



ACTUATOR
UNITS

NEW

Compact series

Compact Series

KSF

New KSF10 Size, Now Available
Top Cover Type / Open Cover Type Lineup



For details, visit THK at www.thk.com

* Product information is updated regularly on the THK website.

THK CO., LTD.
TOKYO. JAPAN

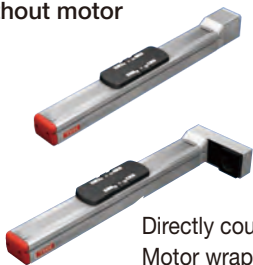
CATALOG No.396-11E-EU



Lineup

Compact Series KSF

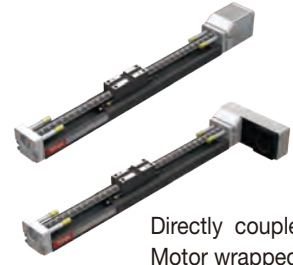
Without motor



Directly coupled: From P.13
Motor wrapped: From P.15



Directly coupled: From P.33
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Directly coupled: From P.49
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Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

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KSF 8T

KSF 10T

KSF 4U

KSF 5U

KSF 6U

KSF 8U

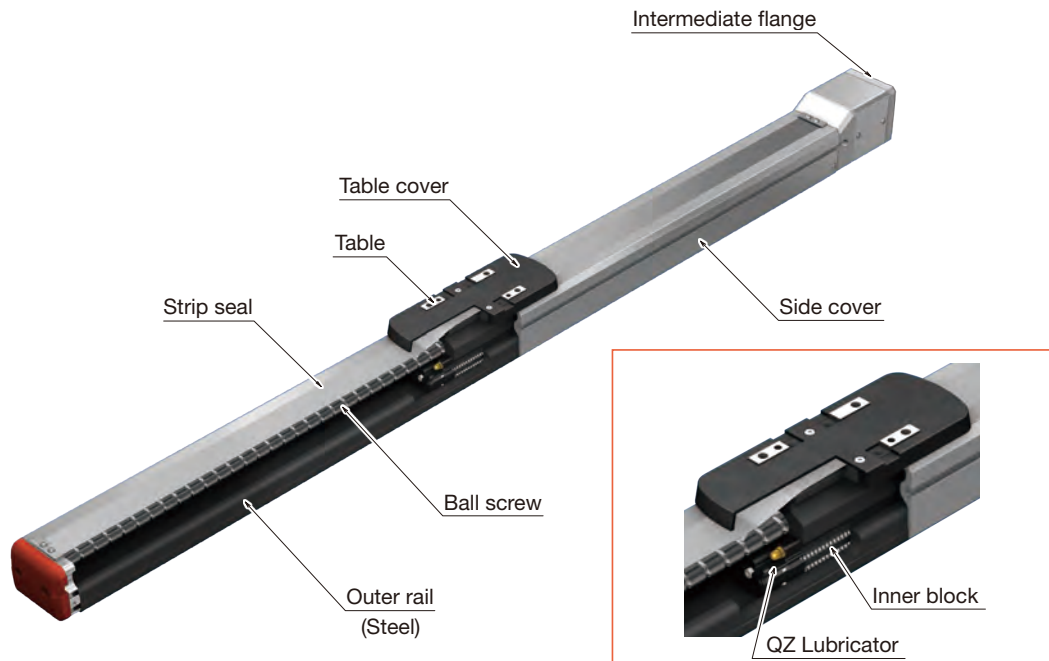
KSF 10U

Technical Materials

Compact series

KSF

The adoption of a large diameter ball screw enables both **long service life as well as improved process time via high-speed and high-acceleration/deceleration**



KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

KSF 6U

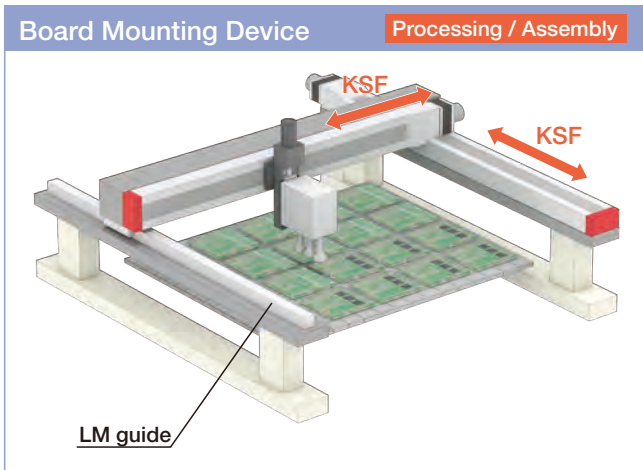
KSF 8U

KSF 10U

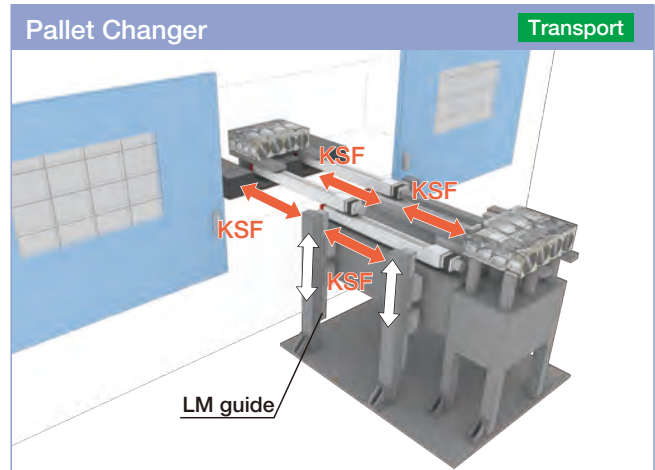
KSF is a compact, high-rigidity, high-precision actuator. An inner block structure integrated with an LM block and ball screw nut inside of a high-rigidity U-shaped cross-section outer rail.

Moreover, as A/B housings act as support units and the inner block can act as a table for overall cost reductions due to largely eliminated design and processing time.

Product Usage Example



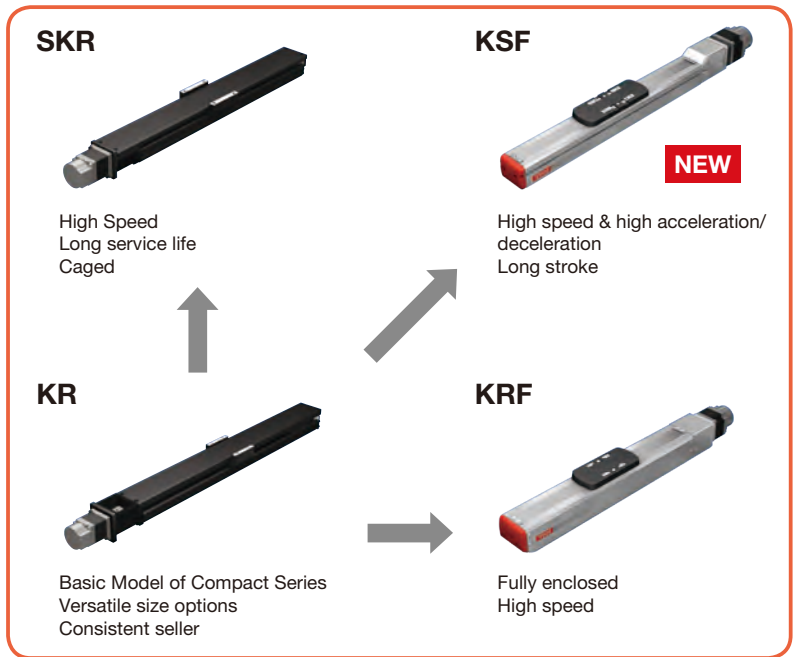
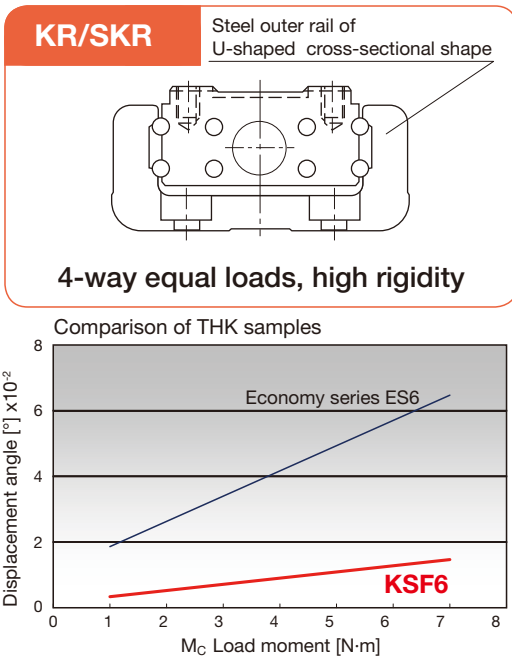
Board Mounting Device Processing / Assembly
 Model Number Used: **KSF** LM guide
 KSF is used to enable the high-speed and high-precision positioning of the board mounting device.



Pallet Changer Transport
 Model Number Used: **KSF** LM guide
 2 stacked KSF units are used for the changer. This makes for more compact and rigid units than conventional multi-jointed robots.

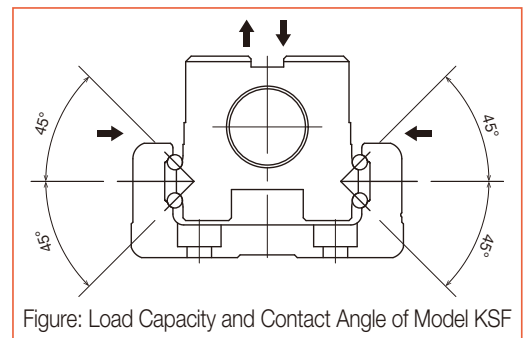
Features and Lineup of the Compact Series

Use of a steel outer rail with a cross-sectional U shape enables to receive larger moment.



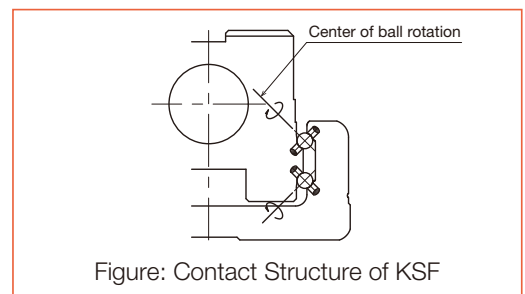
1 4-way Equal Load

Each row of balls is arranged at a contact angle of 45° so that the rated load on the inner block is uniform under loads applied to the inner block in the four directions (radial, reverse radial and lateral directions). As a result, model KSF can be used in any mounting orientation.



2 High Accuracy

Since the linear guide section consists of 4 rows of circular-arc grooves that enable balls to smoothly move even under a preload, a highly rigid guide with no clearance is achieved. Additionally, variation in frictional resistance caused by load fluctuation is minimized, allowing the system to follow highly accurate feed.



3 High Rigidity

Use of an outer rail with a U-shaped cross section increases the rigidity with respect to moment and torsion.

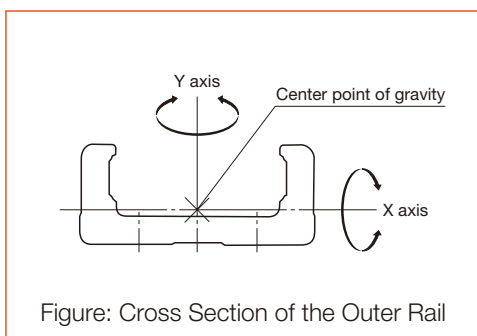


Table: Cross-sectional Characteristics of the Outer rail

Model	I _x [mm ⁴]	I _y [mm ⁴]	Weight [kg/m]
KSF4	6.1 × 10 ³	6.2 × 10 ⁴	2.6
KSF5	1.7 × 10 ⁴	1.5 × 10 ⁵	3.9
KSF6	2.7 × 10 ⁴	2.8 × 10 ⁵	5.0
KSF8	8.4 × 10 ⁴	8.9 × 10 ⁵	9.0
KSF10	2.2 × 10 ⁵	2.3 × 10 ⁶	15.0

I_x= geometrical moment of inertia around X axis
I_y= geometrical moment of inertia around Y axis

Compact Series KSF Features

1 Increased Rated Output of the Applicable Motors

Ball screw shaft size was enlarged with the same compact outer rail unit. Shaft end was also enlarged which allows the use of larger size motors compared to THK actuators of the same size.

This allows high-speed, high-acceleration/deceleration operation which improves process time.

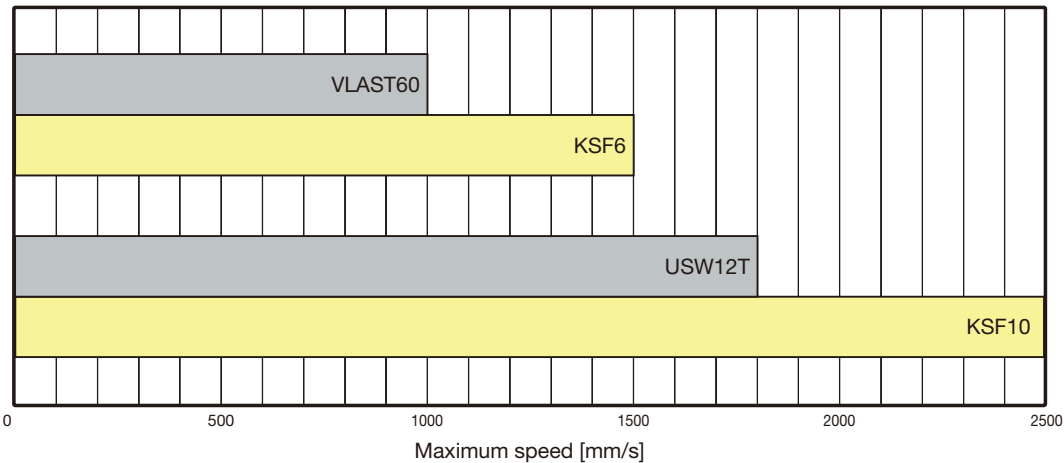
Model	Motor rated output (W)	Model	Motor rated output (W)	Model	Motor rated output (W)	Model	Motor rated output (W)
KSF4, KSF5	100	KSF6	200	KSF8	400	KSF10	750
VLAST45	30	VLAST60	100	US8T	150	USW12T	200

2 High speed & high acceleration/deceleration

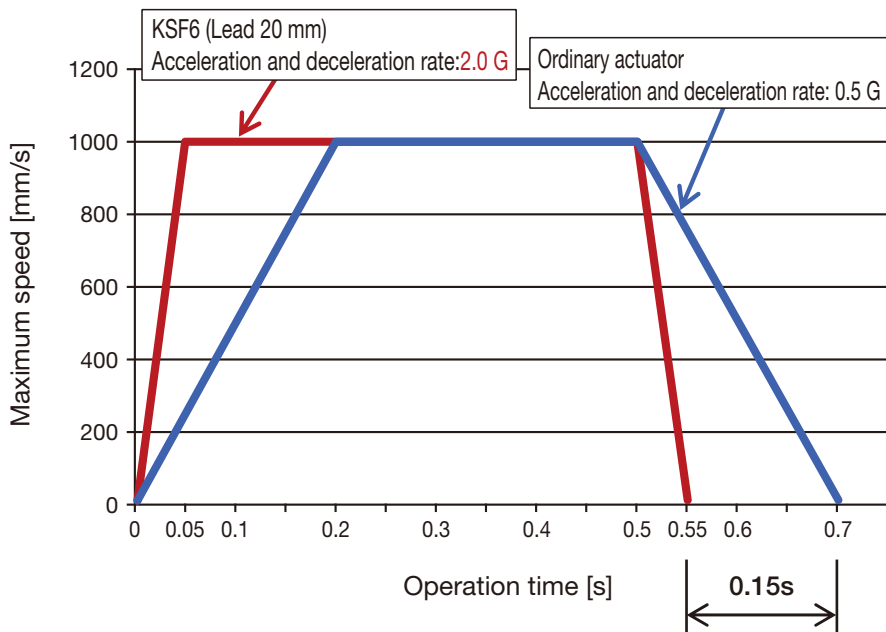
Maximum speed 2,500 mm/s Maximum acceleration/deceleration 2 G

Larger lead of the ball screw has achieved the maximum speed of 2,500 mm/s. (*For KSF10, lead 50)
Using a larger rated output motor allows for the high-acceleration/deceleration conveyance. (Up to 2 G)

Max. speed comparison between KSF and other THK products



Reduced process time through high-acceleration operation

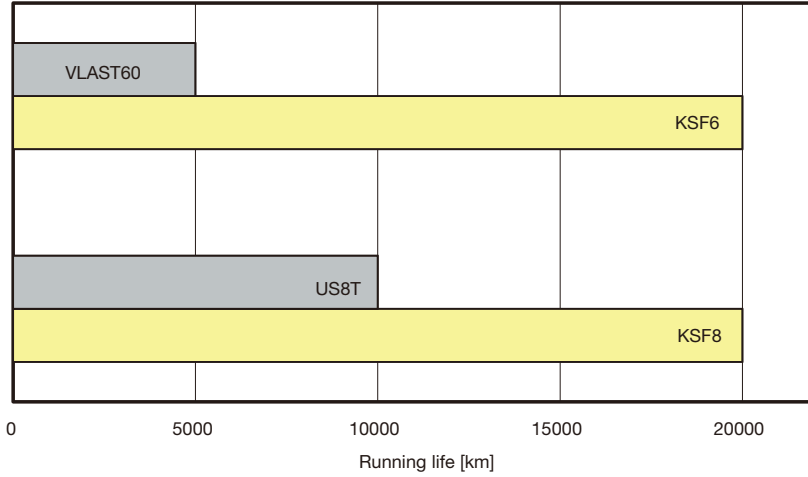


Process time reduced by 0.3 seconds per cycle (500 mm stroke)
Process time reduced by 30 seconds per 100 cycles, for roughly 20% increase in productivity

3 Long service life **20,000 km**

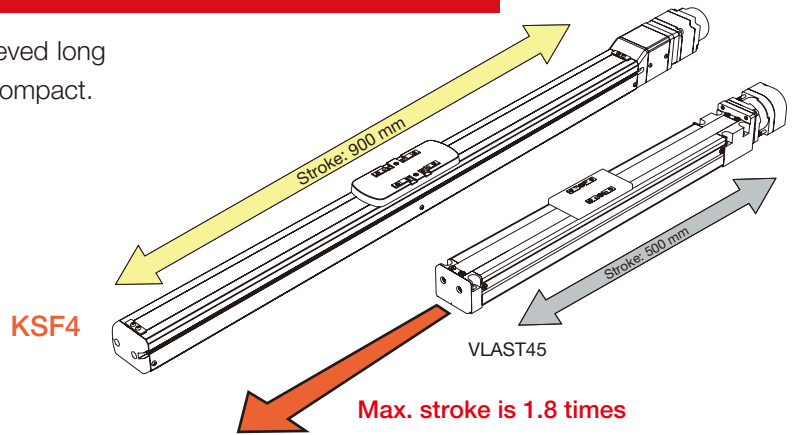
The long life of 20,000 km running life (10,000 km running life for KSF4 and KSF5 lead 10 mm) was made possible at the maximum load capacity by increasing the basic dynamic load rating of the LM guide unit and the ball screw unit.

Running life comparison between KSF and other THK products

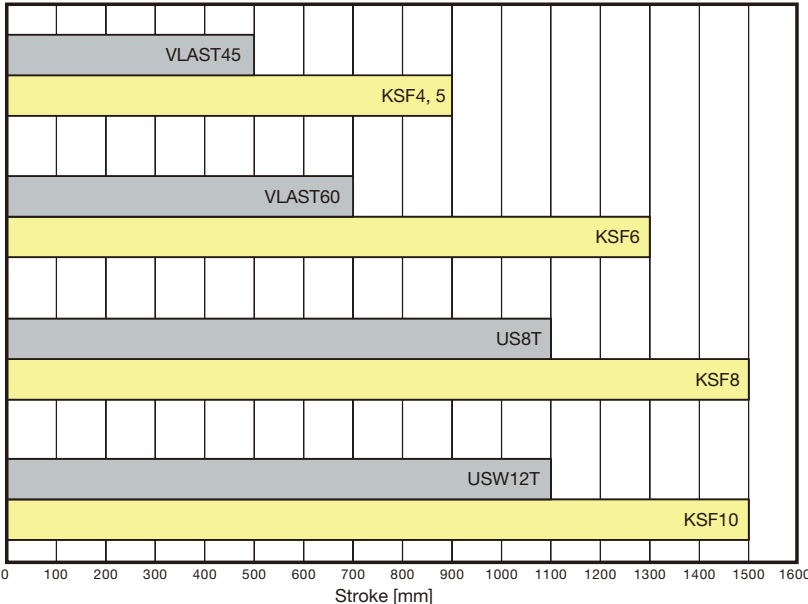


4 Long stroke **Maximum stroke 1,500 mm**

The larger ball screw shaft diameter has achieved long stroke operations while keeping the product compact.



Max. stroke comparison between KSF and other THK products



5 Long-term maintenance-free operation

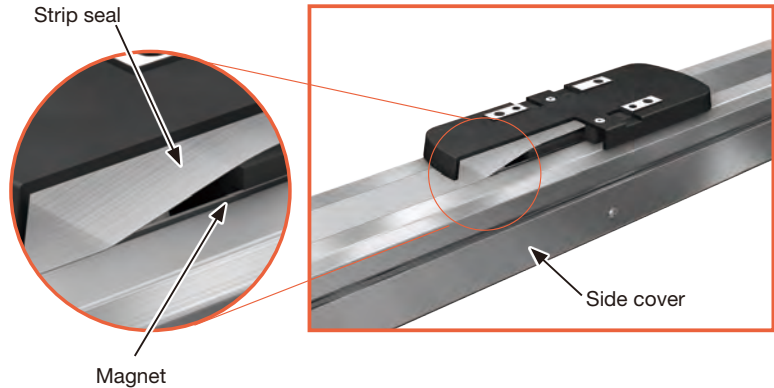
Lubricator QZ, which supplies the right amount of lubricant, adopted as the standard feature allows for long-term maintenance-free operations.

6 Fully enclosed design **Reduced dust generation**

Strip seal and top of side cover are magnetically sealed which provides a fully enclosed structure. It prevents failure by foreign matters getting inside. By avoiding sliding with the top surface of the strip seals, there is low particle generations.

Magnetic attraction method

The magnet built in the side cover attracts the strip seal and prevents it from lifting, reducing the development of clearance.



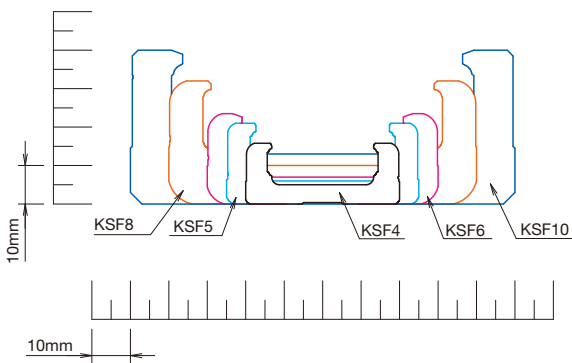
7 Versatile lineup

KSF10 has been added to the lineup for a total of 5 models.

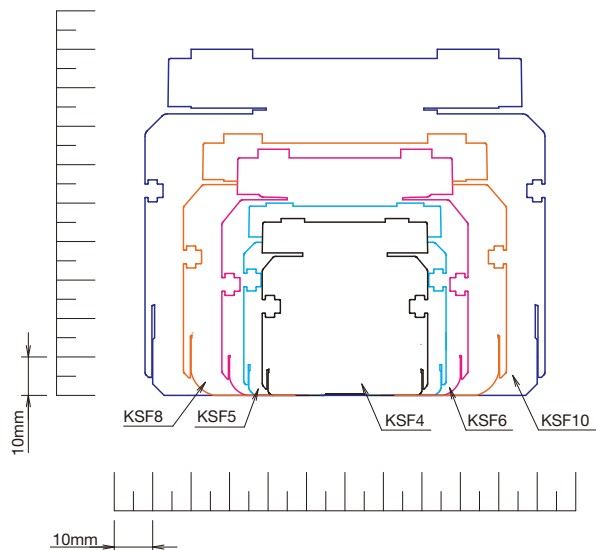
Open cover and top cover specifications have recently been added for even easier maintenance and mounting. Furthermore, motor wrap type for compact length and back-tapped type that can be mounted without removing the cover have been added, allowing selection to suit the application.

Moreover, motors from various manufacturers can be mounted, allowing users to operate with familiarized control methods.

• Size Lineup



Comparison of outer rail cross-sections



Comparison of fully enclosed cross-sections

• Shapes Lineup



Fully Enclosed Type

Top Cover Type

Open Cover Type

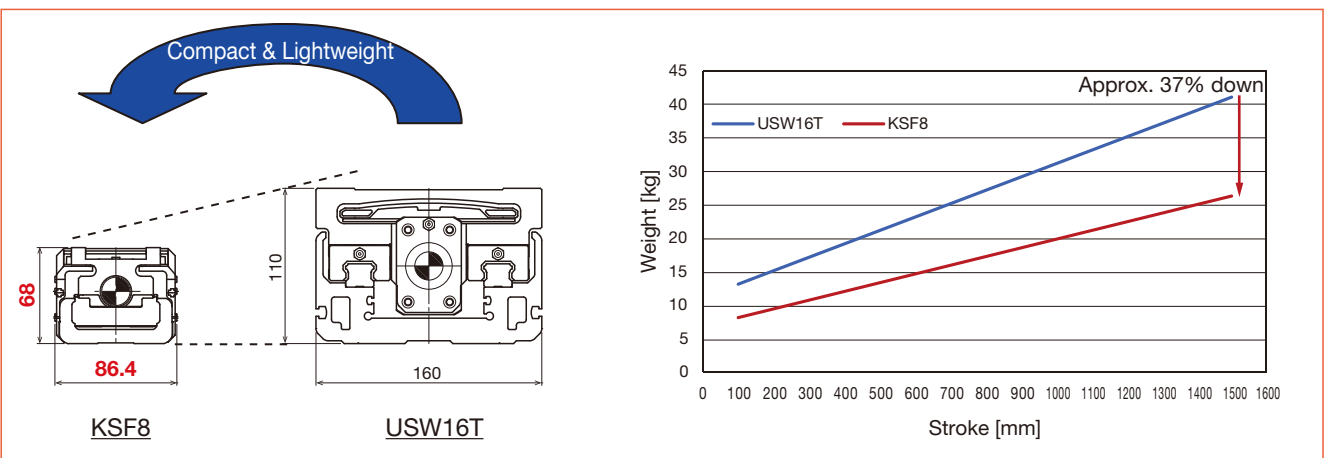
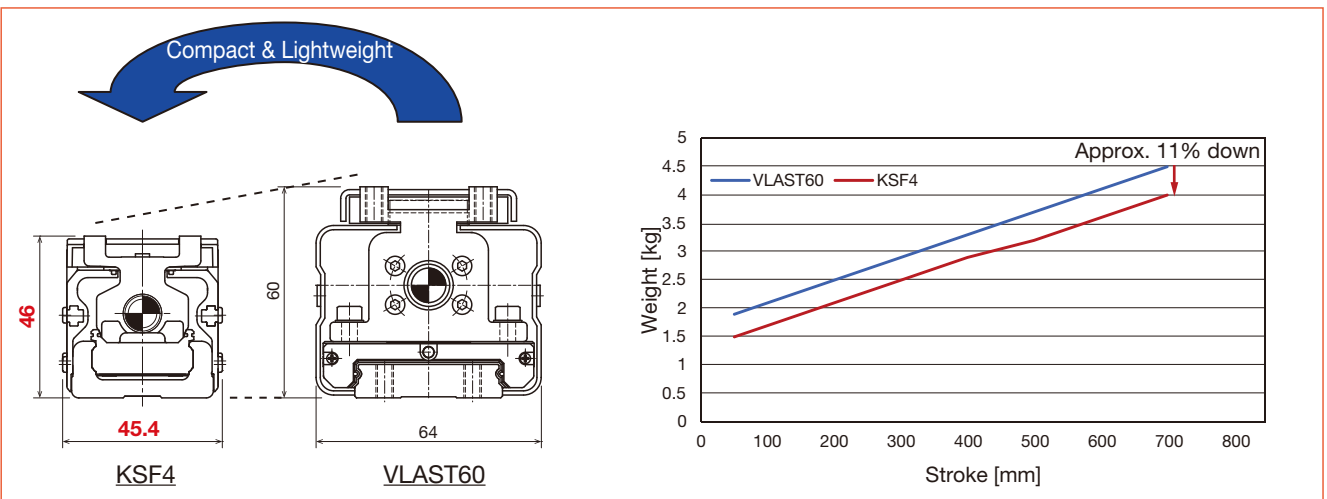
8 Compact & Lightweight

Sectional dimensions 67% down, weight 37% down

When compared with other THK actuators using motors of the same rated output, KSF4 is approximately 45% more compact and 11% lighter in weight than VLAST60 models, while KSF8 is approximately 67% more compact and 37% lighter in weight than USW16T models.

*KSF4: When the stroke is 700 mm

*KSF8: When the stroke is 1,500 mm



Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

KSF 6U

KSF 8U

KSF 10U

Technical Materials

Product Lineup



Fully Enclosed Type
KSF4 to 10



Fully Enclosed Type
KSF4R to 10R



Top Cover Type
KSF5T to 10T

Model	Ball screw lead [mm]	Stroke [mm]	Acceleration and deceleration rate [G]	Maximum load capacity*1 [kg]	
				Horizontal/Wall mount	Vertical mount
KSF4 KSF4U	10	50 to 900	0.5	12	8
			1.0	8	6
	16		1.0	8	6
			2.0	6	4
KSF5 KSF5T KSF5U	10	50 to 900	0.5	20	13
			1.0	15	8
	20		1.0	7	6
			2.0	5	3
KSF6 KSF6T KSF6U	20	50 to 1300	1.0	22	10
			2.0	5	3
	30		1.0	14	6
			2.0	6	4
KSF8 KSF8T KSF8U	20	100 to 1500	1.0	43	20
			2.0	6	3
	40		1.0	16	8
			2.0	7	5
KSF10 KSF10T KSF10U	25	100 to 1500	1.0	60 (58)	25 (23)
			1.5	26	13
	50		1.0	17 (15)	9 (7)
			1.5	8	5
KSF4R KSF4RU	10	50 to 900	0.5	12	8
			1.0	8	6
	16		1.0	8	6
			2.0	6	4
KSF5R KSF5RT KSF5RU	10	50 to 900	0.5	20	11
			1.0	15	8
	20		1.0	7	5
			2.0	4	2.5
KSF6R KSF6RT KSF6RU	20	50 to 1300	1.0	19	9
			2.0	4	2.5
	30		1.0	11	5
			2.0	4	2.5
KSF8R KSF8RT KSF8RU	20	100 to 1500	1.0	41	20
			2.0	6	3
	40		1.0	16	8
			2.0	7	5
KSF10R KSF10RT KSF10RU	25	100 to 1500	1.0	38 (36)	19 (17)
			1.5	8	3
	50		1.0	12 (10)	7 (5)
			1.5	4	3

*1 () is the value for KSF10T, KSF10RT.

