly in appearance from the actual product.
 - The appearance and specifications of the product are subject to change without notice. Contact THK before placing an order.
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