*2 The maximum speed is the value restricted by the motor rotational speed (at 3,000 min⁻¹) or by the permissible rotational speed of the ball screw.⁻¹



Top Cover Type
KSF5RT to 10RT



Open Cover Type
KSF4U to 10U



Open Cover Type
KSF4RU to 10RU

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

KSF 6U

KSF 8U

KSF 10U

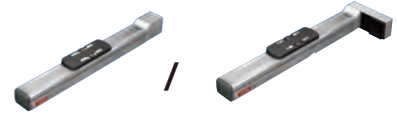
Technical Materials

Maximum speed for each stroke*2 [mm/s]																		
Stroke [mm]																		
up to 550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1400	1500	
500	430	370	320	290	250	230	200											
800	690	600	520	460	410	360	330											
500	440	390	340	310	270	250												
1000	890	780	690	620	550	500												
1000		980	870	770	690	630	570	520	470	430	400	370	340	320				
1500		1470	1300	1160	1040	940	850	780	710	650	600	550	510	480				
1000			970		790		660		550		470		410		360	320		
2000			1940		1580		1320		1110		950		830		720	640		
		1250					1050		890		760		660		580	510		
		2500					2110		1790		1530		1330		1160	1030		
500	430	370	320	290	250	230	200											
800	690	600	520	460	410	360	330											
500	440	390	340	310	270	250												
1000	890	780	690	620	550	500												
1000		980	870	770	690	630	570	520	470	430	400	370	340	320				
1500		1470	1300	1160	1040	940	850	780	710	650	600	550	510	480				
1000			970		790		660		550		470		410		360	320		
2000			1940		1580		1320		1110		950		830		720	640		
		1250					1050		890		760		660		580	510		
		2500					2110		1790		1530		1330		1160	1030		

Model Configuration

KSF (type without motor)

In the case of actuator main unit only, or when the motor specified by the customer is installed



Model	Ball screw lead	Stroke	With/without motor	Intermediate flange/motor mounting plate	Motor shaft diameter	Motor shaft fixing method	Option
KSF4R - (1)	10 (2)	0050 (3)	0 (4)	WQ (5)	08 (6)	K (7)	ML-GR (8)
KSF4	10: 10 mm	0050: 50 mm to 1500: 1500 mm	0: Without motor 1: With motor	A0, AQ, AP, AR, AV, AY, AU, AZ, A5, A6, WQ, WP, WV, WY, WZ, W5	No symbol: Select when directly coupled 08: 8 mm 11: 11 mm 14: 14 mm 16: 16 mm 19: 19 mm	No symbol: Select when directly coupled D: D-cut K: Key M: Friction tightening	No symbol: None MR: Motor right wrap* ML: Motor left wrap* MD: Motor down wrap* T: Back tap GR: Change the cover color to gray □: Sensors

Ball screw leads you can select differ depending on models.
 KSF4: "10", "16"
 KSF5: "10", "20"
 KSF6: "20", "30"
 KSF8: "20", "40"
 KSF10: "25", "50"

Stroke and stroke pitch differ depending on models.
 KSF4: 50 to 900 mm (in 50mm pitch increments)
 KSF5: 50 to 900 mm (in 50mm pitch increments)
 KSF6: 50 to 1300 mm (in 50mm pitch increments)
 KSF8: 100 to 1500 mm (in 100mm pitch increments)
 KSF10: 100 to 1500 mm (in 100mm pitch increments)

When selecting "0", a coupling is not provided. When selecting "1", the motor you specify will be installed.
 *Specify the motor cable orientation separately.

Motor shaft fixing methods you can select differ depending on models.
 KSF4R: "D", "K"
 KSF5R: "D", "K"
 KSF6R: "D", "K", "M"
 KSF8R: "M"
 KSF10: "M"

Specify the optional symbol by writing in the order of description from left adding "-".
 *Valid only when motor wrap is selected in model (1).

Change the cover color to gray
 You can change the color of a housing cover to gray.
 Standard: red When GR is selected: gray

Model configuration coding

When combining with dedicated driver controller (THC)	KSF4-10-0150-TH-6/M10BRS02D2H5
Main unit only (type without motor)	KSF4R-16-0150-0-WQ-08K-MR-6
Main unit only (when the motor specified by the customer is installed)	KSF4-10-0150-1-AQ-GR

Pages for detailed description

(5) Intermediate flange	→ P.73
(8) Options	T: Back taps → P.69 Sensors → P.70
	GR: Change the cover color to gray → P.73

Model Configuration

KSF-T/U (type without motor)

In the case of actuator main unit only, or when the motor specified by the customer is installed



Model	Ball screw lead	Stroke	With/without motor	Intermediate flange/motor mounting plate	Motor shaft diameter	Motor shaft fixing method	Option
KSF4RU - (1)	10 - (2)	0050 - (3)	0 - (4)	WQ - (5)	08 - (6)	K - (7)	ML - (8)
KSF5T	10: 10 mm	0050 : 50 mm	0: Without motor	A0	No symbol: Select when directly coupled	No symbol: Select when directly coupled	No symbol: None
KSF6T	16: 16 mm	to	1: With motor	AQ	08 : 8 mm	D : D-cut	MR : Motor right wrap*1
KSF8T	20: 20 mm	1500 : 1500 mm		AP	11 : 11 mm	K : Key	ML : Motor left wrap*1
KSF10T	25: 25 mm			AR	14 : 14 mm	M : Friction tightening	MD : Motor down wrap*1
KSF5RT	30: 30 mm			AV	16 : 16 mm		T : Back tap
KSF6RT	40: 40 mm			AY	19 : 19 mm		<input type="checkbox"/> : Sensors
KSF8RT	50: 50 mm			AU			F : Sub-table iron specification*2
KSF10RT				AZ			
KSF4U				A5			
KSF5U				A6			
KSF6U				WQ			
KSF8U				WP			
KSF10U				WV			
KSF4RU				WY			
KSF5RU				WZ			
KSF6RU				W5			
KSF8RU							
KSF10RU							

Ball screw leads you can select differ depending on models.
 KSF4: "10", "16"
 KSF5: "10", "20"
 KSF6: "20", "30"
 KSF8: "20", "40"
 KSF10: "25", "50"

When selecting "0", a coupling is not provided.
 When selecting "1", the motor you specify will be installed.

Maximum stroke differs depending on models.
 KSF4: 50 to 900 mm (in 50mm pitch increments)
 KSF5: 50 to 900 mm (in 50mm pitch increments)
 KSF6: 50 to 1300 mm (in 50mm pitch increments)
 KSF8: 100 to 1500 mm (in 100mm pitch increments)
 KSF10: 100 to 1500 mm (in 100mm pitch increments)

Motor shaft fixing methods you can select differ depending on models.
 KSF4R: "D", "K"
 KSF5R: "D", "K"
 KSF6R: "D", "K", "M"
 KSF8R: "M"
 KSF10R: "M"

Specify the optional symbol by writing in the order of description from left adding "-".
 *1 Valid only when motor wrap is selected in model (1).
 *2 This is valid only when selecting Top Cover for model (1). KSF10T and KSF10RT are standard and the sub-table is iron.

T indicates a top cover and U indicates an open cover. R represents motor wrap.

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

KSF 6U

KSF 8U

KSF 10U

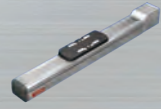
Technical Materials

Model configuration coding

When combining with dedicated driver controller (THC)	KSF4T-16-0150-TH-T-6/M10BLS02D1F3
Main unit only (type without motor)	KSF4RU-10-0150-0-WQ-08K-MR-6
Main unit only (when the motor specified by the customer is installed)	KSF4U-10-0150-1-AQ-T

Pages for detailed description

(5) Intermediate flange	→ P.73
(6) Options	Back taps → P.69
	Sensors → P.70



KSF4 Without Motor

Features
Product Lineup
Model Configuration
Specifications / Dimensions

Model Configuration

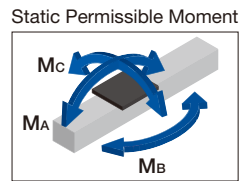
Model	Ball screw lead	Stroke	With/without motor	Intermediate flange	Option
KSF4	10	0050	0	AQ	GR

KSF4	10: 10 mm 16: 16 mm	0050: 50 mm to 0900: 900 mm	0: Without motor 1: With motor	A0: Without intermediate flange AP AQ AR	No symbol : None T : Back tap GR : Change the cover color to gray 6 : Photo sensor J : Proximity sensor M : Proximity sensor (PNP)
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Basic Specifications

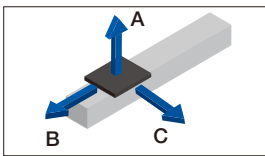
LM guide portion	Basic dynamic load rating C [N]	6,400	
	Basic static load rating Co [N]	12,900	
Ball screw portion	Basic dynamic load rating Ca [N]	2,860	1,850
	Basic static load rating Coa [N]	5,110	3,420
	Screw shaft diameter [mm]	φ10	
Bearing portion (Fixed side)	Ball screw lead [mm]	10	16
	Basic dynamic load rating Ca [N]	2,930	
	Static permissible load Poa [N]	2,140	
Permissible rotational speed *1 [min ⁻¹]		3,000	
Starting torque *2 [N-cm]		1.5	
Positioning repeatability *3 [mm]		±0.010	
Lost motion *3 [mm]		0.1	
Permissible input torque [N-m]		1.2	
Static permissible moment *4 [N-m]		Ma: 103 Mb: 103 Mc: 58	

- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for MA and Mc are the top face of the table, and that for MB is the center of the table.

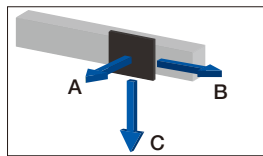


Permissible Overhang Length *7

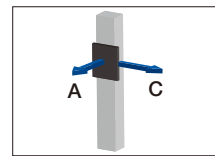
Horizontal use



Wall use



Vertical use



Acceleration and deceleration rate 0.5 G

Horizontal mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
10	3	400	210	350
	6	400	100	170
	12	260	45	80
16	2	400	260	350
	4	300	120	170
	8	130	50	80

Wall mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
10	3	320	190	400
	6	130	80	400
	12	45	25	210
16	2	310	240	400
	4	140	100	280
	8	50	30	110

Vertical mount		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
10	2	300	300
	4	140	140
	8	60	60
16	1.5	290	290
	3	130	130
	6	50	50

Acceleration and deceleration rate 1.0 G

Horizontal mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
10	2	400	330	400
	4	400	160	250
	8	250	70	120
16	1.5	400	350	400
	3	250	170	200
	6	110	80	100

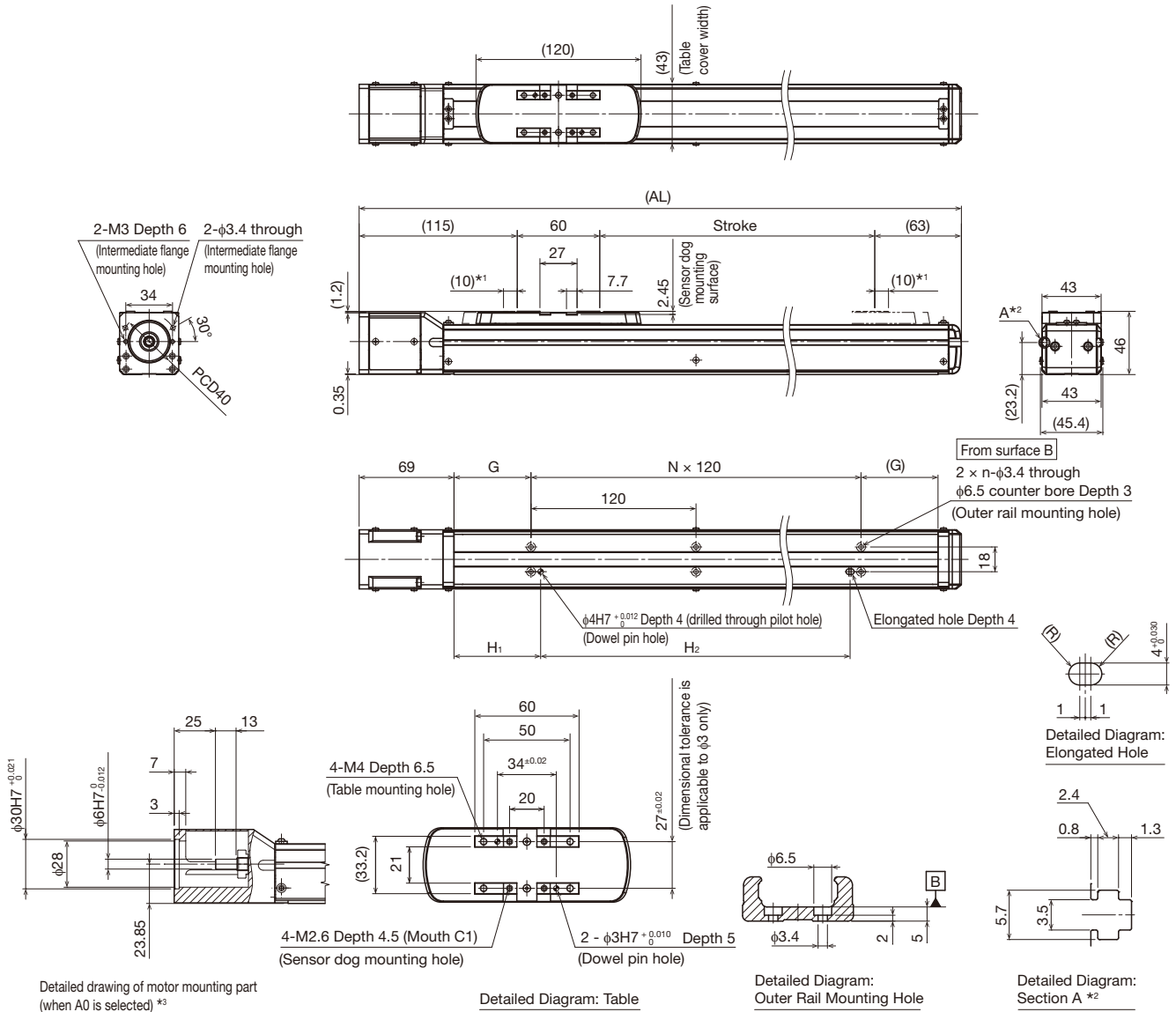
Wall mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
10	2	400	310	400
	4	210	140	400
	8	80	50	230
16	1.5	360	320	400
	3	160	150	240
	6	60	60	100

Vertical mount		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
10	1.5	400	400
	3	190	190
	6	80	80
16	1	400	400
	2	190	190
	4	80	80

*7 This value is the overhang length whose running life is 10,000 km (20,000 km for lead 16 mm) for each direction. A permissible value of the applied load in each direction.

Technical Materials

Dimensions



*1 Stroke up to mechanical stopper.

*2 The T slot in Section A is provided exclusively for sensor mounting. Do not use it for any other purpose.

*3 See P.77 for intermediate flange dimensions.

Stroke [mm]		50	100	150	200	250	300	350	400	450
(Stroke between mechanical stoppers)		(70)	(120)	(170)	(220)	(270)	(320)	(370)	(420)	(470)
Maximum speed [mm/s]	Ball screw lead: 10 mm					500				
	Ball screw lead: 16 mm					800				
Dimensions [mm]	AL	288	338	388	438	488	538	588	638	688
	G	41	66	91	56	81	46	71	96	61
	H ₁	48	48	48	63	63	63	48	48	48
	H ₂	75	125	175	225	275	325	375	425	475
Mounting pitch count	N	1	1	1	2	2	3	3	3	4
Mounting hole count	n	2	2	2	3	3	4	4	4	5
Weight [kg]		1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.0
Stroke (mm)		500	550	600	650	700	750	800	850	900
(Stroke between mechanical stoppers)		(520)	(570)	(620)	(670)	(720)	(770)	(820)	(870)	(920)
Maximum speed [mm/s]	Ball screw lead: 10 mm	500		430	370	320	290	250	230	200
	Ball screw lead: 16 mm	800		690	600	520	460	410	360	330
Dimensions [mm]	AL	738	788	838	888	938	988	1038	1088	1138
	G	86	51	76	41	66	91	56	81	46
	H ₁	63	63	63	48	48	48	63	63	63
	H ₂	525	575	625	675	725	775	825	875	925
Mounting pitch count	N	4	5	5	6	6	6	7	7	8
Mounting hole count	n	5	6	6	7	7	7	8	8	9
Weight [kg]		3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.6	4.7

*4 The maximum speed varies depending on the motor you use.

*5 The maximum speed is the value restricted by the permissible rotational speed of the ball screw.

KSF4R Without Motor



Model Configuration

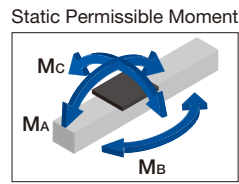
Model	Ball screw lead	Stroke	With/without motor	Motor mounting plate	Motor shaft diameter	Motor shaft fixing method	Option
KSF4R	10	0050	0	WQ	08	D	MR-GR

KSF4R	10: 10 mm 16: 16 mm	0050: 50 mm to 0900: 900 mm	0: Without motor 1: With motor	WP WQ	08: 8 mm	D: D-cut K: Key	MR: Motor right wrap ML: Motor left wrap MD: Motor down wrap T: Back tap GR: Change the cover color to gray 6: Photo sensor J: Proximity sensor M: Proximity sensor (PNP)
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Basic Specifications

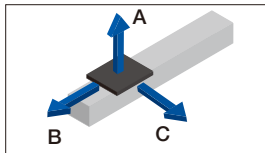
LM guide portion	Basic dynamic load rating C [N]	6,400	
	Basic static load rating Co [N]	12,900	
Ball screw portion	Basic dynamic load rating Ca [N]	2,860	1,850
	Basic static load rating Coa [N]	5,110	3,420
	Screw shaft diameter [mm]	φ10	
	Ball screw lead [mm]	10	16
Bearing portion (Fixed side)	Axial direction	Basic dynamic load rating Ca [N]	2,930
		Static permissible load Poa [N]	2,140
Permissible rotational speed *1 [min ⁻¹]		3,000	
Starting torque *2 [N-cm]		1.5	
Positioning repeatability *3 [mm]		±0.010	
Lost motion *3 [mm]		0.1	
Permissible input torque [N-m]		1.1	
Static permissible moment *4 [N-m]		Ma: 103 Mb: 103 Mc: 58	

- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for Ma and Mc are the top face of the table, and that for Mb is the center of the table.

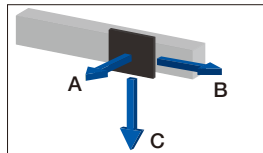


Permissible Overhang Length *5

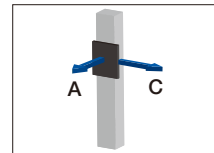
Horizontal use



Wall use



Vertical use



Acceleration and deceleration rate 0.5 G

Horizontal mount [mm]		Load mass [kg]	A	B	C
10	3	400	210	350	
	6	400	100	170	
	12	260	45	80	
16	2	400	260	350	
	4	300	120	170	
	8	130	50	80	

Wall mount [mm]		Load mass [kg]	A	B	C
10	3	320	190	400	
	6	130	80	400	
	12	45	25	210	
16	2	310	240	400	
	4	140	100	280	
	8	50	30	110	

Vertical mount [mm]		Load mass [kg]	A	C
10	2	300	300	
	4	140	140	
	8	60	60	
16	1.5	290	290	
	3	130	130	
	6	50	50	

Acceleration and deceleration rate 1.0 G

Horizontal mount [mm]		Load mass [kg]	A	B	C
10	2	400	330	400	
	4	400	160	250	
	8	250	70	120	
16	1.5	400	350	400	
	3	250	170	200	
	6	110	80	100	

Wall mount [mm]		Load mass [kg]	A	B	C
10	2	400	310	400	
	4	210	140	400	
	8	80	50	230	
	1.5	360	320	400	
16	3	160	150	240	
	6	60	60	100	

Vertical mount [mm]		Load mass [kg]	A	C
10	1.5	400	400	
	3	190	190	
	6	80	80	
16	1	400	400	
	2	190	190	
	4	80	80	

*5 This value is the overhang length whose running life is 10,000 km (20,000 km for lead 16 mm) for each direction. A permissible value of the applied load in each direction.

Features
Product Lineup
Model Configuration
Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

KSF 6U

KSF 8U

KSF 10U

Technical Materials

KSF4R

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

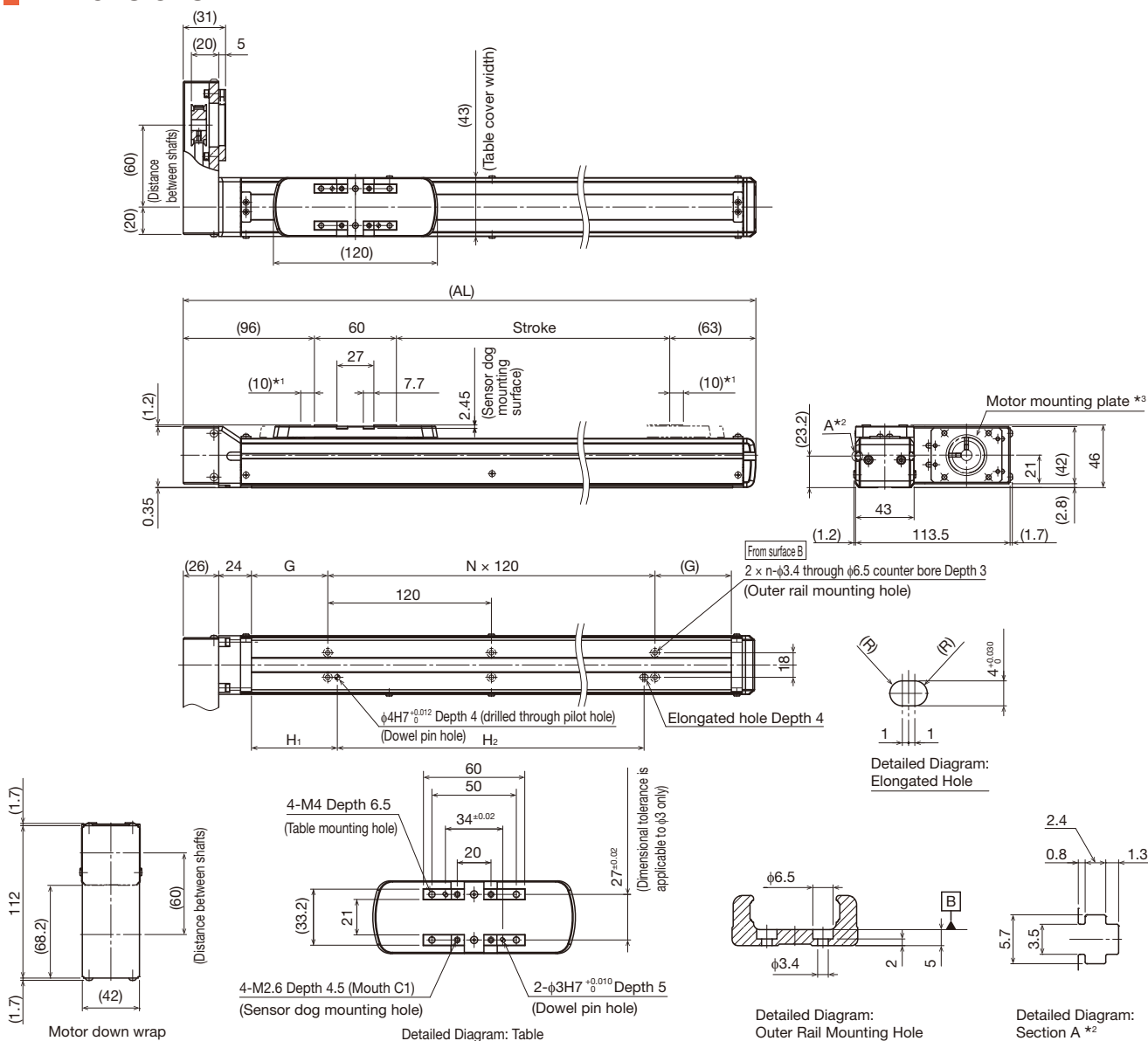
KSF 6U

KSF 8U

KSF 10U

Technical Materials

Dimensions



*1 Stroke up to mechanical stopper.

*2 The T slot in Section A is provided exclusively for sensor mounting. Do not use it for any other purpose.

*3 See P.77 for motor mounting plate dimensions.

Stroke [mm]		50	100	150	200	250	300	350	400	450
(Stroke between mechanical stoppers)		(70)	(120)	(170)	(220)	(270)	(320)	(370)	(420)	(470)
Maximum speed ^{*4 *5}	Ball screw lead: 10 mm	500								
	Ball screw lead: 16 mm	800								
Dimensions [mm]	AL	269	319	369	419	469	519	569	619	669
	G	41	66	91	56	81	46	71	96	61
	H ₁	48	48	48	63	63	63	48	48	48
	H ₂	75	125	175	225	275	325	375	425	475
Mounting pitch count	N	1	1	1	2	2	3	3	3	4
Mounting hole count	n	2	2	2	3	3	4	4	4	5
Weight [kg]		1.7	1.9	2.1	2.3	2.5	2.7	2.8	3.0	3.2
Stroke [mm]		500	550	600	650	700	750	800	850	900
(Stroke between mechanical stoppers)		(520)	(570)	(620)	(670)	(720)	(770)	(820)	(870)	(920)
Maximum speed ^{*4 *5}	Ball screw lead: 10 mm	500								
	Ball screw lead: 16 mm	800								
Dimensions [mm]	AL	719	769	819	869	919	969	1019	1069	1119
	G	86	51	76	41	66	91	56	81	46
	H ₁	63	63	63	48	48	48	63	63	63
	H ₂	525	575	625	675	725	775	825	875	925
Mounting pitch count	N	4	5	5	6	6	6	7	7	8
Mounting hole count	n	5	6	6	7	7	7	8	8	9
Weight [kg]		3.4	3.6	3.8	4.0	4.2	4.4	4.5	4.7	4.9

*4 The maximum speed varies depending on the motor you use.

*5 The maximum speed is the value restricted by the permissible rotational speed of the ball screw.



KSF5 Without Motor

Features
Product Lineup
Model Configuration
Specifications / Dimensions

Model Configuration

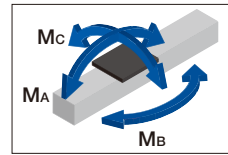
Model	Ball screw lead	Stroke	With/without motor	Intermediate flange	Option
KSF5	10	0050	0	AQ	GR
KSF5	10 : 10 mm 20 : 20 mm	0050 : 50 mm to 0900 : 900 mm	0 : Without motor 1 : With motor	A0 : Without intermediate flange AP AQ AR	No symbol : None T : Back tap GR : Change the cover color to gray 6 : Photo sensor J : Proximity sensor M : Proximity sensor (PNP)

Basic Specifications

LM guide portion	Basic dynamic load rating C [N]		10,200	
	Basic static load rating C ₀ [N]		17,900	
Ball screw portion	Basic dynamic load rating C _a [N]		3,350	2,150
	Basic static load rating C _{0a} [N]		6,600	4,470
	Screw shaft diameter [mm]		φ13	
Bearing portion (Fixed side)	Axial direction	Basic dynamic load rating C _a [N]	6,100	
		Static permissible load P _{0a} [N]	3,100	
Permissible rotational speed *1 [min ⁻¹]			3,000	
Starting torque *2 [N-cm]			7	
Positioning repeatability *3 [mm]			±0.010	
Lost motion *3 [mm]			0.1	
Permissible input torque [N-m]			1.8	
Static permissible moment *4 [N-m]			M _A : 147 M _B : 147 M _C : 149	

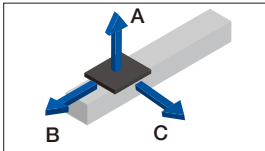
- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for M_A and M_C are the top face of the table, and that for M_B is the center of the table.

Static Permissible Moment

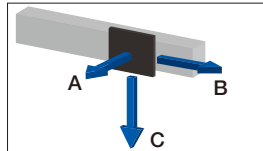


Permissible Overhang Length *5

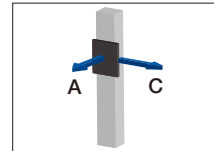
Horizontal use



Wall use



Vertical use



Acceleration and deceleration rate: lead 10 mm: 0.5 G, lead 20 mm: 1.0 G

Ball screw lead [mm]	Load mass [kg]	A	B	C
10	5	500	210	420
	10	500	100	200
	20	250	40	90
20	1.75	500	490	500
	3.5	500	240	340
	7	230	110	170

Ball screw lead [mm]	Load mass [kg]	A	B	C
10	5	390	190	500
	10	170	80	500
	20	60	30	210
20	1.75	500	470	500
	3.5	300	220	480
	7	130	90	210

Ball screw lead [mm]	Load mass [kg]	A	C
10	3.25	300	300
	6.5	140	140
	13	50	50
20	1.5	470	470
	3	220	220
	6	90	90

Acceleration and deceleration rate: lead 10 mm: 1.0 G, lead 20 mm: 2.0 G

Ball screw lead [mm]	Load mass [kg]	A	B	C
10	3.75	500	280	500
	7.5	460	130	260
	15	210	60	120
20	1.25	500	500	500
	2.5	440	340	380
	5	200	160	190

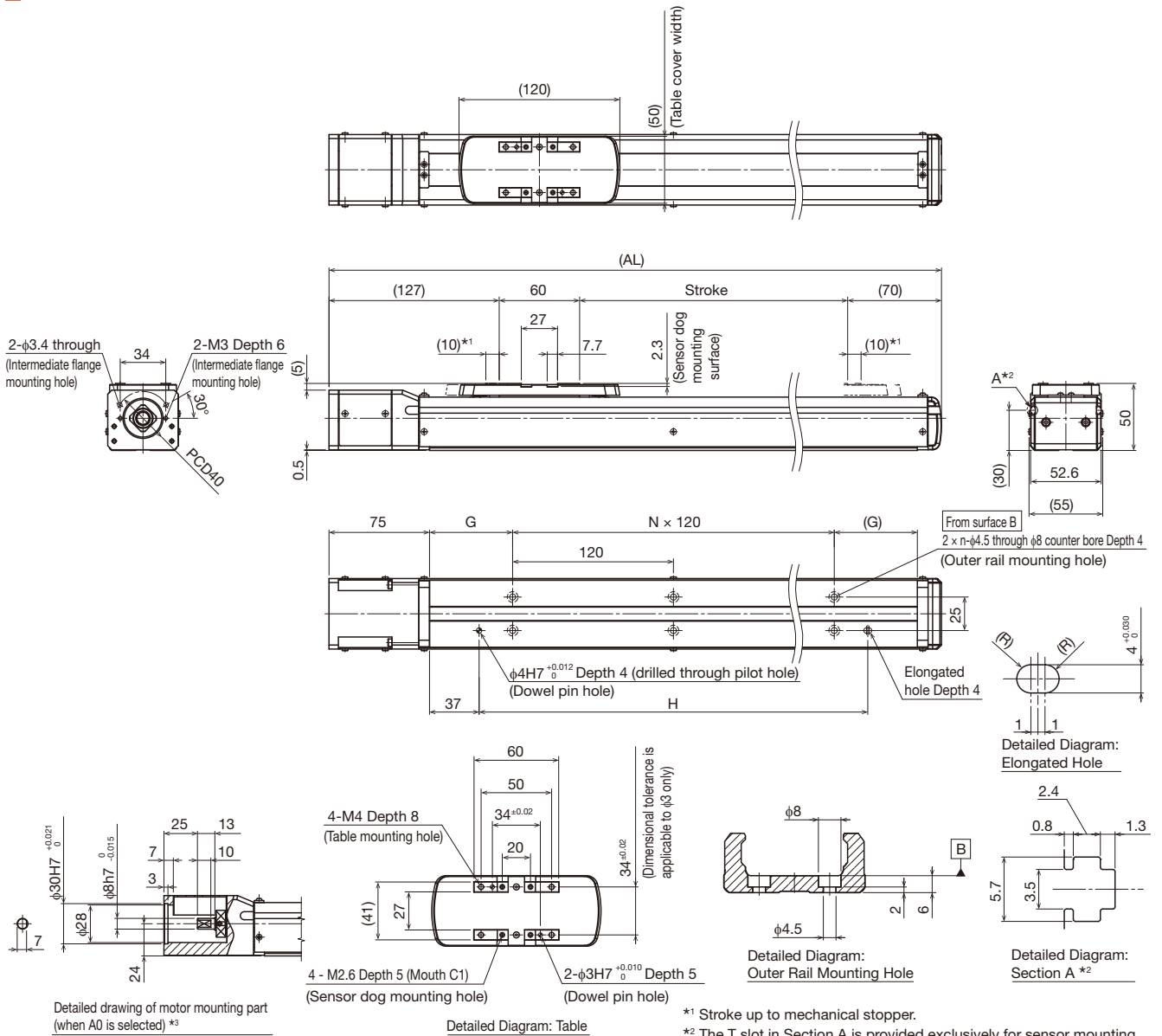
Ball screw lead [mm]	Load mass [kg]	A	B	C
10	3.75	490	260	500
	7.5	220	120	450
	15	90	40	190
20	1.25	500	500	500
	2.5	330	320	430
	5	150	140	190

Ball screw lead [mm]	Load mass [kg]	A	C
10	2	500	500
	4	230	230
	8	100	100
20	0.75	500	500
	1.5	410	410
	3	190	190

*5 This value is the overhang length whose running life is 10,000 km (20,000 km for lead 20 mm) for each direction. A permissible value of the applied load in each direction.

Technical Materials

Dimensions



*1 Stroke up to mechanical stopper.
 *2 The T slot in Section A is provided exclusively for sensor mounting. Do not use it for any other purpose.
 *3 See P.78 for intermediate flange dimensions.

Stroke [mm] (Stroke between mechanical stoppers)	50 (70)	100 (120)	150 (170)	200 (220)	250 (270)	300 (320)	350 (370)	400 (420)	450 (470)
Maximum speed *4 *5 [mm/s]	Ball screw lead: 10 mm	500							
	Ball screw lead: 20 mm	1000							
Dimensions [mm]	AL	307	357	407	457	507	557	607	657
	G	47	72	97	62	87	52	77	102
	H	140	190	240	290	340	390	440	490
Mounting pitch count	N	1	1	1	2	2	3	3	4
Mounting hole count	n	2	2	2	3	3	4	4	5
Weight [kg]	2.3	2.6	2.8	3.1	3.4	3.7	4.0	4.2	4.5
Stroke [mm] (Stroke between mechanical stoppers)	500 (520)	550 (570)	600 (620)	650 (670)	700 (720)	750 (770)	800 (820)	850 (870)	900 (920)
Maximum speed *4 *5 [mm/s]	Ball screw lead: 10 mm	500							
	Ball screw lead: 20 mm	1000							
Dimensions [mm]	AL	757	807	857	907	957	1007	1057	1107
	G	92	57	82	47	72	97	62	87
	H	590	640	690	740	790	840	890	940
Mounting pitch count	N	4	5	5	6	6	7	7	8
Mounting hole count	n	5	6	6	7	7	8	8	9
Weight [kg]	4.8	5.1	5.4	5.6	5.9	6.2	6.5	6.8	7.0

*4 The maximum speed varies depending on the motor you use.
 *5 The maximum speed is the value restricted by the permissible rotational speed of the ball screw.



KSF5R Without Motor

Model Configuration

Model	Ball screw lead	Stroke	With/without motor	Motor mounting plate	Motor shaft diameter	Motor shaft fixing method	Option
KSF5R	10	0050	0	WQ	08	D	MR-GR

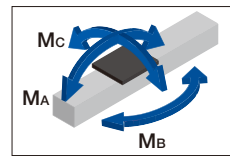
KSF5R	10: 10 mm 20: 20 mm	0050: 50 mm to 0900: 900 mm	0: Without motor 1: With motor	WP WQ	08: 8 mm	D: D-cut K: Key	MR: Motor right wrap ML: Motor left wrap MD: Motor down wrap T: Back tap GR: Change the cover color to gray 6: Photo sensor J: Proximity sensor M: Proximity sensor (PNP)
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Basic Specifications

LM guide portion	Basic dynamic load rating C [N]	10,200	
	Basic static load rating Co [N]	17,900	
Ball screw portion	Basic dynamic load rating Ca [N]	3,350	2,150
	Basic static load rating Coa [N]	6,600	4,470
	Screw shaft diameter [mm]	φ13	
	Ball screw lead [mm]	10	20
Bearing portion (Fixed side)	Axial direction	Basic dynamic load rating Ca [N]	6,100
		Static permissible load Poa [N]	3,100
Permissible rotational speed *1 [min ⁻¹]		3,000	
Starting torque *2 [N-cm]		7	
Positioning repeatability *3 [mm]		±0.010	
Lost motion *3 [mm]		0.1	
Permissible input torque [N-m]		1.1	
Static permissible moment *4 [N-m]		Ma: 147 Mb: 147 Mc: 149	

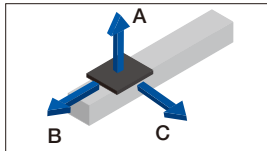
- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for Ma and Mc are the top face of the table, and that for Mb is the center of the table.

Static Permissible Moment

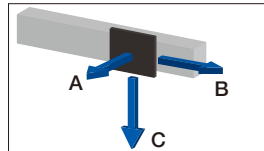


Permissible Overhang Length *5

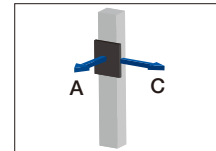
Horizontal use



Wall use



Vertical use



Acceleration and deceleration rate: lead 10 mm: 0.5 G, lead 20 mm: 1.0 G

Horizontal mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
10	5	500	210	420
	10	500	100	200
	20	250	40	90
20	1.75	500	490	500
	3.5	500	240	340
	7	230	110	170

Wall mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
10	5	390	190	500
	10	170	80	500
	20	60	30	210
20	1.75	500	470	500
	3.5	300	220	480
	7	130	90	210

Vertical mount		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
10	2.75	360	360
	5.5	170	170
	11	70	70
20	1.25	500	500
	2.5	270	270
	5	120	120

Acceleration and deceleration rate: lead 10 mm: 1.0 G, lead 20 mm: 2.0 G

Horizontal mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
10	3.75	500	280	500
	7.5	460	130	260
	15	210	60	120
20	1	500	500	500
	2	500	420	480
	4	260	210	240

Wall mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
10	3.75	490	260	500
	7.5	220	120	450
	15	90	40	190
20	1	500	500	500
	2	430	410	500
	4	190	190	250

Vertical mount		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
10	2	500	500
	4	230	230
	8	100	100
20	0.63	500	500
	1.25	500	500
	2.5	240	240

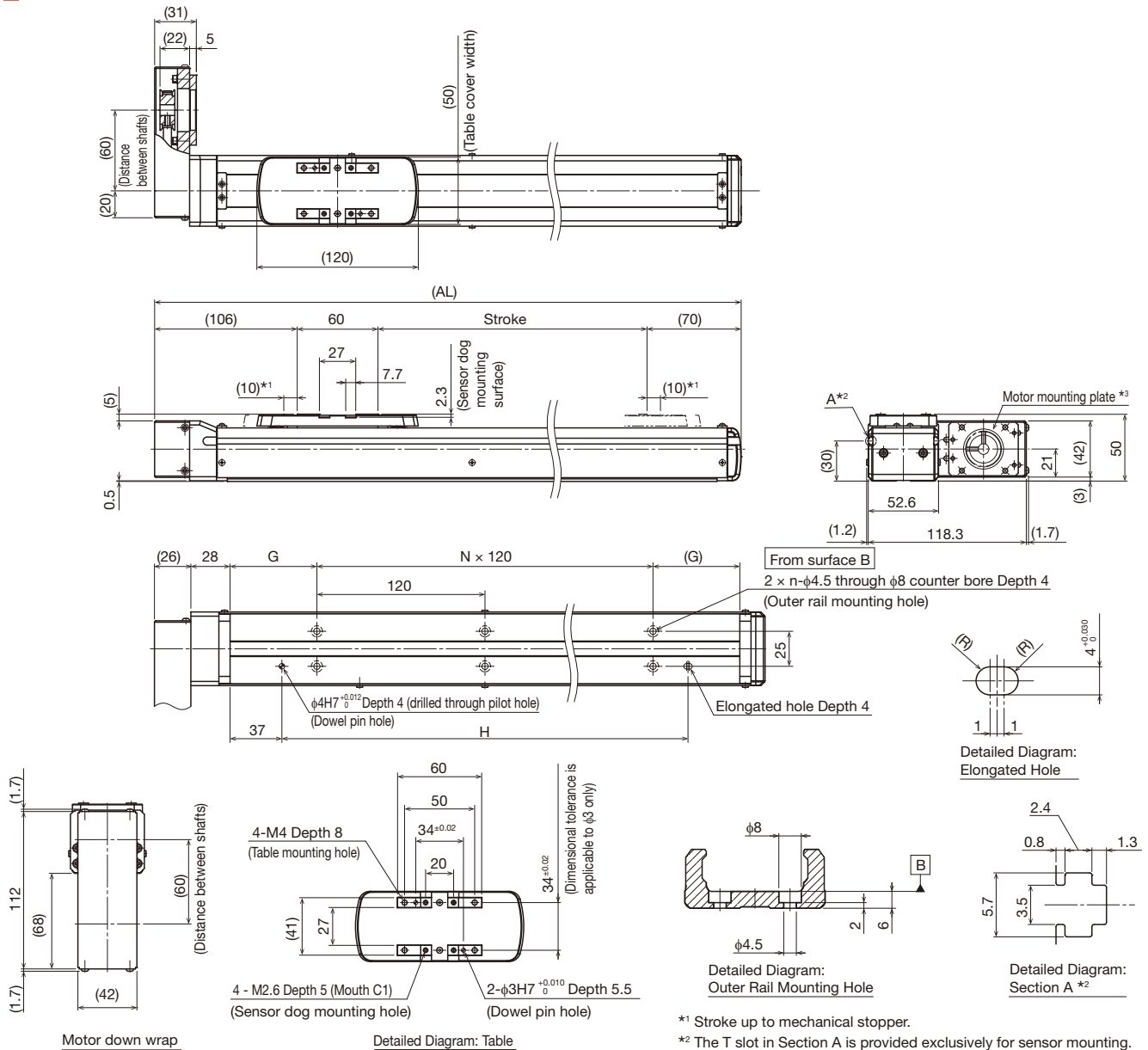
*5 This value is the overhang length whose running life is 10,000 km (20,000 km for lead 20 mm) for each direction. A permissible value of the applied load in each direction.

Features
Product Lineup
Model Configuration
Specifications / Dimensions

KSF4
KSF5
KSF6
KSF8
KSF10
KSF 5T
KSF 6T
KSF 8T
KSF 10T
KSF 4U
KSF 5U
KSF 6U
KSF 8U
KSF 10U

Technical Materials

Dimensions



*1 Stroke up to mechanical stopper.
 *2 The T slot in Section A is provided exclusively for sensor mounting. Do not use it for any other purpose.
 *3 See P.78 for motor mounting plate dimensions.

Stroke [mm]		50	100	150	200	250	300	350	400	450
(Stroke between mechanical stoppers)		(70)	(120)	(170)	(220)	(270)	(320)	(370)	(420)	(470)
Maximum speed *4 *5 [mm/s]	Ball screw lead: 10 mm	500								
	Ball screw lead: 20 mm	1000								
Dimensions [mm]	AL	286	336	386	436	486	536	586	636	686
	G	47	72	97	62	87	52	77	102	67
	H	140	190	240	290	340	390	440	490	540
Mounting pitch count	N	1	1	1	2	2	3	3	3	4
Mounting hole count	n	2	2	2	3	3	4	4	4	5
Weight [kg]		2.4	2.7	3.0	3.3	3.5	3.8	4.1	4.4	4.7
Stroke [mm]		500	550	600	650	700	750	800	850	900
(Stroke between mechanical stoppers)		(520)	(570)	(620)	(670)	(720)	(770)	(820)	(870)	(920)
Maximum speed *4 *5 [mm/s]	Ball screw lead: 10 mm	500								
	Ball screw lead: 20 mm	1000								
Dimensions [mm]	AL	736	786	836	886	936	986	1036	1086	1136
	G	92	57	82	47	72	97	62	87	52
	H	590	640	690	740	790	840	890	940	990
Mounting pitch count	N	4	5	5	6	6	6	7	7	8
Mounting hole count	n	5	6	6	7	7	7	8	8	9
Weight [kg]		4.9	5.2	5.5	5.8	6.0	6.3	6.6	6.9	7.2

*4 The maximum speed varies depending on the motor you use.
 *5 The maximum speed is the value restricted by the permissible rotational speed of the ball screw.



KSF6 Without Motor

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

KSF 6U

KSF 8U

KSF 10U

Technical Materials

Model Configuration

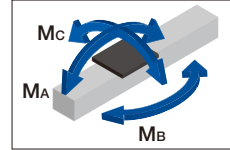
Model	Ball screw lead	Stroke	With/without motor	Intermediate flange	Option
KSF6	20	0750	0	AV	GR-6
KSF6	20: 20 mm 30: 30 mm	0050: 50 mm to 1300: 1300 mm	0: Without motor 1: With motor	A0: Without intermediate flange AV AY AU	No symbol : None T : Back tap GR: Change the cover color to gray 6 : Photo sensor J : Proximity sensor M : Proximity sensor (PNP)

Basic Specifications

LM guide portion	Basic dynamic load rating C [N]	17,400	
	Basic static load rating C ₀ [N]	33,000	
Ball screw portion	Basic dynamic load rating Ca [N]	3,400	3,230
	Basic static load rating Coa [N]	8,070	6,570
	Screw shaft diameter [mm]	φ15	
	Ball screw lead [mm]	20	30
Bearing portion (Fixed side)	Axial direction	Basic dynamic load rating Ca [N]	6,650
		Static permissible load Poa [N]	3,250
Permissible rotational speed *1 [min ⁻¹]		3,000	
Starting torque *2 [N·cm]		6.2	8.3
Positioning repeatability *3 [mm]		± 0.010	
Lost motion *3 [mm]		0.1	
Permissible input torque [N·m]		3.1	
Static permissible moment *4 [N·m]		M _A : 330 M _B : 216 M _C : 188	

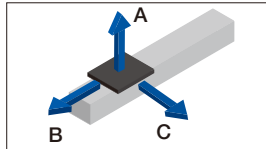
- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment for M_A and M_C are the top face of the table, and that for M_B is the center of the table.

Static Permissible Moment

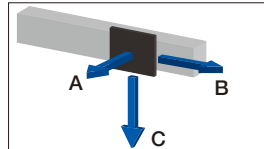


Permissible Overhang Length *5

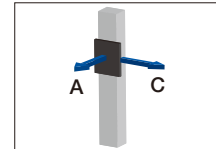
Horizontal use



Wall use



Vertical use



Acceleration and deceleration rate: 1.0 G

Ball screw lead [mm]	Load mass [kg]	Horizontal mount [mm]		
		A	B	C
20	5.5	600	340	470
	11	330	160	230
	22	140	70	110
30	3.5	600	430	480
	7	320	210	240
	14	140	90	120

Ball screw lead [mm]	Load mass [kg]	Wall mount [mm]		
		A	B	C
20	5.5	420	310	600
	11	180	140	310
	22	60	50	120
30	3.5	430	400	600
	7	190	180	290
	14	70	70	110

Ball screw lead [mm]	Load mass [kg]	Vertical mount [mm]	
		A	C
20	2.5	600	600
	5	300	300
	10	130	130
30	1.5	600	600
	3	350	350
	6	160	160

Acceleration and deceleration rate: 2.0 G

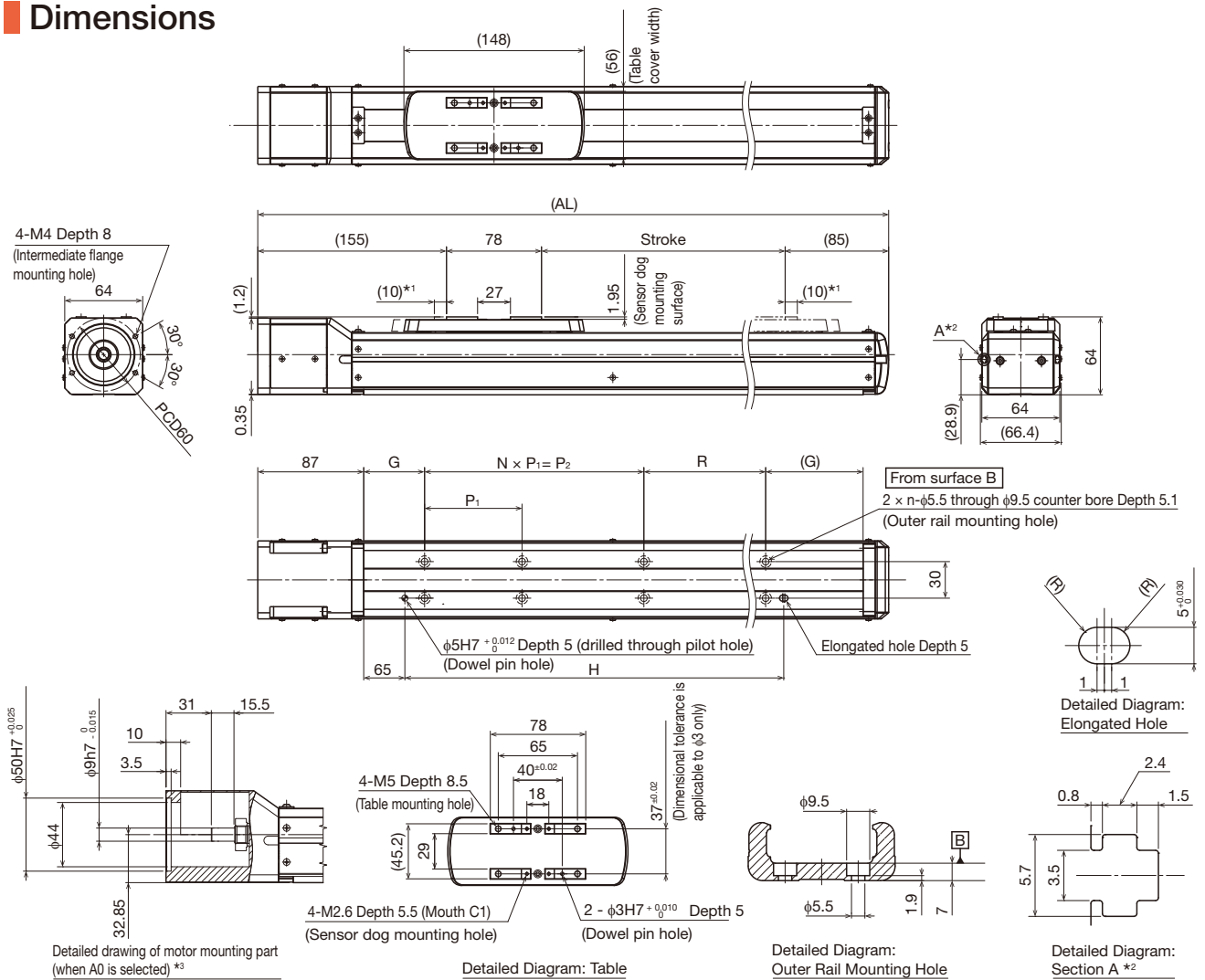
Ball screw lead [mm]	Load mass [kg]	Horizontal mount [mm]		
		A	B	C
20	1.25	600	600	600
	2.5	600	600	600
	5	480	370	420
30	1.5	600	600	600
	3	490	500	440
	6	230	240	220

Ball screw lead [mm]	Load mass [kg]	Wall mount [mm]		
		A	B	C
20	1.25	600	600	600
	2.5	600	600	600
	5	360	350	470
30	1.5	600	600	600
	3	380	470	480
	6	170	210	210

Ball screw lead [mm]	Load mass [kg]	Vertical mount [mm]	
		A	C
20	0.75	600	600
	1.5	600	600
	3	460	460
30	1	600	600
	2	460	460
	4	210	210

*5 This value is the overhang length whose running life is 20,000 km for each direction.
A permissible value of the applied load in each direction.

Dimensions



*1 Stroke up to mechanical stopper.

*2 The T slot in Section A is provided exclusively for sensor mounting. Do not use it for any other purpose.

*3 See P.79 for intermediate flange dimensions.

Stroke [mm]		50	100	150	200	250	300	350	400	450	500	550	600	650	
(Stroke between mechanical stoppers)		(70)	(120)	(170)	(220)	(270)	(320)	(370)	(420)	(470)	(520)	(570)	(620)	(670)	
Maximum speed [mm/s]	Ball screw lead	1000													
	20mm	1500													
Dimensions [mm]	AL	368	418	468	518	568	618	668	718	768	818	868	918	968	
	G	80	105	80	105	80	105	80	105	80	105	80	105	80	
	P ₁	100	100	200	200	200	200	200	200	200	200	200	200	200	200
	P ₂	-	-	-	-	-	-	-	400	400	400	400	600	600	600
	R	-	-	-	-	100	100	-	-	100	100	-	-	-	100
	H	130	180	230	280	330	380	430	480	530	580	630	680	730	730
Mounting pitch count	N	-	-	-	-	-	-	2	2	2	2	3	3	3	
Mounting hole count	n	2	2	2	2	3	3	3	3	4	4	4	4	5	
Weight [kg]		3.9	4.3	4.7	5.1	5.5	5.8	6.2	6.6	7.0	7.4	7.8	8.2	8.6	
Stroke [mm]		700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	
(Stroke between mechanical stoppers)		(720)	(770)	(820)	(870)	(920)	(970)	(1020)	(1070)	(1120)	(1170)	(1220)	(1270)	(1320)	
Maximum speed [mm/s]	Ball screw lead	980	870	770	690	630	570	520	470	430	400	370	340	320	
	20mm	1470	1300	1160	1040	940	850	780	710	650	600	550	510	480	
Dimensions [mm]	AL	1018	1068	1118	1168	1218	1268	1318	1368	1418	1468	1518	1568	1618	
	G	105	80	105	80	105	80	105	80	105	80	105	80	105	
	P ₁	200	200	200	200	200	200	200	200	200	200	200	200	200	
	P ₂	600	800	800	800	800	800	1000	1000	1000	1000	1200	1200	1200	
	R	100	-	-	100	100	-	-	100	100	-	-	100	100	
	H	780	830	880	930	980	1030	1080	1130	1180	1230	1280	1330	1380	
Mounting pitch count	N	3	4	4	4	4	5	5	5	5	6	6	6	6	
Mounting hole count	n	5	5	5	6	6	6	6	7	7	7	7	8	8	
Weight [kg]		8.9	9.3	9.7	10.1	10.5	10.9	11.3	11.7	12.0	12.4	12.8	13.2	13.6	

*4 The maximum speed varies depending on the motor you use.

*5 The maximum speed is the value restricted by the permissible rotational speed of the ball screw.



KSF6R Without Motor

Features
Product Lineup
Model Configuration
Specifications / Dimensions

Model Configuration

Model	Ball screw lead	Stroke	With/without motor	Motor mounting plate	Motor shaft diameter	Motor shaft fixing method	Option
KSF6R	20	0050	0	WV	14	M	MR-T-GR

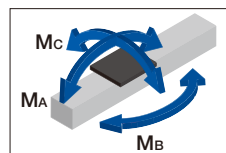
KSF6R	20: 20 mm 30: 30 mm	0050: 50 mm to 1300: 1300 mm	0: Without motor 1: With motor	WV WY	11: 11 mm 14: 14 mm	D: D-cut K: Key M: Friction tightening	MR : Motor right wrap ML : Motor left wrap MD : Motor down wrap T : Back tap GR : Change the cover color to gray 6 : Photo sensor J : Proximity sensor M : Proximity sensor (PNP)
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Basic Specifications

LM guide portion	Basic dynamic load rating C [N]	17,400	
	Basic static load rating Co [N]	33,000	
Ball screw portion	Basic dynamic load rating Ca [N]	3,400	3,230
	Basic static load rating Coa [N]	8,070	6,570
	Screw shaft diameter [mm]	φ15	
Bearing portion (Fixed side)	Axial direction	Basic dynamic load rating Ca [N]	6,650
		Static permissible load Poa [N]	3,250
Permissible rotational speed *1 [min ⁻¹]		3,000	
Starting torque *2 [N·cm]		6.2	8.3
Positioning repeatability *3 [mm]		±0.010	
Lost motion *3 [mm]		0.1	
Permissible input torque [N·m]		2.2	
Static permissible moment *4 [N·m]		Ma: 330	Me: 216 Mc: 188

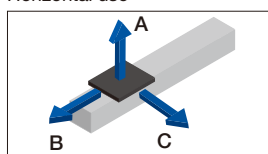
- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for Ma and Mc are the top face of the table, and that for Mb is the center of the table.

Static Permissible Moment

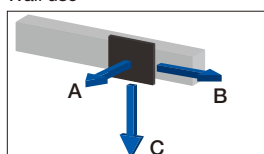


Permissible Overhang Length *5

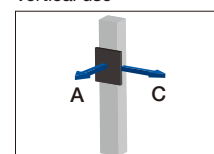
Horizontal use



Wall use



Vertical use



Acceleration and deceleration rate 1.0 G

Horizontal mount [mm]		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
20	4.75	600	390	540
	9.5	390	190	270
	19	170	90	130
30	2.75	600	550	600
	5.5	410	270	310
	11	180	120	150

Wall mount [mm]		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
20	4.75	490	370	600
	9.5	220	160	370
	19	80	60	150
30	2.75	560	520	600
	5.5	250	240	390
	11	100	100	160

Vertical mount [mm]		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
20	2.25	600	600
	4.5	330	330
	9	150	150
30	1.25	600	600
	2.5	430	430
	5	200	200

Acceleration and deceleration rate 2.0 G

Horizontal mount [mm]		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
20	1	600	600	600
	2	600	600	600
	4	600	470	520
30	1	600	600	600
	2	600	600	600
	4	360	370	330

Wall mount [mm]		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
20	1	600	600	600
	2	600	600	600
	4	460	440	600
30	1	600	600	600
	2	590	600	600
	4	270	340	350

Vertical mount [mm]		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
20	0.38	600	600
	0.75	600	600
	1.5	600	600
30	0.625	600	600
	1.25	600	600
	2.5	360	360

*5 This value is the overhang length whose running life is 20,000 km for each direction.
A permissible value of the applied load in each direction.

Technical Materials

KSF6R

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

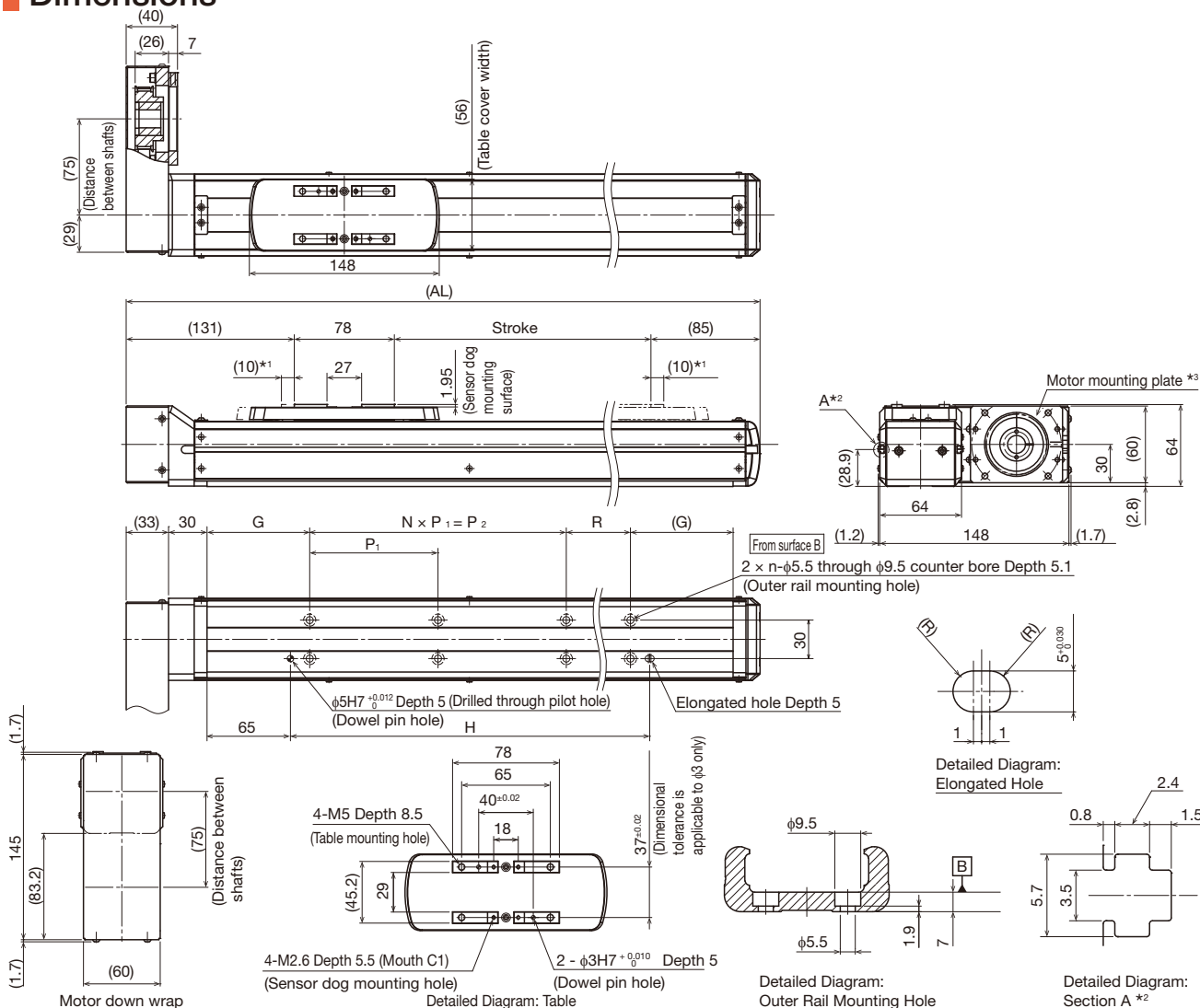
KSF 6U

KSF 8U

KSF 10U

Technical Materials

Dimensions



*1 Stroke up to mechanical stopper.

*2 The T slot in Section A is provided exclusively for sensor mounting. Do not use it for any other purpose.

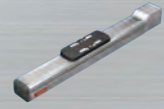
*3 See P.79 for motor mounting plate dimensions.

Stroke [mm]		50	100	150	200	250	300	350	400	450	500	550	600	650
(Stroke between mechanical stoppers)		(70)	(120)	(170)	(220)	(270)	(320)	(370)	(420)	(470)	(520)	(570)	(620)	(670)
Maximum speed [mm/s]	Ball screw lead: 20 mm	1000												
	Ball screw lead: 30 mm	1500												
Dimensions [mm]	AL	344	394	444	494	544	594	644	694	744	794	844	894	944
	G	80	105	80	105	80	105	80	105	80	105	80	105	80
	P ₁	100	100	200	200	200	200	200	200	200	200	200	200	200
	P ₂	-	-	-	-	-	-	-	400	400	400	400	600	600
	R	-	-	-	-	100	100	-	-	100	100	-	-	100
	H	130	180	230	280	330	380	430	480	530	580	630	680	730
Mounting pitch count	N	-	-	-	-	-	-	2	2	2	2	3	3	3
Mounting hole count	n	2	2	2	2	3	3	3	3	4	4	4	4	5
Weight [kg]		4.5	4.9	5.3	5.6	6.0	6.4	6.8	7.2	7.6	8.0	8.4	8.7	9.1
Stroke [mm]		700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300
(Stroke between mechanical stoppers)		(720)	(770)	(820)	(870)	(920)	(970)	(1020)	(1070)	(1120)	(1170)	(1220)	(1270)	(1320)
Maximum speed [mm/s]	Ball screw lead: 20 mm	980	870	770	690	630	570	520	470	430	400	370	340	320
	Ball screw lead: 30 mm	1470	1300	1160	1040	940	850	780	710	650	600	550	510	480
Dimensions [mm]	AL	994	1044	1094	1144	1194	1244	1294	1344	1394	1444	1494	1544	1594
	G	105	80	105	80	105	80	105	80	105	80	105	80	105
	P ₁	200	200	200	200	200	200	200	200	200	200	200	200	200
	P ₂	600	800	800	800	800	1000	1000	1000	1000	1200	1200	1200	1200
	R	100	-	-	100	100	-	-	100	100	-	-	100	100
	H	780	830	880	930	980	1030	1080	1130	1180	1230	1280	1330	1380
Mounting pitch count	N	3	4	4	4	4	5	5	5	5	6	6	6	6
Mounting hole count	n	5	5	5	6	6	6	6	7	7	7	7	8	8
Weight [kg]		9.5	9.9	10.3	10.7	11.1	11.5	11.8	12.2	12.6	13.0	13.4	13.8	14.2

*4 The maximum speed varies depending on the motor you use.

*5 The maximum speed is the value restricted by the permissible rotational speed of the ball screw.

KSF8 Without Motor



Model Configuration

Model	Ball screw lead	Stroke	With/without motor	Intermediate flange	Option
KSF8	20	0800	0	AV	GR-6

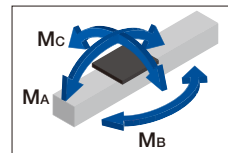
KSF8	20: 20 mm 40: 40 mm	0100: 100 mm to 1500: 1500 mm	0: Without motor 1: With motor	A0: Without intermediate flange AV AY AU	No symbol : None T: Back tap GR: Change the cover color to gray 6: Photo sensor J: Proximity sensor M: Proximity sensor (PNP)
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Basic Specifications

LM guide portion	Basic dynamic load rating C [N]	32,400
	Basic static load rating C ₀ [N]	63,500
Ball screw portion	Basic dynamic load rating C _a [N]	4,030
	Basic static load rating C _{0a} [N]	10,540
	Screw shaft diameter [mm]	φ20
Bearing portion (Fixed side)	Ball screw lead [mm]	20
	Axial direction	40
Bearing portion (Fixed side)	Basic dynamic load rating C _a [N]	7,600
	Static permissible load P _{0a} [N]	4,000
Bearing portion (Fixed side)	Permissible rotational speed *1 [min ⁻¹]	3,000
	Starting torque *2 [N·cm]	12
Bearing portion (Fixed side)	Positioning repeatability *3 [mm]	±0.010
	Lost motion *3 [mm]	0.1
Bearing portion (Fixed side)	Permissible input torque [N·m]	7.1
	Static permissible moment *4 [N·m]	M _A : 730 M _B : 437 M _C : 387

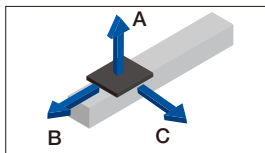
- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for M_A and M_C are the top face of the table, and that for M_B is the center of the table.

Static Permissible Moment

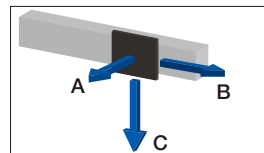


Permissible Overhang Length *5

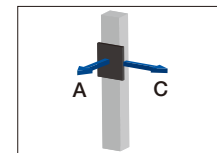
Horizontal use



Wall use



Vertical use



Acceleration and deceleration rate 1.0 G

Horizontal mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
20	10.75	730	350	510
	21.5	340	160	250
	43	140	70	120
40	4	800	800	770
	8	500	390	390
	16	220	180	200

Wall mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
20	10.75	450	330	710
	21.5	200	190	420
	43	70	50	120
40	4	710	780	800
	8	330	360	480
	16	140	160	200

Vertical mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	C
20	5	630	630
	10	290	290
	20	130	130
40	2	800	800
	4	500	500
	8	230	230

Acceleration and deceleration rate 2.0 G

Horizontal mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
20	1.5	800	800	800
	3	800	800	800
	6	650	500	560
40	1.75	800	800	800
	3.5	750	800	670
	7	350	450	340

Wall mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
20	1.5	800	800	800
	3	800	800	800
	6	500	470	640
40	1.75	800	800	800
	3.5	600	800	740
	7	280	420	340

Vertical mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	C
20	0.75	800	800
	1.5	800	800
	3	740	740
40	1.25	800	800
	2.5	680	680
	5	320	320

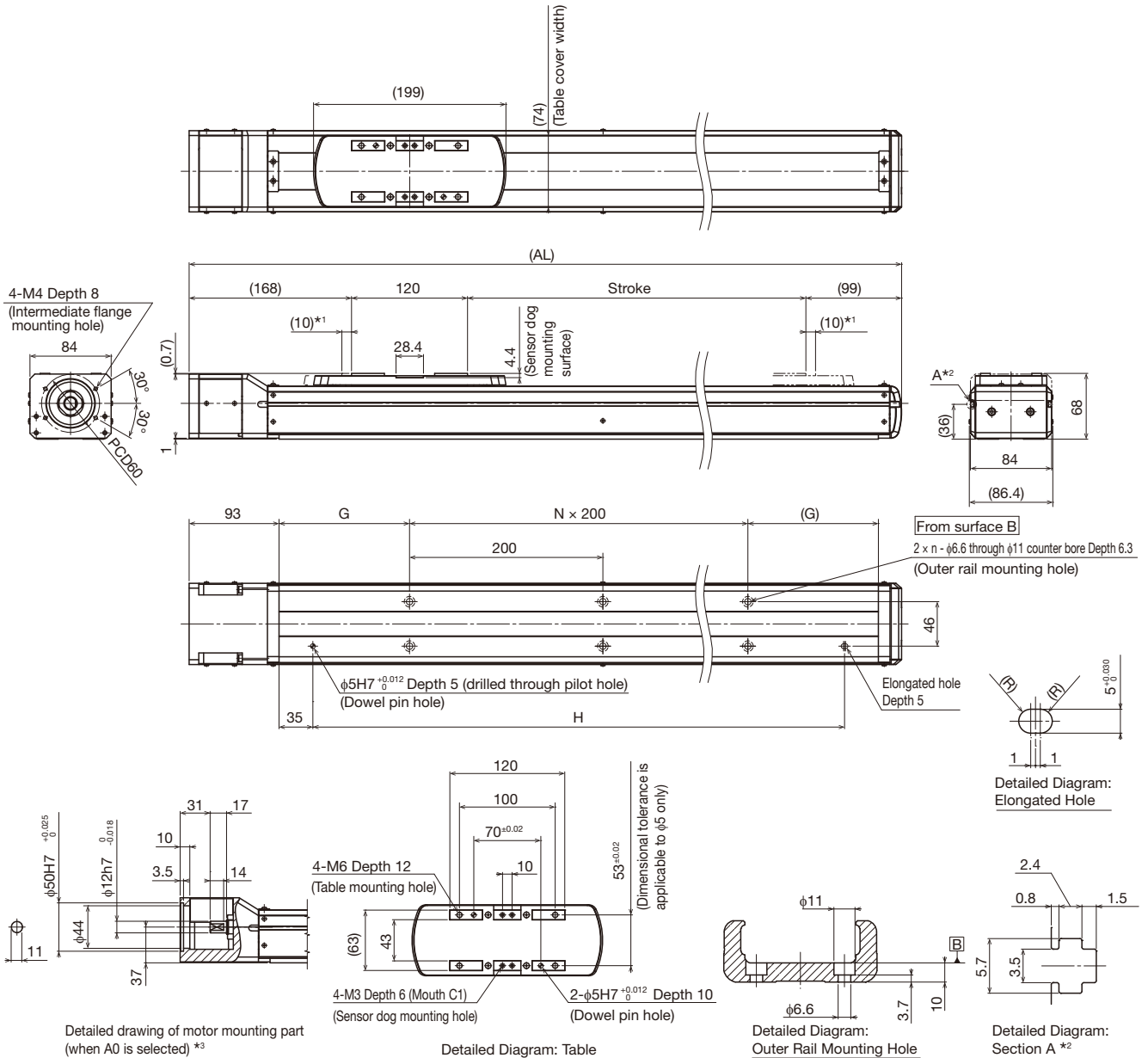
*5 This value is the overhang length whose running life is 20,000 km for each direction. A permissible value of the applied load in each direction.

Features
Product Lineup
Model Configuration
Specifications / Dimensions

KSF4
KSF5
KSF6
KSF8
KSF10
KSF 5T
KSF 6T
KSF 8T
KSF 10T
KSF 4U
KSF 5U
KSF 6U
KSF 8U
KSF 10U

Technical Materials

Dimensions



*1 Stroke up to mechanical stopper.

*2 The T slot in Section A is provided exclusively for sensor mounting. Do not use it for any other purpose.

*3 See P.80 for intermediate flange dimensions.

Stroke [mm]	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	
(Stroke between mechanical stoppers)	(120)	(220)	(320)	(420)	(520)	(620)	(720)	(820)	(920)	(1020)	(1120)	(1220)	(1320)	(1420)	(1520)	
Maximum speed *4 *5 [mm/s]	Ball screw lead: 20 mm	1000						970	790	660	550	470	410	360	320	
	Ball screw lead: 40 mm	2000						1940	1580	1320	1110	950	830	720	640	
Dimensions [mm]	AL	487	587	687	787	887	987	1087	1187	1287	1387	1487	1587	1687	1787	1887
	G	85	135	85	135	85	135	85	135	85	135	85	135	85	135	85
	H	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
Mounting pitch count	N	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
Mounting hole count	n	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9
Weight [kg]	8.1	9.4	10.7	12.0	13.3	14.6	15.9	17.2	18.5	19.8	21.1	22.4	23.7	25.0	26.3	

*4 The maximum speed varies depending on the motor you use.

*5 The maximum speed is the value restricted by the permissible rotational speed of the ball screw.

KSF8R Without Motor



Features
Product Lineup
Model Configuration
Specifications / Dimensions

Model Configuration

Model	Ball screw lead	Stroke	With/without motor	Motor mounting plate	Motor shaft diameter	Motor shaft fixing method	Option
KSF8R -	20 -	0800 -	0 -	WV -	14	M	MR-T-GR

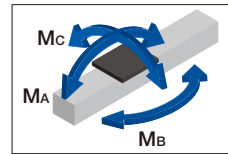
KSF8R	20: 20 mm 40: 40 mm	0100: 100 mm to 1500: 1500 mm	0: Without motor 1: With motor	WV WY	14: 14 mm	M: Friction tightening	MR : Motor right wrap ML : Motor left wrap MD : Motor down wrap T : Back tap GR : Change the cover color to gray 6 : Photo sensor J : Proximity sensor M : Proximity sensor (PNP)
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Basic Specifications

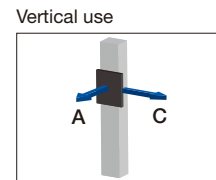
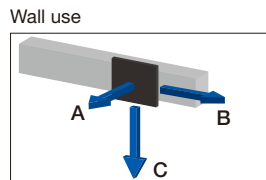
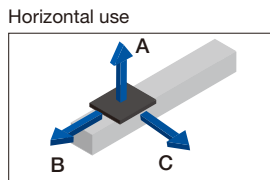
LM guide portion	Basic dynamic load rating C [N]	32,400	
	Basic static load rating Co [N]	63,500	
Ball screw portion	Basic dynamic load rating Ca [N]	4,030	3,750
	Basic static load rating Coa [N]	10,540	8,870
	Screw shaft diameter [mm]	φ20	
Bearing portion (Fixed side)	Ball screw lead [mm]	20	40
	Axial direction	Basic dynamic load rating Ca [N]	7,600
		Static permissible load Poa [N]	4,000
	Permissible rotational speed *1 [min ⁻¹]	3,000	
	Starting torque *2 [N·cm]	12	
	Positioning repeatability *3 [mm]	±0.010	
	Lost motion *3 [mm]	0.1	
	Permissible input torque [N·m]	4.5	
	Static permissible moment *4 [N·m]	MA: 730 MB: 437 MC: 387	

- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for MA and Mc are the top face of the table, and that for MB is the center of the table.

Static Permissible Moment



Permissible Overhang Length *5



Acceleration and deceleration rate 1.0 G

Horizontal mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
20	10.25	800	520	670
	20.5	520	250	330
	41	230	110	160
40	4	800	800	770
	8	500	390	390
	16	220	180	200

Wall mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
20	10.25	620	490	800
	20.5	280	220	500
	41	110	90	210
40	4	710	780	800
	8	330	360	480
	16	140	160	200

Vertical mount		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
20	5	630	630
	10	290	290
	20	130	130
40	2	800	800
	4	500	500
	8	230	230

Acceleration and deceleration rate 2.0 G

Horizontal mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
20	1.5	800	800	800
	3	800	800	800
	6	650	500	560
40	1.75	800	800	800
	3.5	750	800	670
	7	350	450	340

Wall mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
20	1.5	800	800	800
	3	800	800	800
	6	500	470	640
40	1.75	800	800	800
	3.5	600	800	740
	7	280	420	340

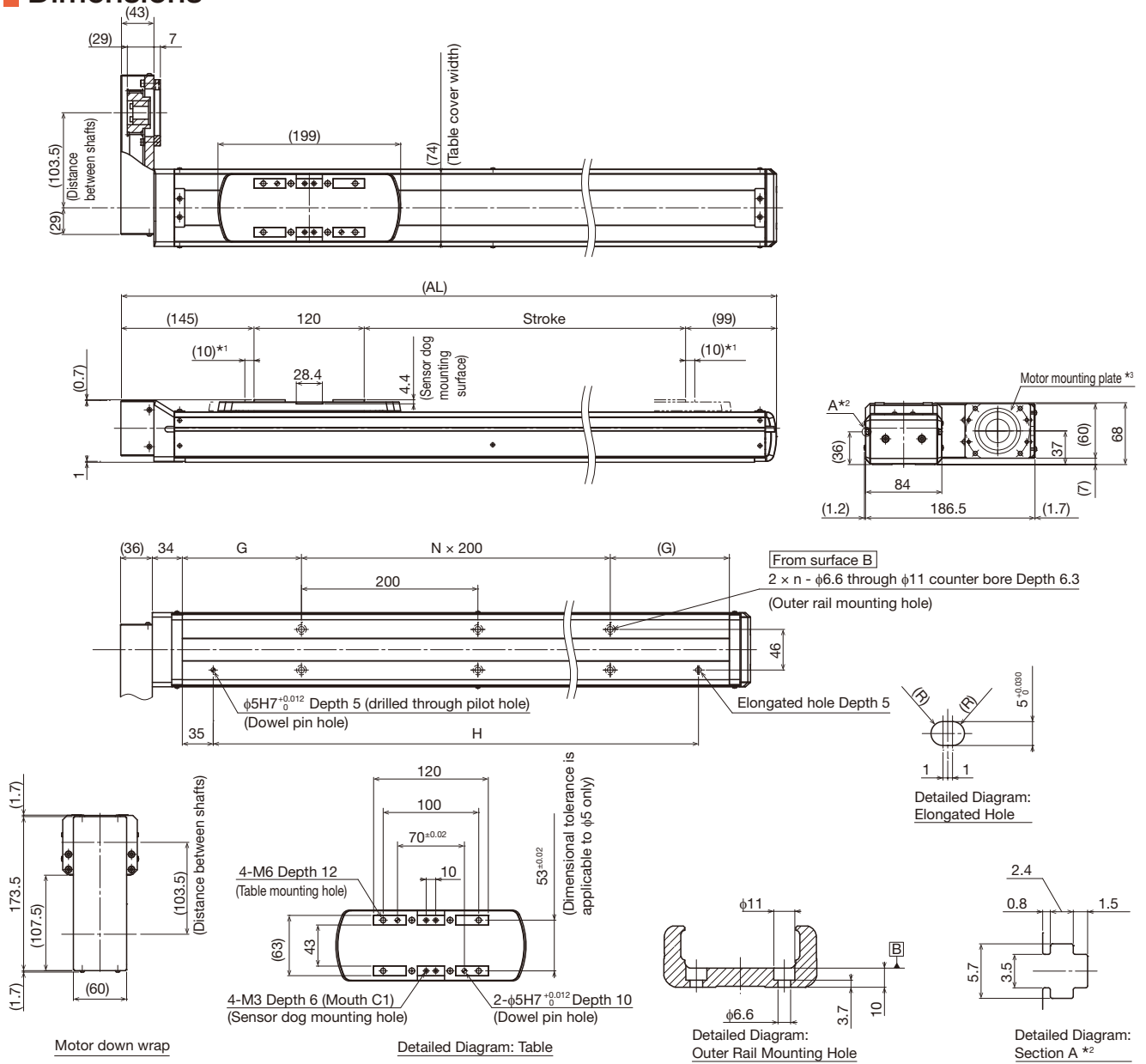
Vertical mount		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
20	0.75	800	800
	1.5	800	800
	3	740	740
40	1.25	800	800
	2.5	680	680
	5	320	320

*5 This value is the overhang length whose running life is 20,000 km for each direction.

A permissible value of the applied load in each direction.

Technical Materials

Dimensions



*1 Stroke up to mechanical stopper.

*2 The T slot in Section A is provided exclusively for sensor mounting. Do not use it for any other purpose.

*3 See P.80 for motor mounting plate dimensions.

Stroke [mm]	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	
(Stroke between mechanical stoppers)	(120)	(220)	(320)	(420)	(520)	(620)	(720)	(820)	(920)	(1020)	(1120)	(1220)	(1320)	(1420)	(1520)	
Maximum speed *4 *5 [mm/s]	Ball screw lead: 20 mm	1000						970	790	660	550	470	410	360	320	
	Ball screw lead: 40 mm	2000						1940	1580	1320	1110	950	830	720	640	
Dimensions [mm]	AL	464	564	664	764	864	964	1064	1164	1264	1364	1464	1564	1664	1764	1864
	G	85	135	85	135	85	135	85	135	85	135	85	135	85	135	85
	H	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
Mounting pitch count	N	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
Mounting hole count	n	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9
Weight [kg]	8.7	10.0	11.3	12.6	13.9	15.2	16.5	17.8	19.1	20.4	21.7	23.0	24.3	25.6	26.9	

*4 The maximum speed varies depending on the motor you use.

*5 The maximum speed is the value restricted by the permissible rotational speed of the ball screw.



KSF10 Without Motor

Features
Product Lineup
Model Configuration
Specifications / Dimensions

Model Configuration

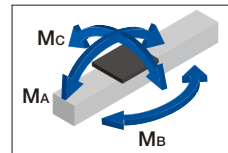
Model	Ball screw lead	Stroke	With/without motor	Intermediate flange	Option
KSF10	25	0800	0	AZ	GR-6
KSF10	25: 25 mm 50: 50 mm	0100: 100 mm to 1500: 1500 mm	0: Without motor 1: With motor	A0 AZ A5 A6	No symbol: None T: Back tap GR: Change the cover color to gray 6: Photo sensor J: Proximity sensor M: Proximity sensor (PNP)

Basic Specifications

LM guide portion	Basic dynamic load rating C [N]	58,500	
	Basic static load rating C ₀ [N]	103,700	
Ball screw portion	Basic dynamic load rating C _a [N]	6,650	
	Basic static load rating C _{0a} [N]	21,050	
	Screw shaft diameter [mm]	φ25	
Ball screw lead [mm]	25	50	
	50		
Bearing portion (Fixed side)	Axial direction	Basic dynamic load rating C _a [N]	13,700
		Static permissible load P _{0a} [N]	5,830
Permissible rotational speed *1 [min ⁻¹]		3,000	
Starting torque *2 [N·cm]		12	
Positioning repeatability *3 [mm]		±0.010	
Lost motion *3 [mm]		0.1	
Permissible input torque [N·m]		15.5	
Static permissible moment *4 [N·m]		M _A : 1,049 M _B : 712 M _C : 671	

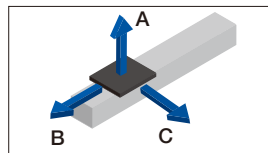
- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for M_A and M_C are the top face of the table, and that for M_B is the center of the table.

Static Permissible Moment

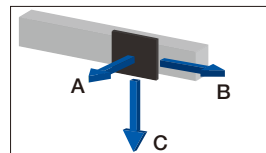


Permissible Overhang Length *5

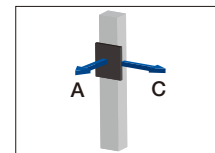
Horizontal use



Wall use



Vertical use



Acceleration and deceleration rate 1.0 G

Horizontal mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
25	15	1,000	760	900
	30	660	370	450
	60	300	170	220
50	4.25	1,000	1,000	1,000
	8.5	1,000	1,000	850
	17	580	530	430

Wall mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
25	15	840	730	1,000
	30	390	330	630
	60	160	140	270
50	4.25	1,000	1,000	1,000
	8.5	790	1,000	1,000
	17	360	490	550

Vertical mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	C
25	6.25	1,000	1,000
	12.5	710	710
	25	330	330
50	2.25	1,000	1,000
	4.5	1,000	1,000
	9	580	580

Acceleration and deceleration rate 1.5 G

Horizontal mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
25	5.25	1,000	1,000	1,000
	10.5	1,000	1,000	1,000
	21	600	540	520
50	1.75	1,000	1,000	1,000
	3.5	1,000	1,000	1,000
	7	930	1,000	800

Wall mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
25	5.25	1,000	1,000	1,000
	10.5	1,000	1,000	1,000
	21	600	540	520
50	1.75	1,000	1,000	1,000
	3.5	1,000	1,000	1,000
	7	720	1,000	910

Vertical mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	C
25	2.75	1,000	1,000
	5.5	1,000	1,000
	11	700	700
50	1	1,000	1,000
	2	1,000	1,000
	4	1,000	1,000

*5 This value is the overhang length whose running life is 20,000 km for each direction.
A permissible value of the applied load in each direction.

Technical Materials

KSF10

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

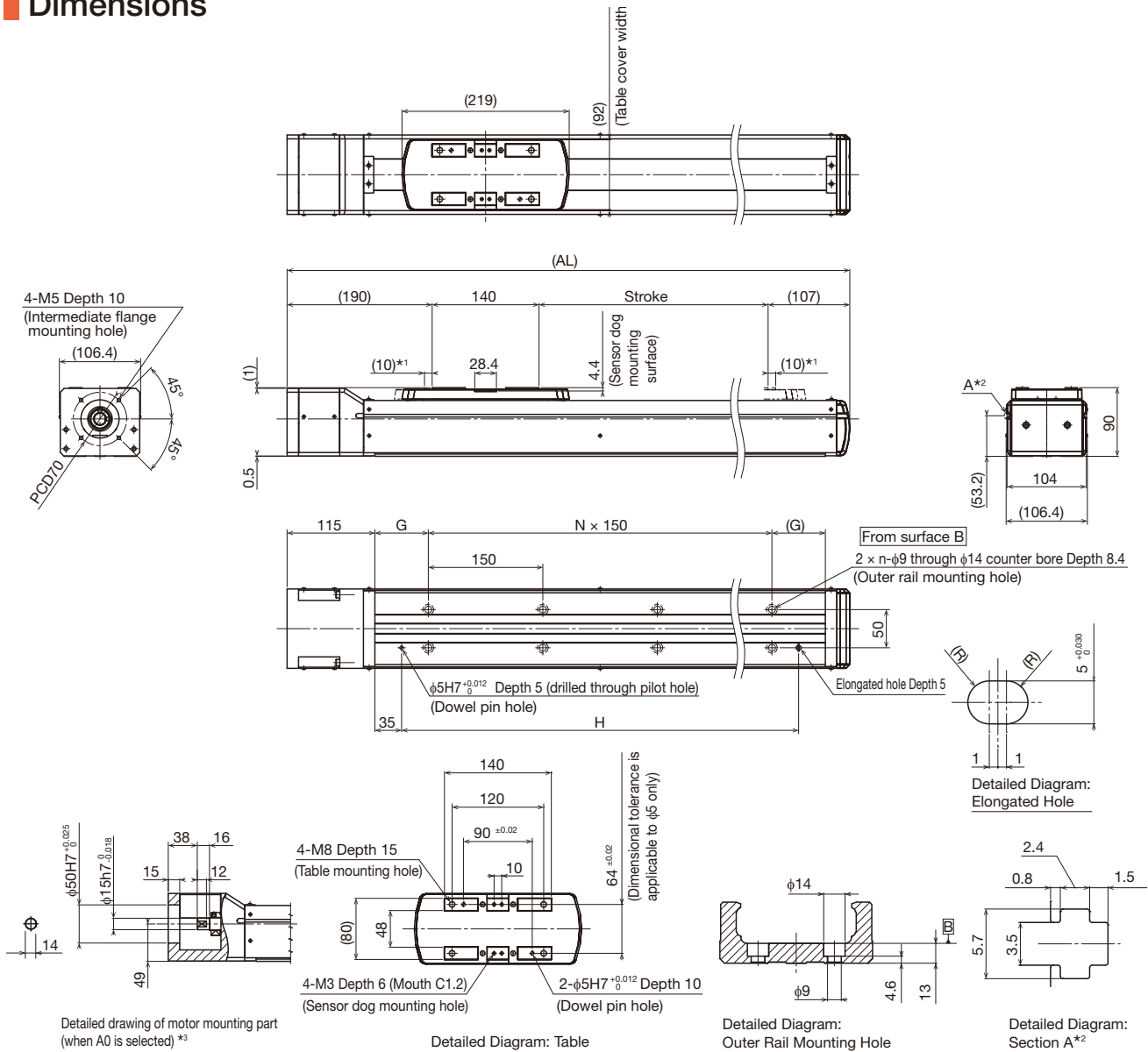
KSF 6U

KSF 8U

KSF 10U

Technical Materials

Dimensions



Detailed drawing of motor mounting part (when A0 is selected) *3

Detailed Diagram: Table

Detailed Diagram: Outer Rail Mounting Hole

Detailed Diagram: Section A*2

*1 Stroke up to mechanical stopper.

*2 The T slot in Section A is provided exclusively for sensor mounting. Do not use it for any other purpose.

*3 See P.81 for intermediate flange dimensions.

Stroke [mm]	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	
(Stroke between mechanical stoppers)	(120)	(220)	(320)	(420)	(520)	(620)	(720)	(820)	(920)	(1020)	(1120)	(1220)	(1320)	(1420)	(1520)	
Maximum speed *4 *5 [mm/s]	Ball screw lead: 25 mm									1050	890	760	660	580	510	
	Ball screw lead: 50 mm									2110	1790	1530	1330	1160	1030	
Dimensions [mm]	AL	537	637	737	837	937	1037	1137	1237	1337	1437	1537	1637	1737	1837	1937
	G	120	95	70	120	95	70	120	95	70	120	95	70	120	95	70
	H	320	420	520	620	720	820	920	1020	1120	1220	1320	1420	1520	1620	1720
Mounting pitch count	N	1	2	3	3	4	5	5	6	7	7	8	9	9	10	11
Mounting hole count	n	2	3	4	4	5	6	6	7	8	8	9	10	10	11	12
Weight [kg]	14.7	16.8	18.8	20.9	22.9	25.0	27.0	29.1	31.2	33.2	35.3	37.3	39.4	41.5	43.5	

*4 The maximum speed varies depending on the motor you use.

*5 The maximum speed is the value restricted by the permissible rotational speed of the ball screw.



KSF10R Without Motor

Features
Product Lineup
Model Configuration
Specifications / Dimensions

Model Configuration

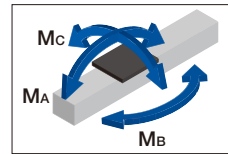
Model	Ball screw lead	Stroke	With/without motor	Motor mounting plate	Motor shaft diameter	Motor shaft fixing method	Option
KSF10R -	25 -	0800 -	0 -	WZ -	19 -	M -	MR-T-GR
KSF10R	25: 25 mm 50: 50 mm	0100: 100 mm to 1500: 1500 mm	0: Without motor 1: With motor	WZ W5	16: 16 mm 19: 19 mm	M: Friction tightening	MR: Motor right wrap ML: Motor left wrap MD: Motor down wrap T: Back tap GR: Change the cover color to gray 6: Photo sensor J: Proximity sensor M: Proximity sensor (PNP)

Basic Specifications

LM guide portion	Basic dynamic load rating C [N]	58,500	
	Basic static load rating Co [N]	103,700	
Ball screw portion	Basic dynamic load rating Ca [N]	6,650	4,150
	Basic static load rating Coa [N]	21,050	11,170
	Screw shaft diameter [mm]	φ25	
Bearing portion (Fixed side)	Ball screw lead [mm]	25	50
	Axial direction	Basic dynamic load rating Ca [N]	13,700
	Static permissible load Poa [N]	5,830	
	Permissible rotational speed *1 [min ⁻¹]	3,000	
Starting torque *2 [N·cm]		12	16
	Positioning repeatability *3 [mm]	±0.010	
Lost motion *3 [mm]	0.1		
Permissible input torque [N·m]	8.5		
Static permissible moment *4 [N·m]	Ma: 1,049 Mb: 712 Mc: 671		

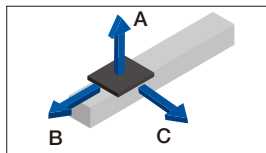
- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for Ma and Mc are the top face of the table, and that for Mb is the center of the table.

Static Permissible Moment

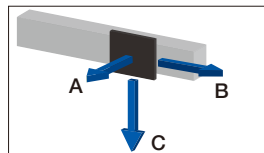


Permissible Overhang Length *5

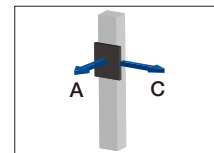
Horizontal use



Wall use



Vertical use



Acceleration and deceleration rate 1.0 G

Horizontal mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
25	9.5	1000	1000	1000
	19	1000	600	710
	38	510	290	350
50	3	1000	1000	1000
	6	1000	1000	1000
	12	850	760	620

Wall mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
25	9.5	1000	1000	1000
	19	650	560	1000
	38	290	250	480
50	3	1000	1000	1000
	6	1000	1000	1000
	12	540	720	810

Vertical mount		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
25	4.75	1000	1000
	9.5	950	950
	19	450	450
50	1.75	1000	1000
	3.5	1000	1000
	7	760	760

Acceleration and deceleration rate 1.5 G

Horizontal mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
25	2	1000	1000	1000
	4	1000	1000	1000
	8	1000	1000	1000
50	1	1000	1000	1000
	2	1000	1000	1000
	4	1000	1000	1000

Wall mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
25	2	1000	1000	1000
	4	1000	1000	1000
	8	1000	1000	1000
50	1	1000	1000	1000
	2	1000	1000	1000
	4	1000	1000	1000

Vertical mount		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
25	0.75	1000	1000
	1.5	1000	1000
	3	1000	1000
50	0.75	1000	1000
	1.5	1000	1000
	3	1000	1000

*5 This value is the overhang length whose running life is 20,000 km for each direction.

A permissible value of the applied load in each direction.

Technical Materials

KSF10R

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

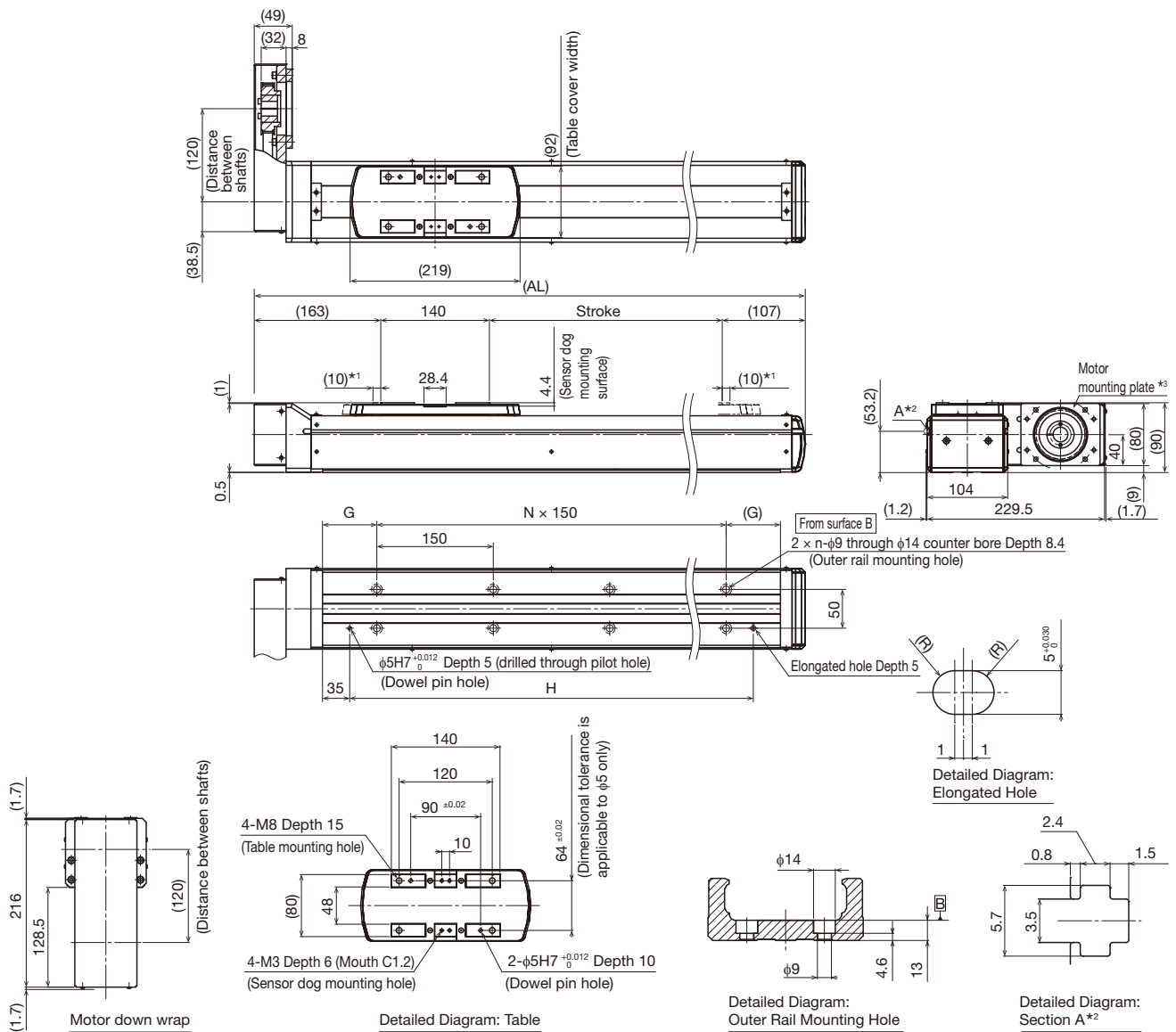
KSF 5U

KSF 6U

KSF 8U

KSF 10U

Dimensions



*1 Stroke up to mechanical stopper.

*2 The T slot in Section A is provided exclusively for sensor mounting. Do not use it for any other purpose.

*3 See P.81 for motor mounting plate dimensions.

Stroke [mm]	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	
(Stroke between mechanical stoppers)	(120)	(220)	(320)	(420)	(520)	(620)	(720)	(820)	(920)	(1020)	(1120)	(1220)	(1320)	(1420)	(1520)	
Maximum speed ^{*4} ^{*5} [mm/s]	Ball screw lead: 25 mm										1050	890	760	660	580	510
	Ball screw lead: 50 mm										2110	1790	1530	1330	1160	1030
Dimensions [mm]	AL	510	610	710	810	910	1010	1110	1210	1310	1410	1510	1610	1710	1810	1910
	G	120	95	70	120	95	70	120	95	70	120	95	70	120	95	70
	H	320	420	520	620	720	820	920	1020	1120	1220	1320	1420	1520	1620	1720
Mounting pitch count	N	1	2	3	3	4	5	5	6	7	7	8	9	9	10	11
Mounting hole count	n	2	3	4	4	5	6	6	7	8	8	9	10	10	11	12
Weight [kg]	15.6	17.7	19.8	21.8	23.9	25.9	28.0	30.1	32.1	34.2	36.2	38.3	40.4	42.4	44.5	

*4 The maximum speed varies depending on the motor you use.

*5 The maximum speed is the value restricted by the permissible rotational speed of the ball screw.

Technical Materials

KSF5T Without Motor



Features
Product Lineup
Model Configuration
Specifications / Dimensions

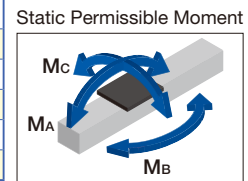
Model Configuration

Model	Ball screw lead	Stroke	With/without motor	Intermediate flange	Option
KSF5T	10	0050	0	AQ	T-6
KSF5T	10: 10 mm 20: 20 mm	0050: 50 mm to 0900: 900 mm	0: Without motor 1: With motor	A0 AP AQ AR	No symbol: None T: Back tap 1: Sensor rail only 6: Photo sensor J: Proximity sensor M: Proximity sensor (PNP) F: Sub-table iron specification

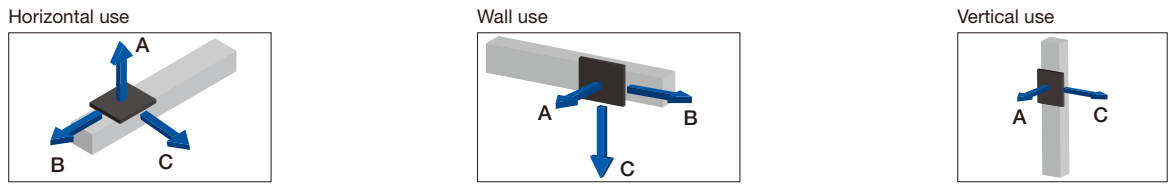
Basic Specifications

LM guide portion	Basic dynamic load rating C [N]		10,200
	Basic static load rating C ₀ [N]		17,900
Ball screw portion	Basic dynamic load rating C _a [N]		3,350
	Basic static load rating C _{0a} [N]		4,470
	Screw shaft diameter [mm]		φ13
	Ball screw lead [mm]		10 20
Bearing portion (Fixed side)	Axial direction	Basic dynamic load rating C _a [N]	6,100
		Static permissible load P _{0a} [N]	3,100
Permissible rotational speed *1 [min ⁻¹]			3,000
Starting torque *2 [N·cm]			7
Positioning repeatability *3 [mm]			±0.010
Lost motion *3 [mm]			0.1
Permissible input torque [N·m]			1.8
Static permissible moment *4 *5 [N·m]			M _A :103 (147) M _B : 61 (137) M _C : 80 (149)

*1 The permissible rotational speed is restricted by the stroke.
 *2 The starting torque represents values when the standard grease is filled.
 *3 These represent values when measured using a motor provided by THK.
 *4 Applied point of moment load for M_A and M_C are the top face of the table, and that for M_B is the center of the table.
 *5 () shows the value for sub-table iron specifications.



Permissible Overhang Length *6



Acceleration and deceleration rate - lead 10 mm: 0.5 G, lead 20 mm: 1.0 G

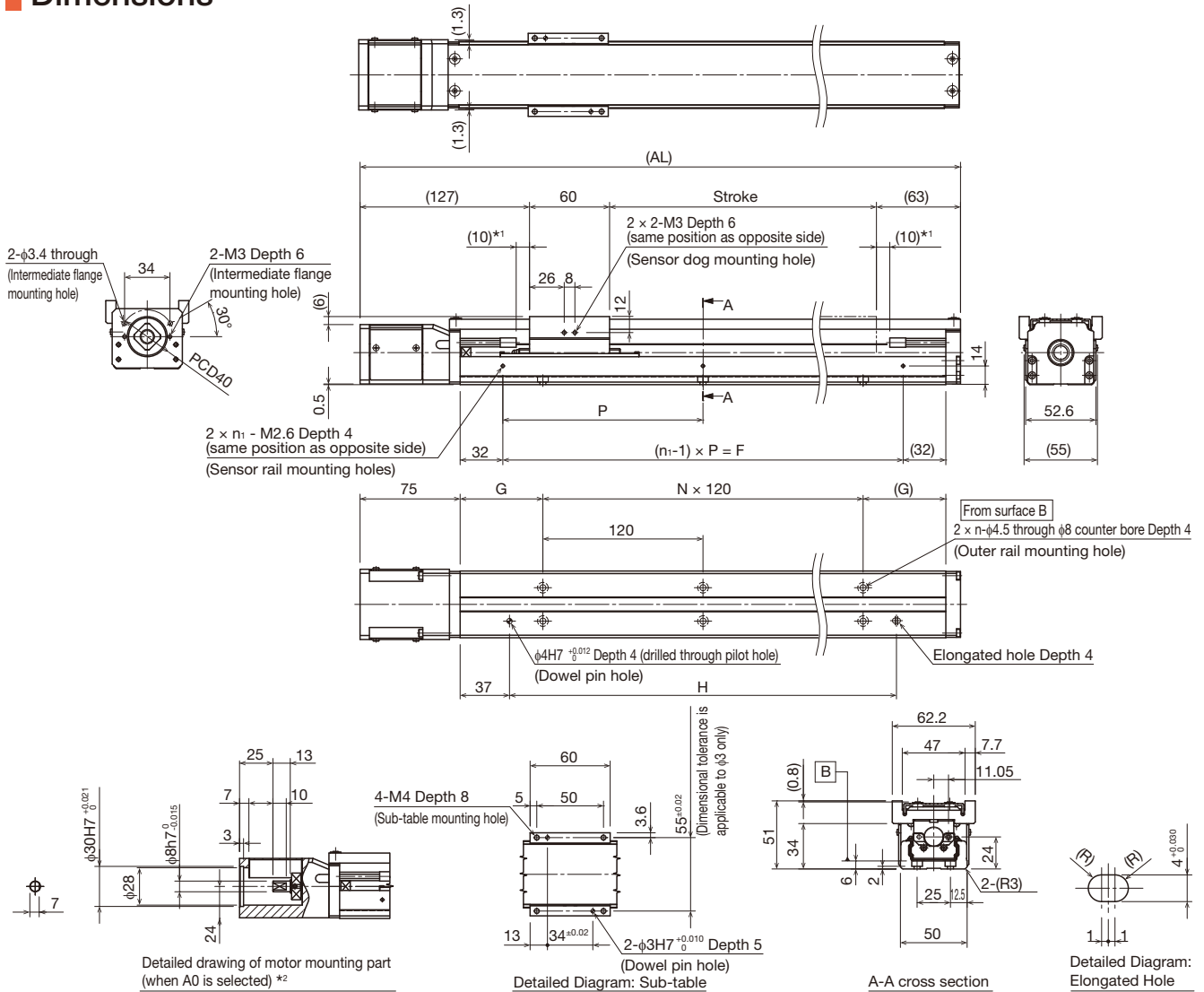
Horizontal mount [mm]					Wall mount [mm]					Vertical mount [mm]					
Ball screw lead [mm]	Load mass [kg]	A	B	C	Ball screw lead [mm]	Load mass [kg]	A	B	C	Ball screw lead [mm]	Load mass [kg]	A	C		
10	5	500	210	420	10	5	390	190	500	10	3.25	300	300		
	10	500	100	200		10	10	170	80		500	10	6.5	140	140
	20	250	40	90		10	20	60	30		210	10	13	50	50
20	1.75	500	490	500	20	1.75	500	470	500	20	1.5	470	470		
	3.5	500	240	340		20	3.5	300	220		480	20	3	220	220
	7	230	110	170		20	7	130	90		210	20	6	90	90

Acceleration and deceleration rate - lead 10 mm: 1.0 G, lead 20 mm: 2.0 G

Horizontal mount [mm]					Wall mount [mm]					Vertical mount [mm]					
Ball screw lead [mm]	Load mass [kg]	A	B	C	Ball screw lead [mm]	Load mass [kg]	A	B	C	Ball screw lead [mm]	Load mass [kg]	A	C		
10	3.75	500	280	500	10	3.75	490	260	500	10	2	500	500		
	7.5	460	130	260		10	7.5	220	120		450	10	4	230	230
	15	210	60	120		10	15	90	40		190	10	8	100	100
20	1.25	500	500	500	20	1.25	500	500	500	20	0.75	500	500		
	2.5	440	340	380		20	2.5	330	320		430	20	1.5	410	410
	5	200	160	190		20	5	150	140		190	20	3	190	190

*6 This value is the overhang length whose running life is 10,000 km (20,000 km for lead 20 mm) for each direction. A permissible value of the applied load in each direction.

Dimensions

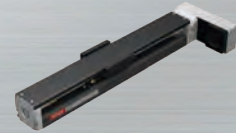


*1 Stroke up to mechanical stopper.
*2 See P.78 for intermediate flange dimensions.

Stroke [mm]	50	100	150	200	250	300	350	400	450	
(Stroke between mechanical stoppers)	(70)	(120)	(170)	(220)	(270)	(320)	(370)	(420)	(470)	
Maximum speed *3 [mm/s]	Ball screw lead: 10 mm					500				
	Ball screw lead: 20 mm					1000				
Dimensions [mm]	AL	300	350	400	450	500	550	600	700	
	G	47	72	97	62	87	52	77	67	
	H	140	190	240	290	340	390	440	540	
	P	150	200	250	150	175	200	225	275	
	F	150	200	250	300	350	400	450	550	
Mounting pitch count	N	1	1	1	2	2	3	3	4	
Mounting hole count	n	2	2	2	3	3	4	4	5	
	n ₁	2	2	2	3	3	3	3	3	
Weight *4 [kg]	2.1	2.4	2.6	2.9	3.2	3.4	3.7	3.9	4.2	
Stroke [mm]	500	550	600	650	700	750	800	850	900	
(Stroke between mechanical stoppers)	(520)	(570)	(620)	(670)	(720)	(770)	(820)	(870)	(920)	
Maximum speed *3 [mm/s]	Ball screw lead: 10 mm	500		440	390	340	310	270	250	
	Ball screw lead: 20 mm	1000		890	780	690	620	550	500	
Dimensions [mm]	AL	750	800	850	900	950	1000	1050	1150	
	G	92	57	82	47	72	97	62	52	
	H	590	640	690	740	790	840	890	990	
	P	200	130	175	150	200	170	150	200	
	F	600	650	700	750	800	850	900	1000	
Mounting pitch count	N	4	5	5	6	6	7	7	8	
Mounting hole count	n	5	6	6	7	7	8	8	9	
	n ₁	4	6	5	6	5	6	7	6	
Weight *4 [kg]	4.4	4.7	5.0	5.2	5.5	5.7	6.0	6.2	6.5	

*3 The maximum speed is the value restricted by the motor rotational speed (at 3000 min⁻¹) or by the permissible rotational speed of the ball screw.

*4 Weight of 0.1kg should be added for sub-table iron specifications.



KSF5RT Without Motor

Features
Product Lineup
Model Configuration
Specifications / Dimensions

Model Configuration

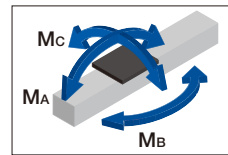
Model	Ball screw lead	Stroke	With/without motor	Motor mounting plate	Motor shaft diameter	Motor shaft fixing method	Option
KSF5RT -	10 -	0050 -	0 -	WQ -	08 -	K -	MR-T
KSF5RT	10 : 10 mm 20 : 20 mm	0050 : 50 mm to 0900 : 900 mm	0 : Without motor 1 : With motor	WP WQ	08 : 8 mm	D : D-cut K : Key	MR : Motor right wrap ML : Motor left wrap MD : Motor down wrap T : Back tap 1 : Sensor rail only 6 : Photo sensor J : Proximity sensor M : Proximity sensor (PNP) F : Sub-table iron specification

Basic Specifications

LM guide portion	Basic dynamic load rating C [N]		10,200	
	Basic static load rating Co [N]		17,900	
Ball screw portion	Basic dynamic load rating Ca [N]		3,350	2,150
	Basic static load rating Coa [N]		6,600	4,470
	Screw shaft diameter [mm]		φ13	
Bearing portion (Fixed side)	Axial direction	Basic dynamic load rating Ca [N]	6,100	
		Static permissible load P _{0a} [N]	3,100	
Permissible rotational speed *1 [min ⁻¹]		3,000		
Starting torque *2 [N·cm]		7		
Positioning repeatability *3 [mm]		± 0.010		
Lost motion *3 [mm]		0.1		
Permissible input torque [N·m]		1.1		
Static permissible moment *4 *5 [N·m]		Ma: 103 (147) Mb: 61 (137) Mc: 80 (149)		

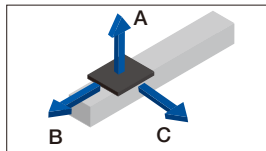
- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for Ma and Mc are the top face of the table, and that for Mb is the center of the table.
- *5 () shows the value for sub-table iron specifications.

Static Permissible Moment

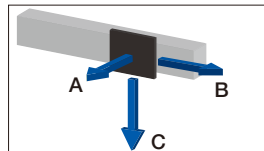


Permissible Overhang Length *6

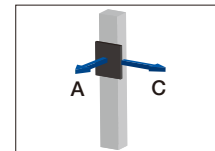
Horizontal use



Wall use



Vertical use



Acceleration and deceleration rate - lead 10 mm: 0.5 G, lead 20 mm: 1.0 G

Horizontal mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
10	5	500	210	420
	10	500	100	200
	20	250	40	90
20	1.75	500	490	500
	3.5	500	240	340
	7	230	110	170

Wall mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
10	5	390	190	500
	10	170	80	500
	20	60	30	210
20	1.75	500	470	500
	3.5	300	220	480
	7	130	90	210

Vertical mount		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
10	2.75	360	360
	5.5	170	170
	11	70	70
20	1.25	500	500
	2.5	270	270
	5	120	120

Acceleration and deceleration rate - lead 10 mm: 1.0 G, lead 20 mm: 2.0 G

Horizontal mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
10	3.75	500	280	500
	7.5	460	130	260
	15	210	60	120
20	1	500	500	500
	2	500	420	480
	4	260	210	240

Wall mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
10	3.75	490	260	500
	7.5	220	120	450
	15	90	40	190
20	1	500	500	500
	2	430	410	500
	4	190	190	250

Vertical mount		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
10	2	500	500
	4	230	230
	8	100	100
20	0.625	500	500
	1.25	500	500
	2.5	240	240

*6 This value is the overhang length whose running life is 10,000 km (20,000 km for lead 20 mm) for each direction.
A permissible value of the applied load in each direction.

KSF4
KSF5
KSF6
KSF8
KSF10
KSF 5T
KSF 6T
KSF 8T
KSF 10T
KSF 4U
KSF 5U
KSF 6U
KSF 8U
KSF 10U

Technical Materials

KSF5RT

Features

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Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

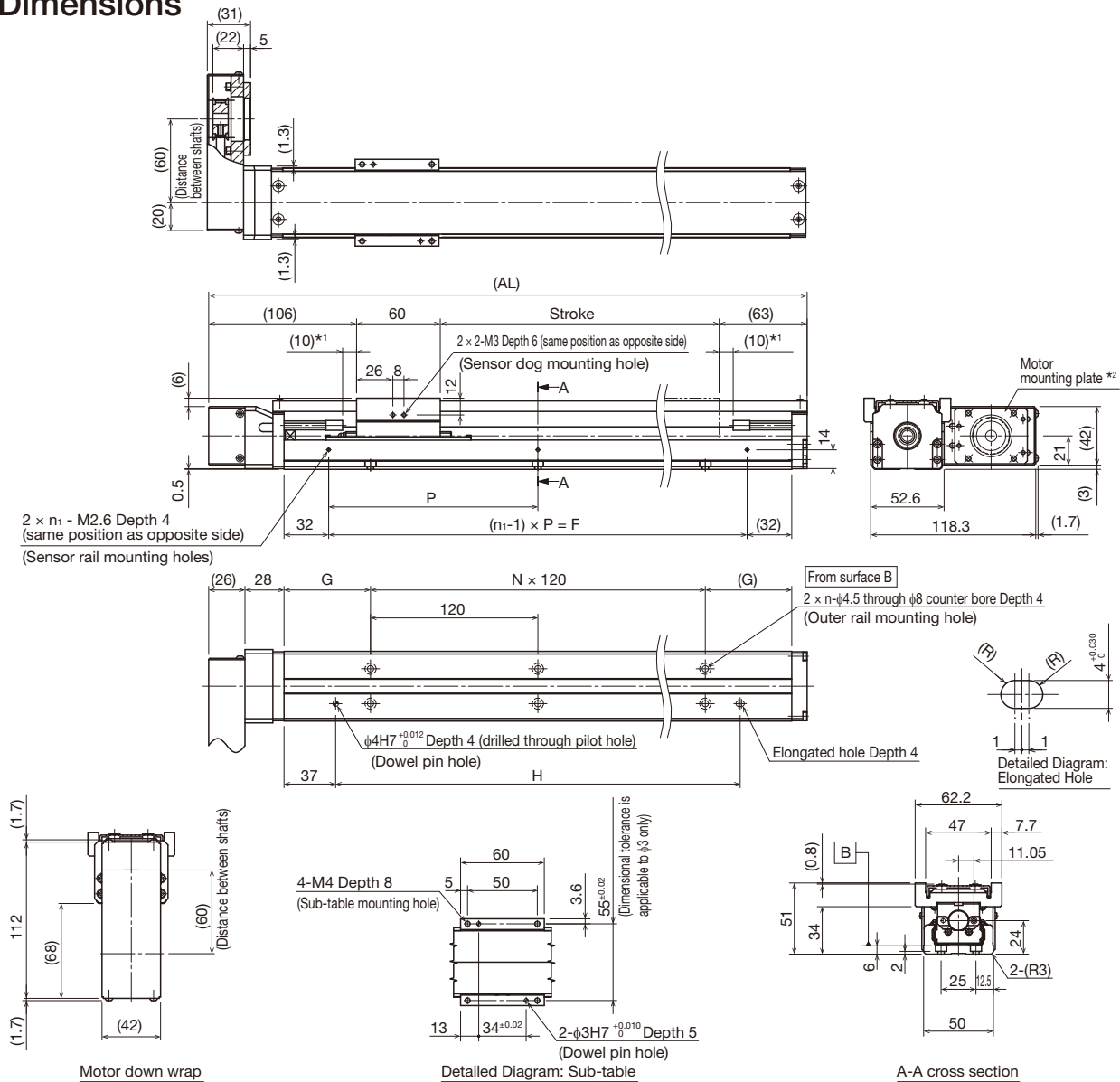
KSF 6U

KSF 8U

KSF 10U

Technical Materials

Dimensions



*1 Stroke up to mechanical stopper.
*2 See P.78 for motor mounting plate dimensions.

Stroke [mm]		50	100	150	200	250	300	350	400	450
(Stroke between mechanical stoppers)		(70)	(120)	(170)	(220)	(270)	(320)	(370)	(420)	(470)
Maximum speed *3 [mm/s]	Ball screw lead: 10 mm	500								
	Ball screw lead: 20 mm	1000								
Dimensions [mm]	AL	279	329	379	429	479	529	579	629	679
	G	47	72	97	62	87	52	77	102	67
	H	140	190	240	290	340	390	440	490	540
	P	150	200	250	150	175	200	225	250	275
	F	150	200	250	300	350	400	450	500	550
Mounting pitch count	N	1	1	1	2	2	3	3	3	4
Mounting hole count	n	2	2	2	3	3	4	4	4	5
	n ₁	2	2	2	3	3	3	3	3	3
Weight *4 [kg]		2.3	2.5	2.8	3.0	3.3	3.6	3.8	4.1	4.3
Stroke [mm]		500	550	600	650	700	750	800	850	900
(Stroke between mechanical stoppers)		(520)	(570)	(620)	(670)	(720)	(770)	(820)	(870)	(920)
Maximum speed *3 [mm/s]	Ball screw lead: 10 mm	500								
	Ball screw lead: 20 mm	1000								
Dimensions [mm]	AL	729	779	829	879	929	979	1029	1079	1129
	G	92	57	82	47	72	97	62	87	52
	H	590	640	690	740	790	840	890	940	990
	P	200	130	175	150	200	170	150	190	200
	F	600	650	700	750	800	850	900	950	1000
Mounting pitch count	N	4	5	5	6	6	6	7	7	8
Mounting hole count	n	5	6	6	7	7	7	8	8	9
	n ₁	4	6	5	6	5	6	7	6	6
Weight *4 [kg]		4.6	4.8	5.1	5.4	5.6	5.9	6.1	6.4	6.7

*3 The maximum speed is the value restricted by the motor rotational speed (at 3000 min⁻¹) or by the permissible rotational speed of the ball screw.

*4 Weight of 0.1kg should be added for sub-table iron specifications.



KSF6T Without Motor

Features
Product Lineup
Model Configuration
Specifications / Dimensions

Model Configuration

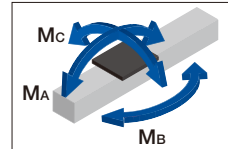
Model	Ball screw lead	Stroke	With/without motor	Intermediate flange	Option
KSF6T	20	0050	0	AQ	T-6
KSF6T	20: 20 mm 30: 30 mm	0050: 50 mm to 1300: 1300 mm	0: Without motor 1: With motor	A0 AV AY AU	No symbol: None T: Back tap 1: Sensor rail only 6: Photo sensor J: Proximity sensor M: Proximity sensor (PNP) F: Sub-table iron specification

Basic Specifications

LM guide portion	Basic dynamic load rating C [N]	17,400	
	Basic static load rating C ₀ [N]	33,000	
Ball screw portion	Basic dynamic load rating C _a [N]	3,400	3,230
	Basic static load rating C _{0a} [N]	8,070	6,570
	Screw shaft diameter [mm]	φ15	
	Ball screw lead [mm]	20	30
Bearing portion (Fixed side)	Axial direction	Basic dynamic load rating C _a [N]	6,650
		Static permissible load P _{0a} [N]	3,250
	Permissible rotational speed *1 [min ⁻¹]	3,000	
	Starting torque *2 [N·cm]	6.2	8.3
	Positioning repeatability *3 [mm]	±0.010	
	Lost motion *3 [mm]	0.1	
	Permissible input torque [N·m]	3.1	
	Static permissible moment *4 *5 [N·m]	M _A : 150 (266) M _B : 124 (252) M _C : 139 (253)	

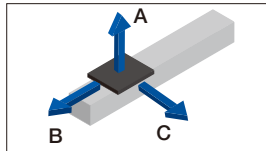
- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for M_A and M_C are the top face of the table, and that for M_B is the center of the table.
- *5 () shows the value for sub-table iron specifications.

Static Permissible Moment

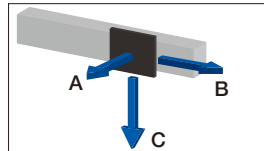


Permissible Overhang Length *6

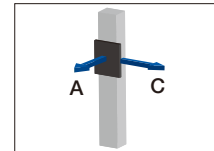
Horizontal use



Wall use



Vertical use



Acceleration and deceleration rate 1.0 G

Horizontal mount [mm]		Load mass [kg]	A	B	C
20	5.5	600	340	470	
	11	330	160	230	
	22	140	70	110	
30	3.5	600	430	480	
	7	310	200	240	
	14	130	90	120	

Wall mount [mm]		Load mass [kg]	A	B	C
20	5.5	420	310	600	
	11	180	140	310	
	22	60	50	120	
30	3.5	420	400	600	
	7	190	180	290	
	14	70	70	110	

Vertical mount [mm]		Load mass [kg]	A	C
20	2.5	600	600	
	5	290	290	
	10	130	130	
30	1.5	600	600	
	3	350	350	
	6	160	160	

Acceleration and deceleration rate 2.0 G

Horizontal mount [mm]		Load mass [kg]	A	B	C
20	1.25	600	600	600	
	2.5	600	600	600	
	5	480	370	420	
30	1.5	600	600	600	
	3	490	500	440	
	6	220	240	230	

Wall mount [mm]		Load mass [kg]	A	B	C
20	1.25	600	600	600	
	2.5	600	600	600	
	5	360	350	470	
30	1.5	600	600	600	
	3	370	470	480	
	6	160	210	210	

Vertical mount [mm]		Load mass [kg]	A	C
20	0.75	600	600	
	1.5	600	600	
	3	450	450	
30	1	600	600	
	2	460	460	
	4	210	210	

*6 This value is the overhang length whose running life is 20,000 km for each direction.
A permissible value of the applied load in each direction.

Technical Materials

KSF6T

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

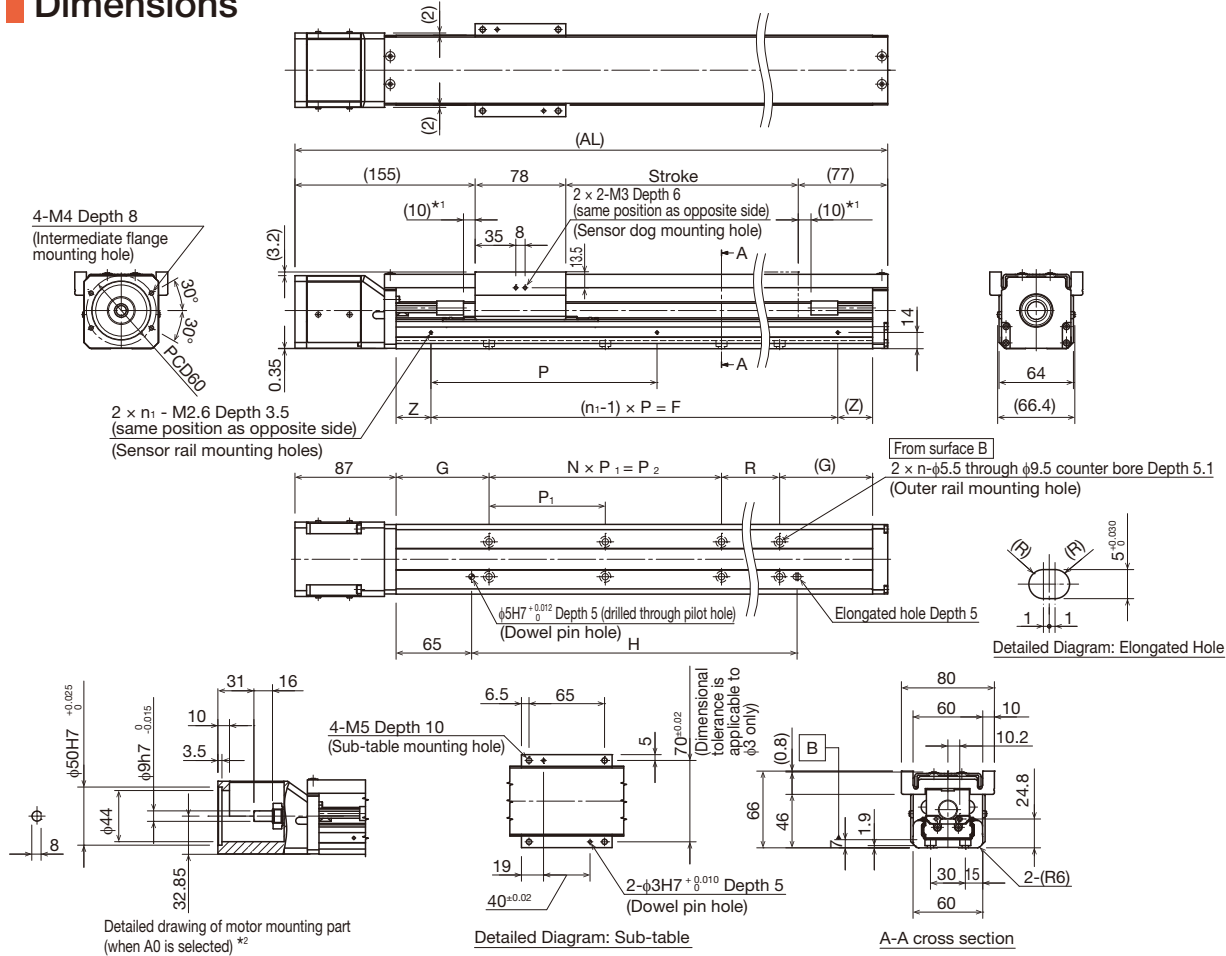
KSF 6U

KSF 8U

KSF 10U

Technical Materials

Dimensions



*1 Stroke up to mechanical stopper.
*2 See P.79 for intermediate flange dimensions.

Stroke [mm] (Stroke between mechanical stoppers)		50 (70)	100 (120)	150 (170)	200 (220)	250 (270)	300 (320)	350 (370)	400 (420)	450 (470)	500 (520)	550 (570)	600 (620)	650 (670)
Maximum speed *3 [mm/s]	Ball screw lead: 20 mm	1000												
	Ball screw lead: 30 mm	1500												
Dimensions [mm]	AL	360	410	460	510	560	610	660	710	760	810	860	910	960
	G	80	105	80	105	80	105	80	105	80	105	80	105	80
	P ₁	100	100	200	200	200	200	200	200	200	200	200	200	200
	P ₂	-	-	-	-	-	-	-	400	400	400	400	600	600
	R	-	-	-	-	100	100	-	-	100	100	-	-	100
	H	130	180	230	280	330	380	430	480	530	580	630	680	730
	Z	30	55	30	5	30	55	30	5	30	55	30	5	30
	P	200	200	100	200	200	200	100	200	200	200	100	200	200
Mounting pitch count	N	-	-	-	-	-	-	2	2	2	2	3	3	3
	n	2	2	2	2	3	3	3	3	4	4	4	4	5
Mounting hole count	n ₁	2	2	4	3	3	3	6	4	4	4	8	5	5
	Weight *4 [kg]	3.9	4.2	4.6	4.9	5.3	5.6	6.0	6.3	6.7	7.0	7.4	7.7	8.1
Stroke [mm] (Stroke between mechanical stoppers)		700 (720)	750 (770)	800 (820)	850 (870)	900 (920)	950 (970)	1000 (1020)	1050 (1070)	1100 (1120)	1150 (1170)	1200 (1220)	1250 (1270)	1300 (1320)
Maximum speed *3 [mm/s]	Ball screw lead: 20 mm	980	870	770	690	630	570	520	470	430	400	370	340	320
	Ball screw lead: 30 mm	1470	1300	1160	1040	940	850	780	710	650	600	550	510	480
Dimensions [mm]	AL	1010	1060	1110	1160	1210	1260	1310	1360	1410	1460	1510	1560	1610
	G	105	80	105	80	105	80	105	80	105	80	105	80	105
	P ₁	200	200	200	200	200	200	200	200	200	200	200	200	200
	P ₂	600	800	800	800	800	1000	1000	1000	1000	1200	1200	1200	1200
	R	100	-	-	100	100	-	-	100	100	-	-	100	100
	H	780	830	880	930	980	1030	1080	1130	1180	1230	1280	1330	1380
	Z	55	30	5	30	55	30	5	30	55	30	5	30	55
	P	200	100	200	200	200	100	200	200	200	100	200	200	200
Mounting pitch count	N	3	4	4	4	5	5	5	5	6	6	6	6	6
	n	5	5	5	6	6	6	6	7	7	7	7	8	8
Mounting hole count	n ₁	5	10	6	6	6	12	7	7	7	14	8	8	8
	Weight *4 [kg]	8.4	8.8	9.1	9.5	9.8	10.2	10.5	10.8	11.2	11.5	11.9	12.2	12.6

*3 The maximum speed is the value restricted by the motor rotational speed (at 3000 min⁻¹) or by the permissible rotational speed of the ball screw.
*4 Weight of 0.4kg should be added for sub-table iron specifications.



KSF6RT Without Motor

Model Configuration

Model	Ball screw lead	Stroke	With/without motor	Motor mounting plate	Motor shaft diameter	Motor shaft fixing method	Option
KSF6RT -	20 -	0050 -	0 -	WV -	14 -	K -	MR-T

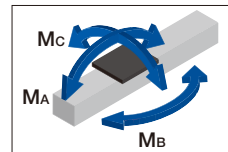
KSF6RT	20: 20 mm 30: 30 mm	0050: 50 mm to 1300: 1300 mm	0: Without motor 1: With motor	WV WY	11: 11 mm 14: 14 mm	D:D-cut K:Key M:Friction tightening	MR : Motor right wrap ML : Motor left wrap MD : Motor down wrap T : Back tap 1 : Sensor rail only 6 : Photo sensor J : Proximity sensor M : Proximity sensor (PNP) F : Sub-table iron specification
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Basic Specifications

LM guide portion	Basic dynamic load rating C [N]		17,400	
	Basic static load rating Co [N]		33,000	
Ball screw portion	Basic dynamic load rating Ca [N]		3,400	3,230
	Basic static load rating Coa [N]		8,070	6,570
	Screw shaft diameter [mm]		φ15	
Bearing portion (Fixed side)	Axial direction	Basic dynamic load rating Ca [N]	6,650	
		Static permissible load Poa [N]	3,250	
Permissible rotational speed *1 [min ⁻¹]		3,000		
Starting torque *2 [N·cm]		6.2	8.3	
Positioning repeatability *3 [mm]		±0.010		
Lost motion *3 [mm]		0.1		
Permissible input torque [N·m]		2.2		
Static permissible moment *4 *5 [N·m]		Ma: 150 (266) Mb: 124 (252) Mc: 139 (253)		

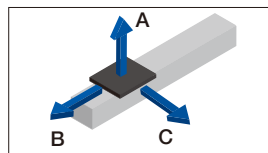
- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for Ma and Mc are the top face of the table, and that for Mb is the center of the table.
- *5 () shows the value for sub-table iron specifications.

Static Permissible Moment

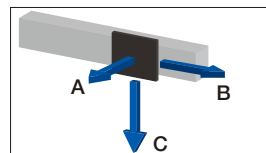


Permissible Overhang Length *6

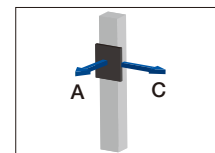
Horizontal use



Wall use



Vertical use



Acceleration and deceleration rate 1.0 G

Ball screw lead [mm]	Load mass [kg]	A	B	C
20	4.75	600	390	540
	9.5	390	190	270
	19	170	90	130
30	2.75	600	550	600
	5.5	410	270	310
	11	180	120	150

Ball screw lead [mm]	Load mass [kg]	A	B	C
20	4.75	490	370	600
	9.5	220	160	370
	19	80	60	150
30	2.75	550	520	600
	5.5	250	240	390
	11	100	100	160

Ball screw lead [mm]	Load mass [kg]	A	C
20	2.25	600	600
	4.5	330	330
	9	150	150
30	1.25	600	600
	2.5	430	430
	5	200	200

Acceleration and deceleration rate 2.0 G

Ball screw lead [mm]	Load mass [kg]	A	B	C
20	1	600	600	600
	2	600	600	600
	4	600	470	520
30	1	600	600	600
	2	600	600	600
	4	360	370	330

Ball screw lead [mm]	Load mass [kg]	A	B	C
20	1	600	600	600
	2	600	600	600
	4	460	440	600
30	1	600	600	600
	2	580	600	600
	4	270	340	340

Ball screw lead [mm]	Load mass [kg]	A	C
20	0.625	600	600
	1.25	600	600
	2.5	550	550
30	0.625	600	600
	1.25	600	600
	2.5	360	360

*6 This value is the overhang length whose running life is 20,000 km for each direction.

A permissible value of the applied load in each direction.

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

KSF 6U

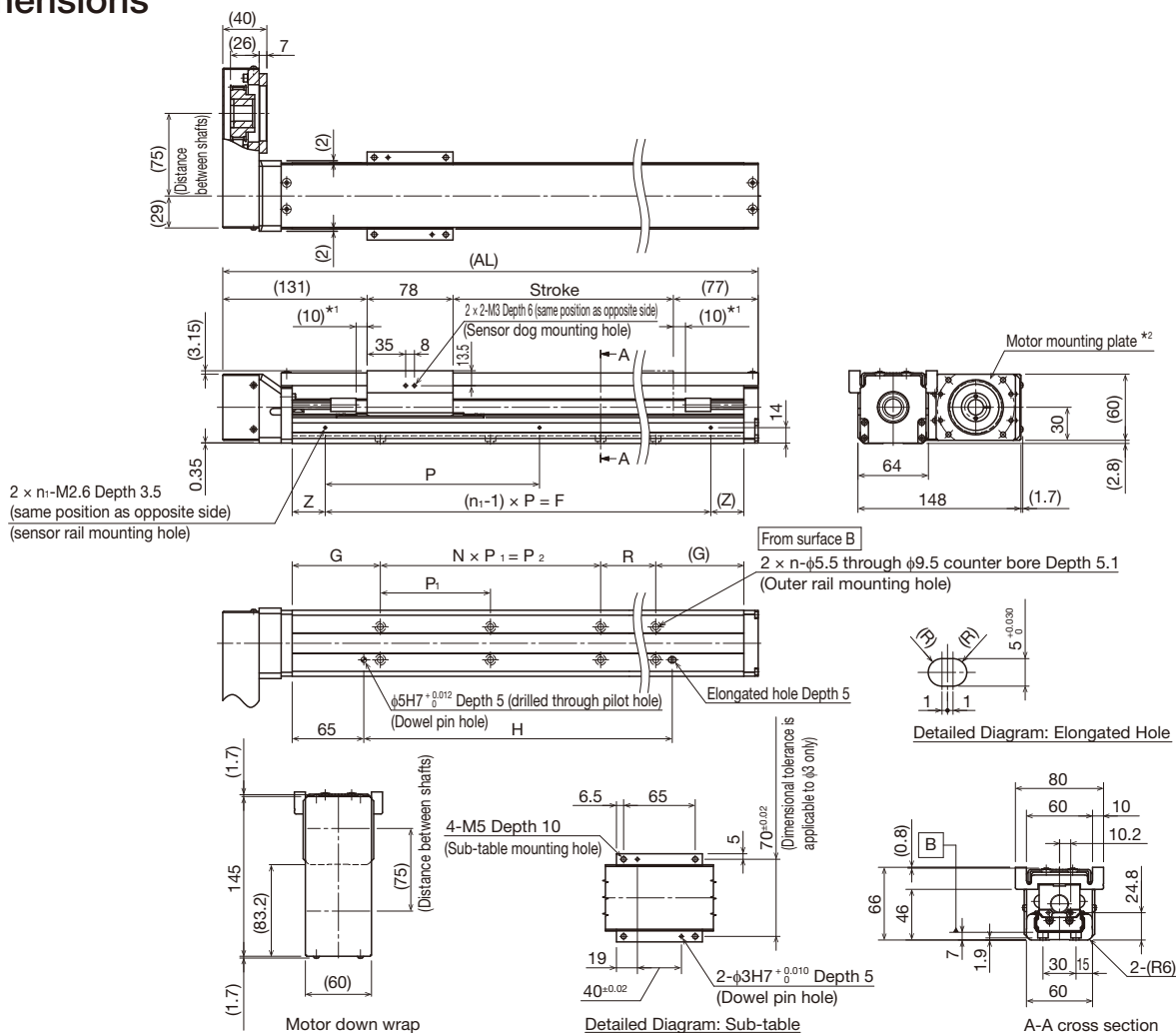
KSF 8U

KSF 10U

Technical Materials

KSF6RT

Dimensions



*1 Stroke up to mechanical stopper.
*2 See P.79 for motor mounting plate dimensions.

Stroke [mm] (Stroke between mechanical stoppers)	50 (70)	100 (120)	150 (170)	200 (220)	250 (270)	300 (320)	350 (370)	400 (420)	450 (470)	500 (520)	550 (570)	600 (620)	650 (670)	
Maximum speed *3 [mm/s]	Ball screw lead: 20 mm Ball screw lead: 30 mm													
Dimensions [mm]	AL	336	386	436	486	536	586	636	686	736	786	836	886	936
	G	80	105	80	105	80	105	80	105	80	105	80	105	80
	P ₁	100	100	200	200	200	200	200	200	200	200	200	200	200
	P ₂	-	-	-	-	-	-	400	400	400	400	600	600	600
	R	-	-	-	-	100	100	-	-	100	100	-	-	100
	H	130	180	230	280	330	380	430	480	530	580	630	680	730
	Z	30	55	30	5	30	55	30	5	30	55	30	5	30
	P	200	200	100	200	200	200	100	200	200	200	100	200	200
	F	200	200	300	400	400	400	500	600	600	600	700	800	800
Mounting pitch count	N	-	-	-	-	-	2	2	2	2	3	3	3	
Mounting hole count	n	2	2	2	2	3	3	3	4	4	4	4	5	
	n ₁	2	2	4	3	3	6	4	4	4	8	5	5	
Weight *4 [kg]	4.4	4.8	5.1	5.5	5.8	6.2	6.5	6.9	7.2	7.6	7.9	8.3	8.6	
Stroke [mm] (Stroke between mechanical stoppers)	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	
Maximum speed *3 [mm/s]	Ball screw lead: 20 mm Ball screw lead: 30 mm													
Dimensions [mm]	AL	986	1036	1086	1136	1186	1236	1286	1336	1386	1436	1486	1536	1586
	G	105	80	105	80	105	80	105	80	105	80	105	80	105
	P ₁	200	200	200	200	200	200	200	200	200	200	200	200	200
	P ₂	600	800	800	800	800	1000	1000	1000	1000	1200	1200	1200	1200
	R	100	-	-	100	100	-	-	100	100	-	-	100	100
	H	780	830	880	930	980	1030	1080	1130	1180	1230	1280	1330	1380
	Z	55	30	5	30	55	30	5	30	55	30	5	30	55
	P	200	100	200	200	200	100	200	200	200	100	200	200	200
	F	800	900	1000	1000	1000	1100	1200	1200	1200	1300	1400	1400	1400
Mounting pitch count	N	3	4	4	4	4	5	5	5	6	6	6	6	
Mounting hole count	n	5	5	5	6	6	6	6	7	7	7	8	8	
	n ₁	5	10	6	6	6	12	7	7	7	14	8	8	
Weight *4 [kg]	8.9	9.3	9.6	10.0	10.3	10.7	11.0	11.4	11.7	12.1	12.4	12.8	13.1	

*3 The maximum speed is the value restricted by the motor rotational speed (at 3000 min⁻¹) or by the permissible rotational speed of the ball screw.
*4 Weight of 0.4kg should be added for sub-table iron specifications.

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

KSF 6U

KSF 8U

KSF 10U

Technical Materials

KSF8T Without Motor



Features
Product Lineup
Model Configuration
Specifications / Dimensions

Model Configuration

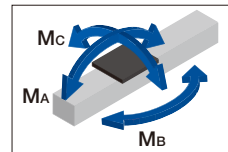
Model	Ball screw lead	Stroke	With/without motor	Intermediate flange	Option
KSF8T	20	0800	0	AV	T-6
KSF8T	20: 20 mm 40: 40 mm	0100: 100 mm to 1500: 1500 mm	0: Without motor 1: With motor	A0 AV AY AU	No symbol: None T: Back tap 1: Sensor rail only 6: Photo sensor J: Proximity sensor M: Proximity sensor (PNP) F: Sub-table iron specification

Basic Specifications

LM guide portion	Basic dynamic load rating C [N]	32,400
	Basic static load rating C ₀ [N]	63,500
Ball screw portion	Basic dynamic load rating C _a [N]	4,030
	Basic static load rating C _{0a} [N]	10,540
	Screw shaft diameter [mm]	φ20
Bearing portion (Fixed side)	Ball screw lead [mm]	20
	Ball screw lead [mm]	40
Axial direction	Basic dynamic load rating C _a [N]	7,600
	Static permissible load P _{0a} [N]	4,000
Permissible rotational speed *1 [min ⁻¹]		3,000
Starting torque *2 [N·cm]		12
Positioning repeatability *3 [mm]		±0.010
Lost motion *3 [mm]		0.1
Permissible input torque [N·m]		7.1
Static permissible moment *4 *5 [N·m]		M _A : 324 (730) M _B : 253 (425) M _C : 265 (503)

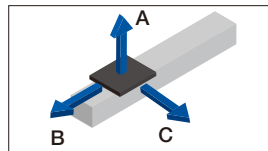
- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for M_A and M_C are the top face of the table, and that for M_B is the center of the table.
- *5 () shows the value for sub-table iron specifications.

Static Permissible Moment

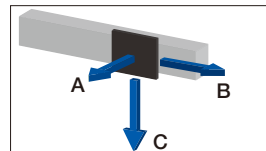


Permissible Overhang Length *6

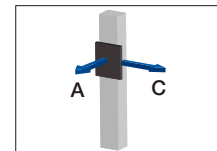
Horizontal use



Wall use



Vertical use



Acceleration and deceleration rate 1.0 G

Horizontal mount [mm]		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
20	10.75	800	500	640
	21.5	500	240	320
	43	220	110	150
40	4	800	800	800
	8	690	530	480
	16	320	250	240

Wall mount [mm]		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
20	10.75	590	470	800
	21.5	260	210	470
	43	100	80	190
40	4	800	800	800
	8	420	500	660
	16	180	220	290

Vertical mount [mm]		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
20	5	800	800
	10	430	430
	20	200	200
40	2	800	800
	4	690	690
	8	320	320

Acceleration and deceleration rate 2.0 G

Horizontal mount [mm]		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
20	1.5	800	800	800
	3	800	800	800
	6	800	800	800
40	1.75	800	800	800
	3.5	800	800	800
	7	490	610	440

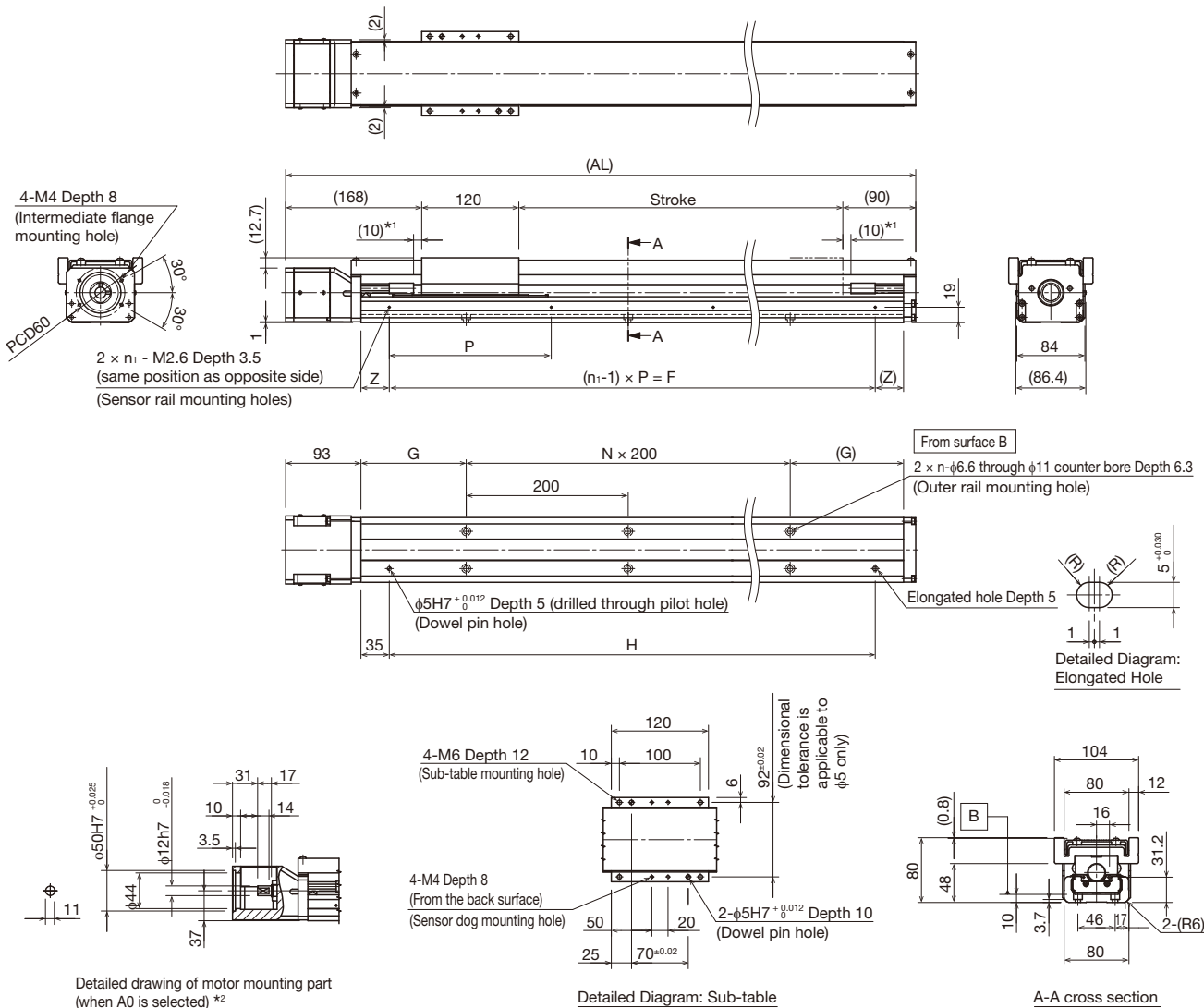
Wall mount [mm]		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
20	1.5	800	800	800
	3	800	800	800
	6	800	800	800
40	1.75	800	800	800
	3.5	780	800	800
	7	370	570	470

Vertical mount [mm]		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
20	0.75	800	800
	1.5	800	800
	3	800	800
40	1.25	800	800
	2.5	800	800
	5	440	440

*6 This value is the overhang length whose running life is 20,000 km for each direction.
A permissible value of the applied load in each direction.

Technical Materials

Dimensions



*1 Stroke up to mechanical stopper.
*2 See P.80 for intermediate flange dimensions.

Stroke [mm]		100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500
(Stroke between mechanical stoppers)		(120)	(220)	(320)	(420)	(520)	(620)	(720)	(820)	(920)	(1020)	(1120)	(1220)	(1320)	(1420)	(1520)
Maximum speed *3 [mm/s]	Ball screw lead: 20 mm	1000							970	790	660	550	470	410	360	320
	Ball screw lead: 40 mm	2000							1940	1580	1320	1110	950	830	720	640
Dimensions *4 [mm]	AL	478	578	678	778	878	978	1078	1178	1278	1378	1478	1578	1678	1778	1887
	G	85	135	85	135	85	135	85	135	85	135	85	135	85	135	85
	H	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
	Z	85	35	85	35	85	35	85	35	85	35	85	35	85	35	85
	F	200	400	400	600	600	800	800	1000	1000	1200	1200	1400	1400	1600	1600
Mounting pitch count	N	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
Mounting hole count	n	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9
	n ₁	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9
Weight *4 [kg]		8.4	9.7	10.9	12.2	13.4	14.7	15.9	17.2	18.4	19.7	20.9	22.2	23.5	24.7	26.0

*3 The maximum speed is the value restricted by the motor rotational speed (at 3000 min⁻¹) or by the permissible rotational speed of the ball screw.
*4 Weight of 1.1kg should be added for sub-table iron specifications.



KSF8RT Without Motor

Model Configuration

Model	Ball screw lead	Stroke	With/without motor	Motor mounting plate	Motor shaft diameter	Motor shaft fixing method	Option
KSF8RT -	20	0800	0	WV	14	M	MR-T

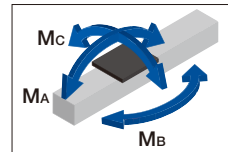
KSF8RT	20: 20 mm 40: 40 mm	0100: 100 mm to 1500: 1500 mm	0: Without motor 1: With motor	WV WY	14: 14 mm	M: Friction tightening	MR: Motor right wrap ML: Motor left wrap MD: Motor down wrap T: Back tap 1: Sensor rail only 6: Photo sensor J: Proximity sensor M: Proximity sensor (PNP) F: Sub-table iron specification
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Basic Specifications

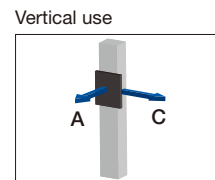
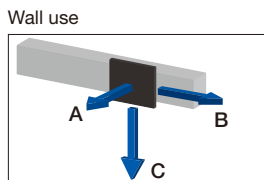
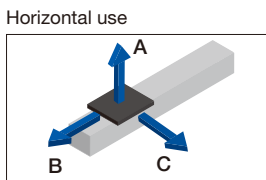
LM guide portion	Basic dynamic load rating C [N]	32,400	
	Basic static load rating Co [N]	63,500	
Ball screw portion	Basic dynamic load rating Ca [N]	4,030	3,750
	Basic static load rating Coa [N]	10,540	8,870
	Screw shaft diameter [mm]	φ20	
Bearing portion (Fixed side)	Ball screw lead [mm]	20	40
	Axial direction	Basic dynamic load rating Ca [N]	7,600
		Static permissible load Poa [N]	4,000
Permissible rotational speed *1 [min ⁻¹]		3,000	
Starting torque *2 [N-cm]		12	
Positioning repeatability *3 [mm]		±0.010	
Lost motion *3 [mm]		0.1	
Permissible input torque [N-m]		4.5	
Static permissible moment *4 *5 [N-m]		Ma: 324 (730) Mb: 253 (425) Mc: 265 (503)	

- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for MA and Mc are the top face of the table, and that for Mb is the center of the table.
- *5 () shows the value for sub-table iron specifications.

Static Permissible Moment



Permissible Overhang Length *6



Acceleration and deceleration rate 1.0 G

Horizontal mount [mm]		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
20	10.25	800	520	670
	20.5	520	250	330
	41	230	110	160
40	4	800	800	800
	8	690	530	480
	16	320	250	240

Wall mount [mm]		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
20	10.25	620	490	800
	20.5	280	220	500
	41	110	90	210
40	4	800	800	800
	8	420	500	660
	16	180	220	290

Vertical mount [mm]		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
20	5	800	800
	10	430	430
	20	200	200
40	2	800	800
	4	690	690
	8	320	320

Acceleration and deceleration rate 2.0 G

Horizontal mount [mm]		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
20	1.5	800	800	800
	3	800	800	800
	6	800	800	800
40	1.75	800	800	800
	3.5	800	800	800
	7	490	610	440

Wall mount [mm]		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
20	1.5	800	800	800
	3	800	800	800
	6	800	800	800
40	1.75	800	800	800
	3.5	780	800	800
	7	370	570	470

Vertical mount [mm]		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
20	0.75	800	800
	1.5	800	800
	3	800	800
40	1.25	800	800
	2.5	800	800
	5	440	440

*6 This value is the overhang length whose running life is 20,000 km for each direction. A permissible value of the applied load in each direction.

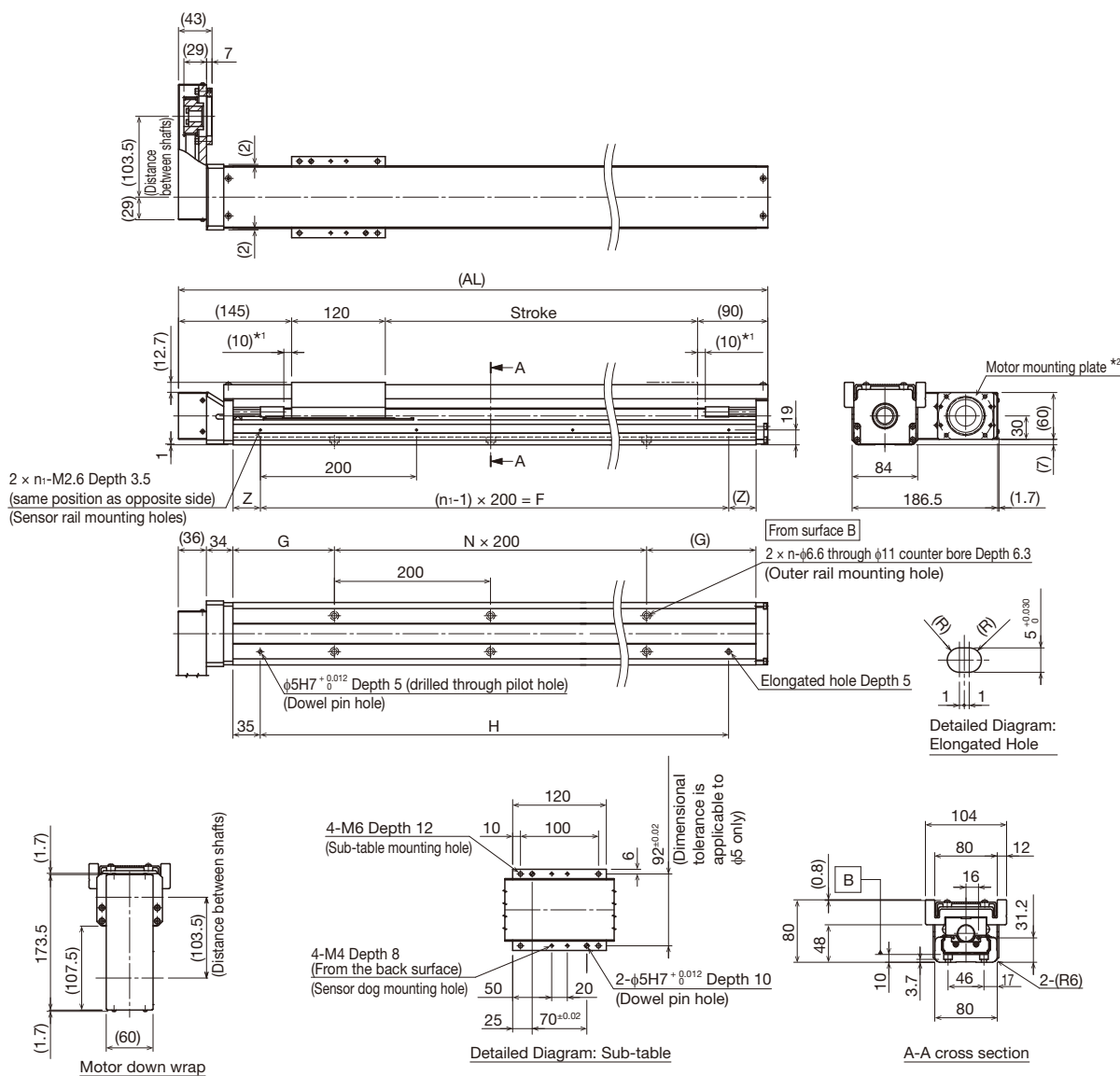
Features
Product Lineup
Model Configuration
Specifications / Dimensions

KSF4
KSF5
KSF6
KSF8
KSF10
KSF 5T
KSF 6T
KSF 8T
KSF 10T
KSF 4U
KSF 5U
KSF 6U
KSF 8U
KSF 10U

Technical Materials

KSF8RT

Dimensions



*1 Stroke up to mechanical stopper.
*2 See P.80 for motor mounting plate dimensions.

Stroke [mm] (Stroke between mechanical stoppers)	100 (120)	200 (220)	300 (320)	400 (420)	500 (520)	600 (620)	700 (720)	800 (820)	900 (920)	1000 (1020)	1100 (1120)	1200 (1220)	1300 (1320)	1400 (1420)	1500 (1520)	
Maximum speed *3 [mm/s]	Ball screw lead: 20 mm 1000							Ball screw lead: 40 mm 970 790 660 550 470 410 360 320 1940 1580 1320 1110 950 830 720 640								
Dimensions [mm]	AL	455	555	655	755	855	955	1055	1155	1255	1355	1455	1555	1655	1755	1855
	G	85	135	85	135	85	135	85	135	85	135	85	135	85	135	85
	H	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
	Z	85	35	85	35	85	35	85	35	85	35	85	35	85	35	85
Mounting pitch count	F	200	400	400	600	600	800	800	1000	1000	1200	1200	1400	1400	1600	1600
	N	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
Mounting hole count	n	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9
	n ₁	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9
Weight *4 [kg]	9.0	10.2	11.5	12.8	14.0	15.3	16.5	17.8	19.0	20.3	21.5	22.8	24.0	25.3	26.6	

*3 The maximum speed is the value restricted by the motor rotational speed (at 3000 min⁻¹) or by the permissible rotational speed of the ball screw.
*4 Weight of 1.1kg should be added for sub-table iron specifications.

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

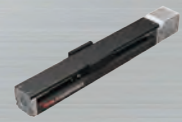
KSF 5U

KSF 6U

KSF 8U

KSF 10U

Technical Materials



KSF10T Without Motor

Features
Product Lineup
Model Configuration
Specifications / Dimensions

Model Configuration

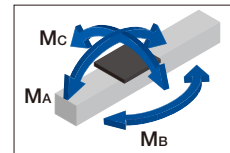
Model	Ball screw lead	Stroke	With/without motor	Intermediate flange	Option
KSF10T	25	0800	0	AZ	T-6
KSF10T	25: 25 mm 50: 50 mm	0100: 100 mm to 1500: 1500 mm	0: Without motor 1: With motor	A0 AZ A5 A6	No symbol: None T: Back tap 1: Sensor rail only 6: Photo sensor J: Proximity sensor M: Proximity sensor (PNP)

Basic Specifications

LM guide portion	Basic dynamic load rating C [N]	58,500	
	Basic static load rating C ₀ [N]	103,700	
Ball screw portion	Basic dynamic load rating Ca [N]	6,650	4,150
	Basic static load rating Coa [N]	21,050	11,170
	Screw shaft diameter [mm]	φ25	
Bearing portion (Fixed side)	Ball screw lead [mm]	25	50
	Axial direction	Basic dynamic load rating Ca [N]	13,700
Permissible rotational speed *1 [min ⁻¹]	Static permissible load P _{0a} [N]	5,830	
	Starting torque *2 [N·cm]	12	16
Positioning repeatability *3 [mm]	Permissible input torque [N·m]	15.5	
Lost motion *3 [mm]	Static permissible moment *4 [N·m]	M _A : 1,259 M _B : 949 M _C : 787	

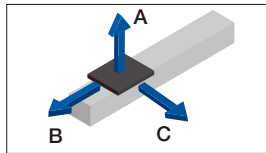
- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment for M_A and M_C are the top face of the table, and that for M_B is the center of the table.

Static Permissible Moment

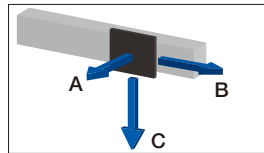


Permissible Overhang Length *5

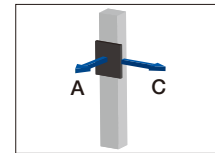
Horizontal use



Wall use



Vertical use



Acceleration and deceleration rate 1.0 G

Horizontal mount [mm]		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
25	14.5	1000	790	930
	29	680	380	470
	58	310	180	230
50	3.75	1000	1000	1000
	7.5	1000	1000	970
	15	660	600	490

Wall mount [mm]		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
25	14.5	860	750	1000
	29	400	340	650
	58	160	140	270
50	3.75	1000	1000	1000
	7.5	890	1000	1000
	15	410	560	620

Vertical mount [mm]		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
25	5.75	1000	1000
	11.5	770	770
	23	360	360
50	1.75	1000	1000
	3.5	1000	1000
	7	740	740

Acceleration and deceleration rate 1.5 G

Horizontal mount [mm]		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
25	6.5	1000	1000	1000
	13	1000	880	920
	26	580	430	460
50	2	1000	1000	1000
	4	1000	1000	1000
	8	970	1000	790

Wall mount [mm]		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
25	6.5	1000	1000	1000
	13	840	840	1000
	26	390	390	550
50	2	1000	1000	1000
	4	1000	1000	1000
	8	700	1000	940

Vertical mount [mm]		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
25	3.25	1000	1000
	6.5	1000	1000
	13	620	620
50	1.25	1000	1000
	2.5	1000	1000
	5	940	940

*5 This value is the overhang length whose running life is 20,000 km for each direction.
A permissible value of the applied load in each direction.

Technical Materials

KSF10T

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

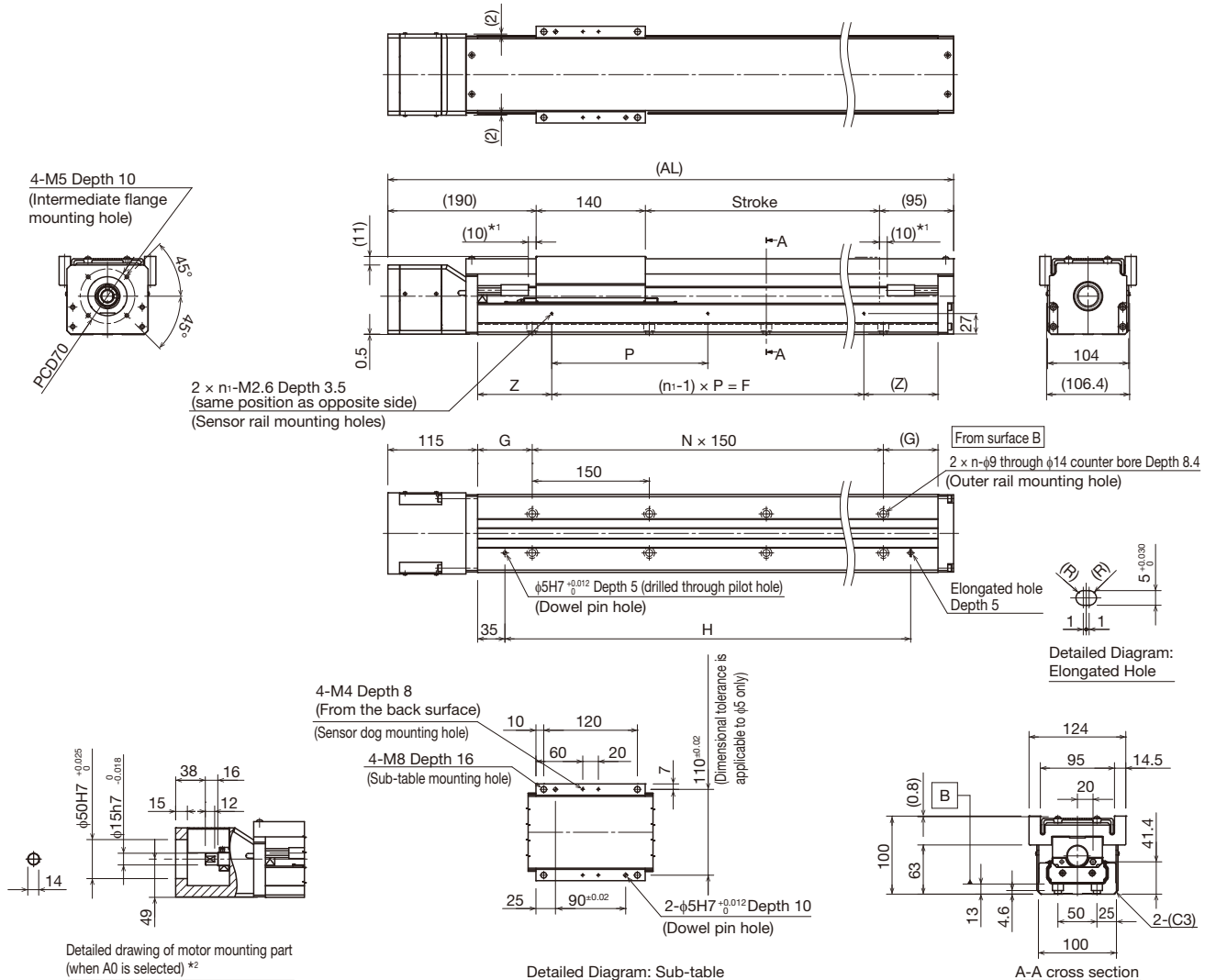
KSF 6U

KSF 8U

KSF 10U

Technical Materials

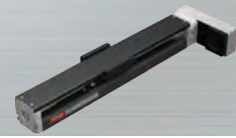
Dimensions



*1 Stroke up to mechanical stopper.
*2 See P.81 for intermediate flange dimensions.

Stroke [mm] (Stroke between mechanical stoppers)	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	
Maximum speed *3 [mm/s]	Ball screw lead: 25 mm	1250									1050	890	760	660	580	510
	Ball screw lead: 50 mm	2500									2110	1790	1530	1330	1160	1030
Dimensions [mm]	AL	525	625	725	825	925	1025	1125	1225	1325	1425	1525	1625	1725	1825	1925
	G	120	95	70	120	95	70	120	95	70	120	95	70	120	95	70
	H	320	420	520	620	720	820	920	1020	1120	1220	1320	1420	1520	1620	1720
	Z	95	45	95	45	95	45	95	45	95	45	95	45	95	45	95
	F	200	400	400	600	600	800	800	1000	1000	1200	1200	1400	1400	1600	1600
Mounting pitch count	N	1	2	3	3	4	5	5	6	7	7	8	9	9	10	11
Mounting hole count	n	2	3	4	4	5	6	6	7	8	8	9	10	10	11	12
	n ₁	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9
Weight [kg]	16.8	18.8	20.8	22.7	24.7	26.7	28.7	30.6	32.6	34.6	36.6	38.6	40.5	42.5	44.5	

*3 The maximum speed is the value restricted by the motor rotational speed (at 3000 min⁻¹) or by the permissible rotational speed of the ball screw.



KSF10RT Without Motor

Features

Product Lineup

Model Configuration

Specifications / Dimensions

Model Configuration

Model	Ball screw lead	Stroke	With/without motor	Motor mounting plate	Motor shaft diameter	Motor shaft fixing method	Option
KSF10RT	25	0800	0	WZ	19	M	MR-T

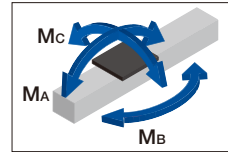
KSF10RT	25: 25 mm 50: 50 mm	0100: 100 mm to 1500: 1500 mm	0: Without motor 1: With motor	WZ W5	16: 16 mm 19: 19 mm	M: Friction tightening	MR: Motor right wrap ML: Motor left wrap MD: Motor down wrap T: Back tap 1: Sensor rail only 6: Photo sensor J: Proximity sensor M: Proximity sensor (PNP)
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Basic Specifications

LM guide portion	Basic dynamic load rating C [N]	58,500	
	Basic static load rating Co [N]	103,700	
Ball screw portion	Basic dynamic load rating Ca [N]	6,650	4,150
	Basic static load rating Coa [N]	21,050	11,170
	Screw shaft diameter [mm]	φ25	
Bearing portion (Fixed side)	Ball screw lead [mm]	25	50
	Axial direction Basic dynamic load rating Ca [N]	13,700	
	Static permissible load Poa [N]	5,830	
Permissible rotational speed *1 [min ⁻¹]		3,000	
Starting torque *2 [N·cm]		12	16
Positioning repeatability *3 [mm]		±0.010	
Lost motion *3 [mm]		0.1	
Permissible input torque [N·m]		8.5	
Static permissible moment *4 [N·m]		MA: 1,259 MB: 949 MC: 787	

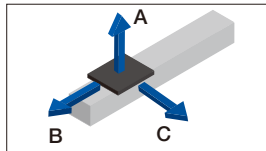
- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for MA and Mc are the top face of the table, and that for MB is the center of the table.

Static Permissible Moment

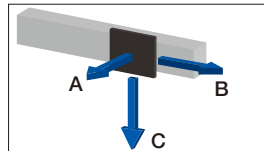


Permissible Overhang Length *5

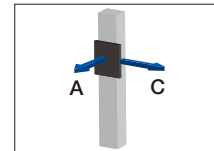
Horizontal use



Wall use



Vertical use



Acceleration and deceleration rate 1.0 G

Horizontal mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
25	9	1000	1000	1000
	18	1000	630	750
	36	540	300	370
50	2.5	1000	1000	1000
	5	1000	1000	1000
	10	1000	910	730

Wall mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
25	9	1000	1000	1000
	18	680	590	1000
	36	310	270	500
50	2.5	1000	1000	1000
	5	1000	1000	1000
	10	650	860	980

Vertical mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	C
25	4.25	1000	1000
	8.5	1000	1000
	17	510	510
50	1.25	1000	1000
	2.5	1000	1000
	5	1000	1000

Acceleration and deceleration rate 1.5 G

Horizontal mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
25	2	1000	1000	1000
	4	1000	1000	1000
	8	1000	1000	1000
50	1	1000	1000	1000
	2	1000	1000	1000
	4	1000	1000	1000

Wall mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
25	2	1000	1000	1000
	4	1000	1000	1000
	8	1000	1000	1000
50	1	1000	1000	1000
	2	1000	1000	1000
	4	1000	1000	1000

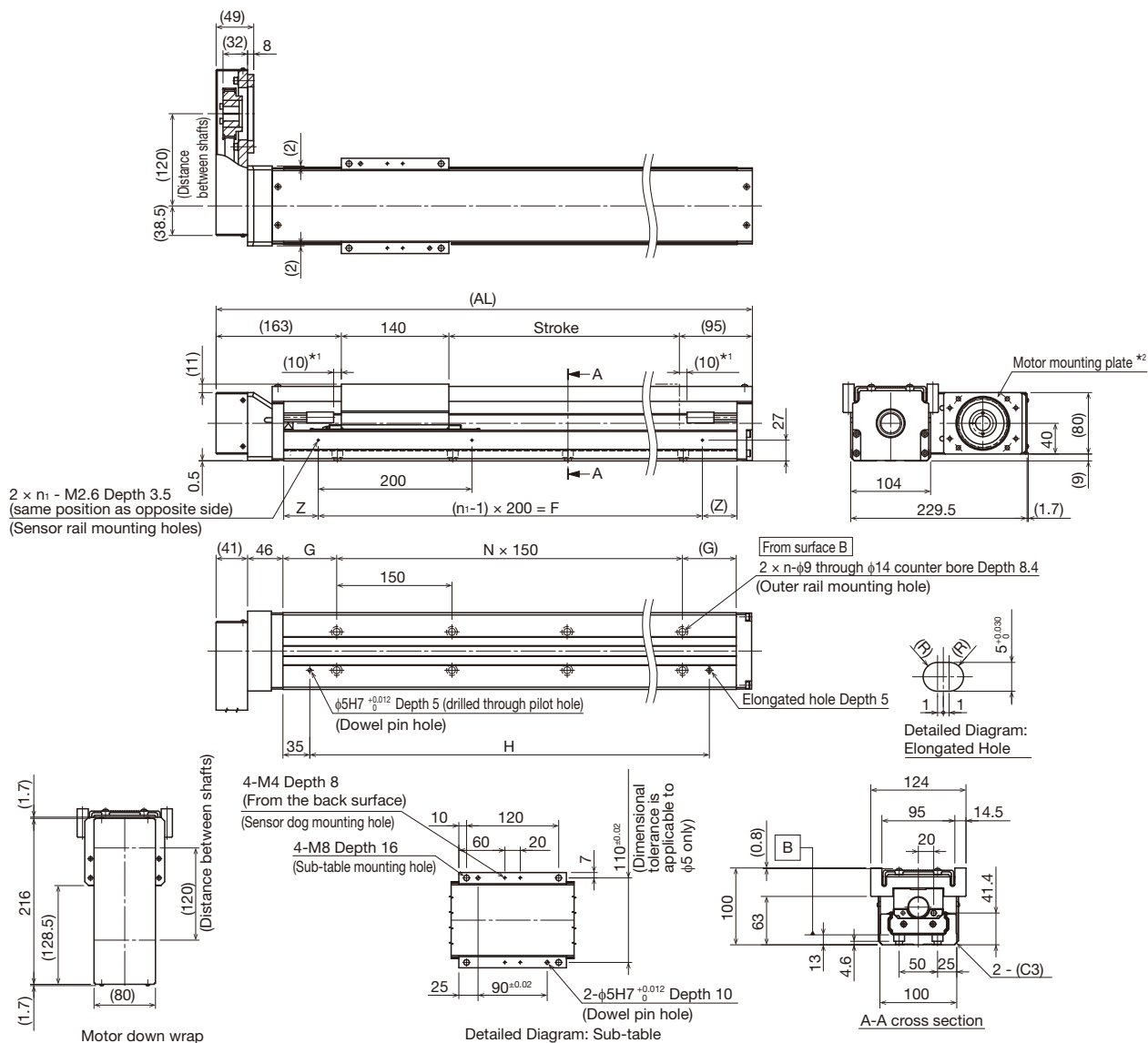
Vertical mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	C
25	0.75	1000	1000
	1.5	1000	1000
	3	1000	1000
50	0.75	1000	1000
	1.5	1000	1000
	3	1000	1000

*5 This value is the overhang length whose running life is 20,000 km for each direction. A permissible value of the applied load in each direction.

KSF10RT

Dimensions



*1 Stroke up to mechanical stopper.
*2 See P.81 for motor mounting plate dimensions.

Stroke [mm]	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	
(Stroke between mechanical stoppers)	(120)	(220)	(320)	(420)	(520)	(620)	(720)	(820)	(920)	(1020)	(1120)	(1220)	(1320)	(1420)	(1520)	
Maximum speed *3 [mm/s]	Ball screw lead: 25 mm	1250								1050	890	760	660	580	510	
	Ball screw lead: 50 mm	2500								2110	1790	1530	1330	1160	1030	
Dimensions [mm]	AL	498	598	698	798	898	998	1098	1198	1298	1398	1498	1598	1698	1798	1898
	G	120	95	70	120	95	70	120	95	70	120	95	70	120	95	70
	H	320	420	520	620	720	820	920	1020	1120	1220	1320	1420	1520	1620	1720
	Z	95	45	95	45	95	45	95	45	95	45	95	45	95	45	95
	F	200	400	400	600	600	800	800	1000	1000	1200	1200	1400	1400	1600	1600
Mounting pitch count	N	1	2	3	3	4	5	5	6	7	7	8	9	9	10	11
Mounting hole count	n	2	3	4	4	5	6	6	7	8	8	9	10	10	11	12
	n ₁	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9
Weight [kg]	17.8	19.8	21.8	23.7	25.7	27.7	29.7	31.7	33.6	35.6	37.6	39.6	41.5	43.5	45.5	

*3 The maximum speed is the value restricted by the motor rotational speed (at 3000 min⁻¹) or by the permissible rotational speed of the ball screw.

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

KSF 6U

KSF 8U

KSF 10U

Technical Materials



KSF4U Without Motor

Features
Product Lineup
Model Configuration
Specifications / Dimensions

Model Configuration

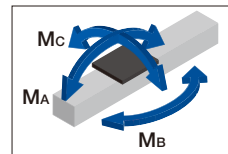
Model	Ball screw lead	Stroke	With/without motor	Intermediate flange	Option
KSF4U	10	0050	0	AQ	T-6
KSF4U	10: 10 mm 16: 16 mm	0050: 50 mm to 0900: 900 mm	0: Without motor 1: With motor	A0 AP AQ AR	No symbol: None T : Back tap 1 : Sensor rail only 6 : Photo sensor J : Proximity sensor M : Proximity sensor (PNP)

Basic Specifications

LM guide portion	Basic dynamic load rating C [N]		6,400	
	Basic static load rating C ₀ [N]		12,900	
Ball screw portion	Basic dynamic load rating C _a [N]		2,860	1,850
	Basic static load rating C _{0a} [N]		5,110	3,420
	Screw shaft diameter [mm]		φ10	
Bearing portion (Fixed side)	Ball screw lead [mm]		10	16
	Axial direction	Basic dynamic load rating C _a [N]	2,930	
		Static permissible load P _{0a} [N]	2,140	
Permissible rotational speed *1 [min ⁻¹]			3,000	
Starting torque *2 [N·cm]			1.5	
Positioning repeatability *3 [mm]			±0.010	
Lost motion *3 [mm]			0.1	
Permissible input torque [N·m]			1.2	
Static permissible moment *4 [N·m]			M _A : 103 M _B : 95 M _C : 58	

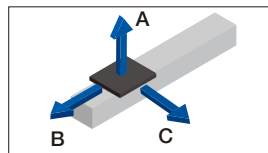
- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for M_A and M_C are the top face of the table, and that for M_B is the center of the table.

Static Permissible Moment

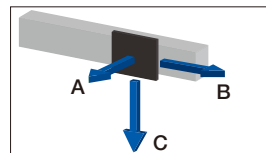


Permissible Overhang Length *5

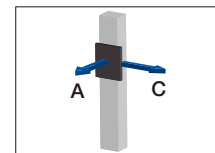
Horizontal use



Wall use



Vertical use



Acceleration and deceleration rate: lead 10 mm: 0.5 G, lead 16 mm: 1.0 G

Ball screw lead [mm]	Load mass [kg]	A	B	C
10	3	400	210	350
	6	400	100	170
	12	270	40	80
16	2	400	260	350
	4	310	120	170
	8	140	50	80

Ball screw lead [mm]	Load mass [kg]	A	B	C
10	3	320	200	400
	6	140	90	400
	12	50	30	240
16	2	320	240	400
	4	140	110	290
	8	50	40	120

Ball screw lead [mm]	Load mass [kg]	A	C
10	2	310	310
	4	150	150
	8	60	60
16	1.5	300	300
	3	140	140
	6	60	60

Acceleration and deceleration rate - lead 10 mm: 1.0 G, lead 16 mm: 2.0 G

Ball screw lead [mm]	Load mass [kg]	A	B	C
10	2	400	330	400
	4	400	160	240
	8	260	70	120
16	1.5	400	400	400
	3	330	210	250
	6	120	80	100

Ball screw lead [mm]	Load mass [kg]	A	B	C
10	2	400	310	400
	4	220	140	400
	8	90	60	250
16	1.5	370	330	400
	3	170	150	250
	6	70	60	110

Ball screw lead [mm]	Load mass [kg]	A	C
10	1.5	400	400
	3	200	200
	6	90	90
16	1	400	400
	2	200	200
	4	90	90

*5 This value is the overhang length whose running life is 10,000 km (20,000 km for lead 16 mm) for each direction. A permissible value of the applied load in each direction.

Technical Materials

KSF4U

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

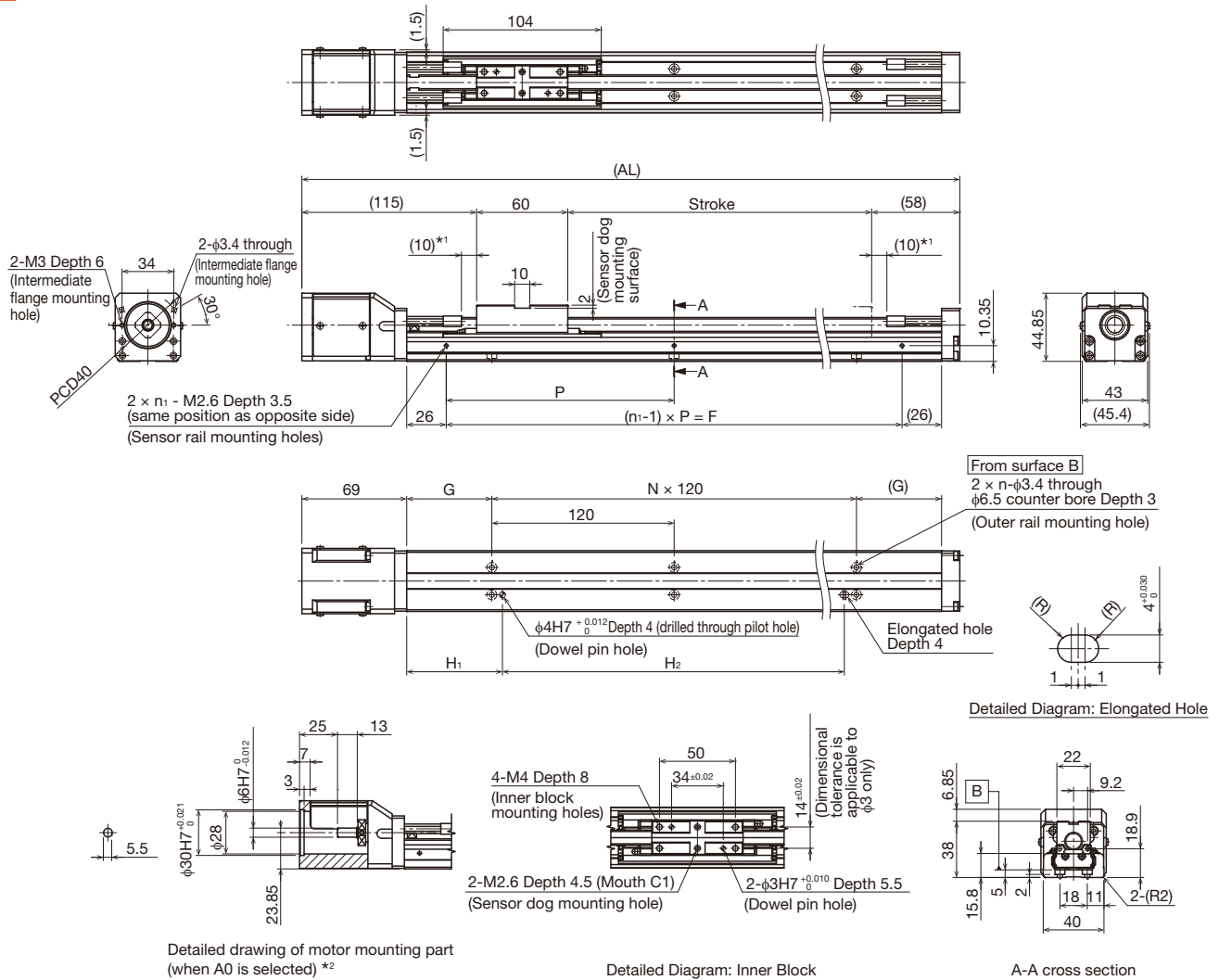
KSF 6U

KSF 8U

KSF 10U

Technical Materials

Dimensions



Detailed drawing of motor mounting part (when A0 is selected) *2

Detailed Diagram: Inner Block

A-A cross section

*1 Stroke up to mechanical stopper.
*2 See P.77 for intermediate flange dimensions.

Stroke [mm]	50	100	150	200	250	300	350	400	450	
(Stroke between mechanical stoppers)	(70)	(120)	(170)	(220)	(270)	(320)	(370)	(420)	(470)	
Maximum speed *3 [mm/s]	Ball screw lead: 10 mm	500								
	Ball screw lead: 16 mm	800								
Dimensions [mm]	AL	283	333	383	433	483	533	583	633	683
	G	41	66	91	56	81	46	71	96	61
	H ₁	48	48	48	63	63	63	48	48	48
	H ₂	75	125	175	225	275	325	375	425	475
	P	150	200	250	150	175	200	225	250	275
	F	150	200	250	300	350	400	450	500	550
Mounting pitch count	N	1	1	1	2	2	3	3	3	4
	n	2	2	2	3	3	4	4	4	5
Mounting hole count	n ₁	2	2	2	3	3	3	3	3	3
		1.3	1.5	1.6	1.8	2.0	2.1	2.3	2.4	2.6
Weight [kg]										
Stroke [mm]	500	550	600	650	700	750	800	850	900	
(Stroke between mechanical stoppers)	(520)	(570)	(620)	(670)	(720)	(770)	(820)	(870)	(920)	
Maximum speed *3 [mm/s]	Ball screw lead: 10 mm	500								
	Ball screw lead: 16 mm	800								
Dimensions [mm]	AL	733	783	833	883	933	983	1033	1083	1133
	G	86	51	76	41	66	91	56	81	46
	H ₁	63	63	63	48	48	48	63	63	63
	H ₂	525	575	625	675	725	775	825	875	925
	P	200	130	175	150	200	170	150	190	200
	F	600	650	700	750	800	850	900	950	1000
Mounting pitch count	N	4	5	5	6	6	6	7	7	8
	n	5	6	6	7	7	7	8	8	9
Mounting hole count	n ₁	4	6	5	6	5	6	7	6	6
		2.8	2.9	3.1	3.2	3.4	3.6	3.7	3.9	4.0
Weight [kg]										

*3 The maximum speed is the value restricted by the motor rotational speed (at 3000 min⁻¹) or by the permissible rotational speed of the ball screw.

KSF4RU Without Motor



Model Configuration

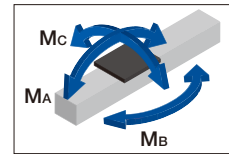
Model	Ball screw lead	Stroke	With/without motor	Motor mounting plate	Motor shaft diameter	Motor shaft fixing method	Option
KSF4RU	10	0050	0	WQ	08	K	MR-T
KSF4RU	10 : 10 mm 16 : 16 mm	0050 : 50 mm to 0900 : 900 mm	0 : Without motor 1 : With motor	WP WQ	08 : 8 mm	D : D-cut K : Key	MR : Motor right wrap ML : Motor left wrap MD : Motor down wrap T : Back tap 1 : Sensor rail only 6 : Photo sensor J : Proximity sensor M : Proximity sensor (PNP)

Basic Specifications

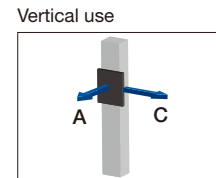
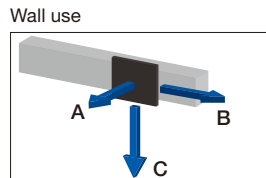
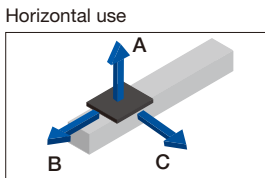
LM guide portion	Basic dynamic load rating C [N]		6,400
	Basic static load rating Co [N]		12,900
Ball screw portion	Basic dynamic load rating Ca [N]		2,860
	Basic static load rating Coa [N]		5,110
	Screw shaft diameter [mm]		φ10
Bearing portion (Fixed side)	Axial direction	Basic dynamic load rating Ca [N]	2,930
		Static permissible load Poa [N]	2,140
Permissible rotational speed *1 [min ⁻¹]		3,000	
Starting torque *2 [N·cm]		1.5	
Positioning repeatability *3 [mm]		±0.010	
Lost motion *3 [mm]		0.1	
Permissible input torque [N·m]		1.1	
Static permissible moment *4 [N·m]		MA: 103 MB: 95 MC: 58	

- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for MA and Mc are the top face of the table, and that for MB is the center of the table.

Static Permissible Moment



Permissible Overhang Length *5



Acceleration and deceleration rate: lead 10 mm: 0.5 G, lead 16 mm: 1.0 G

Ball screw lead [mm]	Load mass [kg]	A	B	C
10	3	400	210	350
	6	400	100	170
	12	270	40	80
16	2	400	260	350
	4	310	120	170
	8	140	50	80

Ball screw lead [mm]	Load mass [kg]	A	B	C
10	3	320	200	400
	6	140	90	400
	12	50	30	240
16	2	320	240	400
	4	140	110	290
	8	50	40	120

Ball screw lead [mm]	Load mass [kg]	A	C
10	2	310	310
	4	150	150
	8	60	60
16	1.5	300	300
	3	140	140
	6	60	60

Acceleration and deceleration rate: lead 10 mm: 1.0 G, lead 16 mm: 2.0 G

Ball screw lead [mm]	Load mass [kg]	A	B	C
10	2	400	330	400
	4	400	160	240
	8	260	70	120
16	1.5	400	400	400
	3	330	210	250
	6	120	80	100

Ball screw lead [mm]	Load mass [kg]	A	B	C
10	2	400	310	400
	4	220	140	400
	8	90	60	250
16	1.5	370	330	400
	3	170	150	250
	6	70	60	110

Ball screw lead [mm]	Load mass [kg]	A	C
10	1.5	400	400
	3	200	200
	6	90	90
16	1	400	400
	2	200	200
	4	90	90

*5 This value is the overhang length whose running life is 10,000 km (20,000 km for lead 16 mm) for each direction. A permissible value of the applied load in each direction.

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

KSF 6U

KSF 8U

KSF 10U

Technical Materials

KSF4RU

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

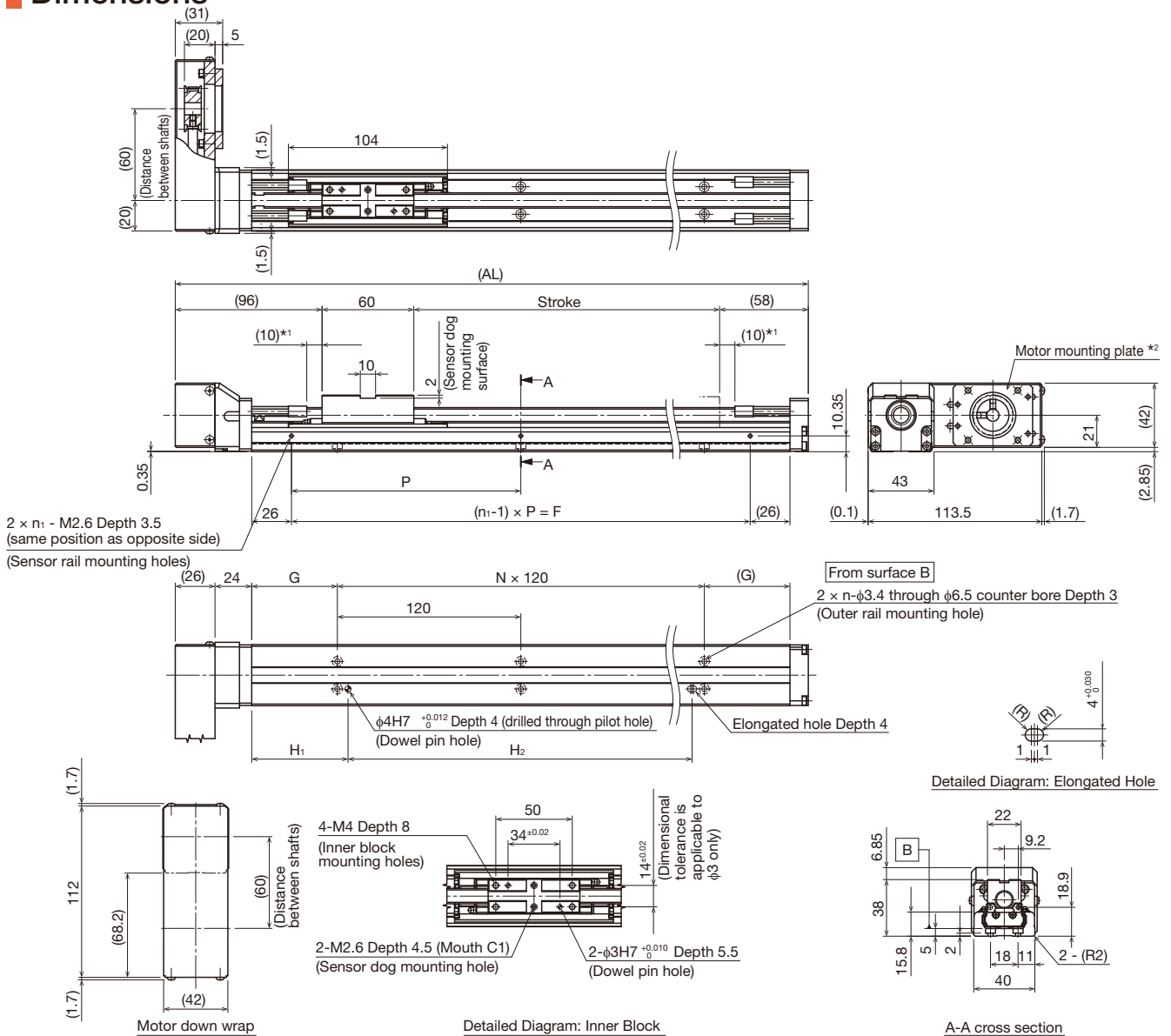
KSF 6U

KSF 8U

KSF 10U

Technical Materials

Dimensions



*1 Stroke up to mechanical stopper.
*2 See P.77 for motor mounting plate dimensions.

Stroke [mm]	50	100	150	200	250	300	350	400	450	
(Stroke between mechanical stoppers)	(70)	(120)	(170)	(220)	(270)	(320)	(370)	(420)	(470)	
Maximum speed *3 [mm/s]	Ball screw lead: 10 mm	500								
	Ball screw lead: 16 mm	800								
Dimensions [mm]	AL	264	314	364	414	464	514	564	614	664
	G	41	66	91	56	81	46	71	96	61
	H ₁	48	48	48	63	63	63	48	48	48
	H ₂	75	125	175	225	275	325	375	425	475
	P	150	200	250	150	175	200	225	250	275
	F	150	200	250	300	350	400	450	500	550
Mounting pitch count	N	1	1	1	2	2	3	3	4	
Mounting hole count	n	2	2	2	3	3	4	4	5	
	n ₁	2	2	2	3	3	3	3	3	
Weight [kg]	1.5	1.7	1.8	2.0	2.2	2.3	2.5	2.6	2.8	
Stroke [mm]	500	550	600	650	700	750	800	850	900	
(Stroke between mechanical stoppers)	(520)	(570)	(620)	(670)	(720)	(770)	(820)	(870)	(920)	
Maximum speed *3 [mm/s]	Ball screw lead: 10 mm	500								
	Ball screw lead: 16 mm	800								
Dimensions [mm]	AL	714	764	814	864	914	964	1014	1064	1114
	G	86	51	76	41	66	91	56	81	46
	H ₁	63	63	63	48	48	48	63	63	63
	H ₂	525	575	625	675	725	775	825	875	925
	P	200	130	175	150	200	170	150	190	200
	F	600	650	700	750	800	850	900	950	1000
Mounting pitch count	N	4	5	5	6	6	7	7	8	
Mounting hole count	n	5	6	6	7	7	8	8	9	
	n ₁	4	6	5	6	5	6	7	6	
Weight [kg]	3.0	3.1	3.3	3.4	3.6	3.8	3.9	4.1	4.2	

*3 The maximum speed is the value restricted by the motor rotational speed (at 3000 min⁻¹) or by the permissible rotational speed of the ball screw.



KSF5U Without Motor

Features
Product Lineup
Model Configuration
Specifications / Dimensions

Model Configuration

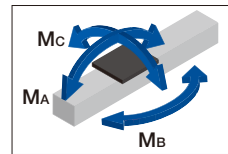
Model	Ball screw lead	Stroke	With/without motor	Intermediate flange	Option
KSF5U	10	0050	0	AQ	T-6
KSF5U	10: 10 mm 20: 20 mm	0050: 50 mm to 0900: 900 mm	0: Without motor 1: With motor	A0 AP AQ AR	No symbol: None T : Back tap 1 : Sensor rail only 6 : Photo sensor J : Proximity sensor M : Proximity sensor (PNP)

Basic Specifications

LM guide portion	Basic dynamic load rating C [N]		10,200	
	Basic static load rating C ₀ [N]		17,900	
Ball screw portion	Basic dynamic load rating C _a [N]		3,350	2,150
	Basic static load rating C _{0a} [N]		6,600	4,470
	Screw shaft diameter [mm]		φ13	
	Ball screw lead [mm]		10	20
Bearing portion (Fixed side)	Axial direction	Basic dynamic load rating C _a [N]	6,100	
		Static permissible load P _{0a} [N]	3,100	
Permissible rotational speed *1 [min ⁻¹]			3,000	
Starting torque *2 [N·cm]			7	
Positioning repeatability *3 [mm]			±0.010	
Lost motion *3 [mm]			0.1	
Permissible input torque [N·m]			1.8	
Static permissible moment *4 [N·m]			M _A : 147 M _B : 107 M _C : 89	

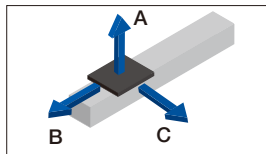
- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for M_A and M_C are the top face of the table, and that for M_B is the center of the table.

Static Permissible Moment

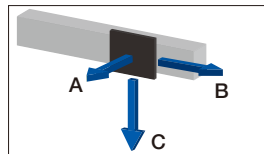


Permissible Overhang Length *5

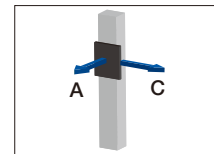
Horizontal use



Wall use



Vertical use



Acceleration and deceleration rate - lead 10 mm: 0.5 G, lead 20 mm: 1.0 G

Horizontal mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
10	5	500	210	420
	10	500	100	200
	20	270	40	90
20	1.75	500	490	500
	3.5	500	240	340
	7	240	110	170

Wall mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
10	5	400	200	500
	10	180	90	500
	20	70	30	240
20	1.75	500	480	500
	3.5	320	230	500
	7	140	100	230

Vertical mount		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
10	3.25	310	310
	6.5	150	150
	13	70	70
20	1.5	480	480
	3	230	230
	6	110	110

Acceleration and deceleration rate: lead 10 mm: 1.0 G, lead 20 mm: 2.0 G

Horizontal mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
10	3.75	500	280	500
	7.5	480	140	260
	15	230	60	120
20	1.25	500	500	500
	2.5	450	340	370
	5	220	160	190

Wall mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
10	3.75	500	270	500
	7.5	230	120	470
	15	100	50	210
20	1.25	500	500	500
	2.5	350	330	450
	5	160	150	210

Vertical mount		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
10	2	500	500
	4	250	250
	8	110	110
20	0.75	500	500
	1.5	430	430
	3	210	210

*5 This value is the overhang length whose running life is 10,000 km (20,000 km for lead 20 mm) for each direction.
A permissible value of the applied load in each direction.

Technical Materials

KSF5U

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

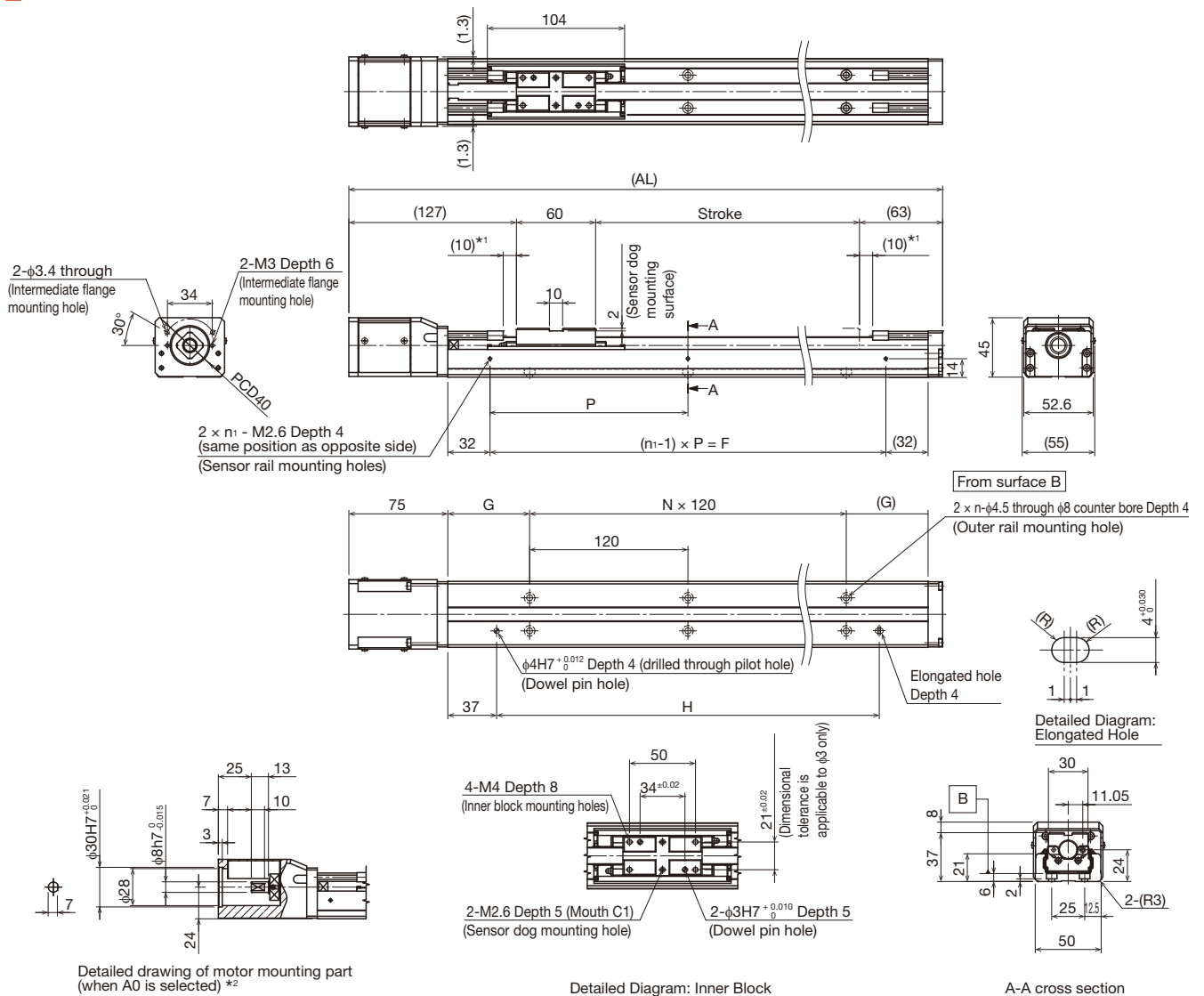
KSF 6U

KSF 8U

KSF 10U

Technical Materials

Dimensions



*¹ Stroke up to mechanical stopper.
 *² See P.78 for intermediate flange dimensions.

Stroke [mm]		50	100	150	200	250	300	350	400	450
(Stroke between mechanical stoppers)		(70)	(120)	(170)	(220)	(270)	(320)	(370)	(420)	(470)
Maximum speed * ³ [mm/s]	Ball screw lead: 10 mm	500								
	Ball screw lead: 20 mm	1000								
Dimensions [mm]	AL	300	350	400	450	500	550	600	650	700
	G	47	72	97	62	87	52	77	102	67
	H	140	190	240	290	340	390	440	490	540
	P	150	200	250	150	175	200	225	250	275
	F	150	200	250	300	350	400	450	500	550
Mounting pitch count	N	1	1	1	2	2	3	3	3	4
Mounting hole count	n	2	2	2	3	3	4	4	4	5
	n ₁	2	2	2	3	3	3	3	3	3
Weight [kg]		1.9	2.2	2.4	2.7	2.9	3.1	3.4	3.6	3.9
Stroke [mm]		500	550	600	650	700	750	800	850	900
(Stroke between mechanical stoppers)		(520)	(570)	(620)	(670)	(720)	(770)	(820)	(870)	(920)
Maximum speed * ³ [mm/s]	Ball screw lead: 10 mm	440								
	Ball screw lead: 20 mm	890								
Dimensions [mm]	AL	750	800	850	900	950	1000	1050	1100	1150
	G	92	57	82	47	72	97	62	87	52
	H	590	640	690	740	790	840	890	940	990
	P	200	130	175	150	200	170	150	190	200
	F	600	650	700	750	800	850	900	950	1000
Mounting pitch count	N	4	5	5	6	6	6	7	7	8
Mounting hole count	n	5	6	6	7	7	7	8	8	9
	n ₁	4	6	5	6	5	6	7	6	6
Weight [kg]		4.1	4.4	4.6	4.9	5.1	5.3	5.6	5.8	6.1

*³ The maximum speed is the value restricted by the motor rotational speed (at 3000 min⁻¹) or by the permissible rotational speed of the ball screw.

KSF5RU Without Motor



Model Configuration

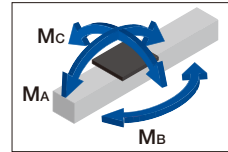
Model	Ball screw lead	Stroke	With/without motor	Motor mounting plate	Motor shaft diameter	Motor shaft fixing method	Option
KSF5RU -	10 -	0050 -	0 -	WQ -	08 -	K -	MR-T
KSF5RU	10: 10 mm 20: 20 mm	0050: 50 mm to 0900: 900 mm	0: Without motor 1: With motor	WP WQ	08: 8 mm	D: D-cut K: Key	MR : Motor right wrap ML : Motor left wrap MD : Motor down wrap T : Back tap 1 : Sensor rail only 6 : Photo sensor J : Proximity sensor M : Proximity sensor (PNP)

Basic Specifications

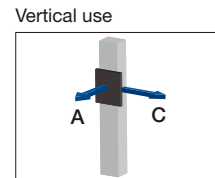
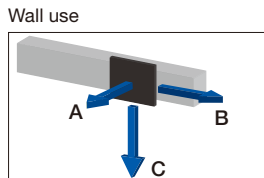
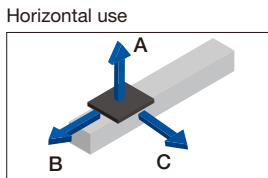
LM guide portion	Basic dynamic load rating C [N]	10,200
	Basic static load rating Co [N]	17,900
Ball screw portion	Basic dynamic load rating Ca [N]	3,350
	Basic static load rating Coa [N]	6,600
	Screw shaft diameter [mm]	φ13
Bearing portion (Fixed side)	Ball screw lead [mm]	10 20
	Basic dynamic load rating Ca [N]	6,100
Permissible rotational speed *1 [min ⁻¹]	Static permissible load P _{0ca} [N]	3,100
	Permissible rotational speed *1 [min ⁻¹]	3,000
Starting torque *2 [N·cm]	Positioning repeatability *3 [mm]	±0.010
	Lost motion *3 [mm]	0.1
Permissible input torque [N·m]	Permissible input torque [N·m]	1.1
	Static permissible moment *4 [N·m]	M _A : 147 M _B : 107 M _C : 89

- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for M_A and M_C are the top face of the table, and that for M_B is the center of the table.

Static Permissible Moment



Permissible Overhang Length *5



Acceleration and deceleration rate - lead 10 mm: 0.5 G, lead 20 mm: 1.0 G

Horizontal mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
10	5	500	210	420
	10	500	100	200
	20	270	40	90
20	1.75	500	490	500
	3.5	500	240	340
	7	240	110	170

Wall mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
10	5	400	200	500
	10	180	90	500
	20	70	30	240
20	1.75	500	480	500
	3.5	320	230	500
	7	140	100	230

Vertical mount		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
10	2.75	380	380
	5.5	180	180
	11	80	80
20	1.25	500	500
	2.5	280	280
	5	130	130

Acceleration and deceleration rate - lead 10 mm: 1.0 G, lead 20 mm: 2.0 G

Horizontal mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
10	3.75	500	280	500
	7.5	480	140	260
	15	230	60	120
20	1	500	500	500
	2	500	430	470
	4	270	210	230

Wall mount		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
10	3.75	500	270	500
	7.5	230	120	470
	15	100	50	210
20	1	500	500	500
	2	440	410	500
	4	210	200	270

Vertical mount		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
10	2	500	500
	4	250	250
	8	110	110
20	0.625	500	500
	1.25	500	500
	2.5	250	250

*5 This value is the overhang length whose running life is 10,000 km (20,000 km for lead 20 mm) for each direction. A permissible value of the applied load in each direction.

- Features
- Product Lineup
- Model Configuration
- Specifications / Dimensions
- KSF4
- KSF5
- KSF6
- KSF8
- KSF10
- KSF 5T
- KSF 6T
- KSF 8T
- KSF 10T
- KSF 4U
- KSF 5U
- KSF 6U
- KSF 8U
- KSF 10U
- Technical Materials

KSF5RU

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

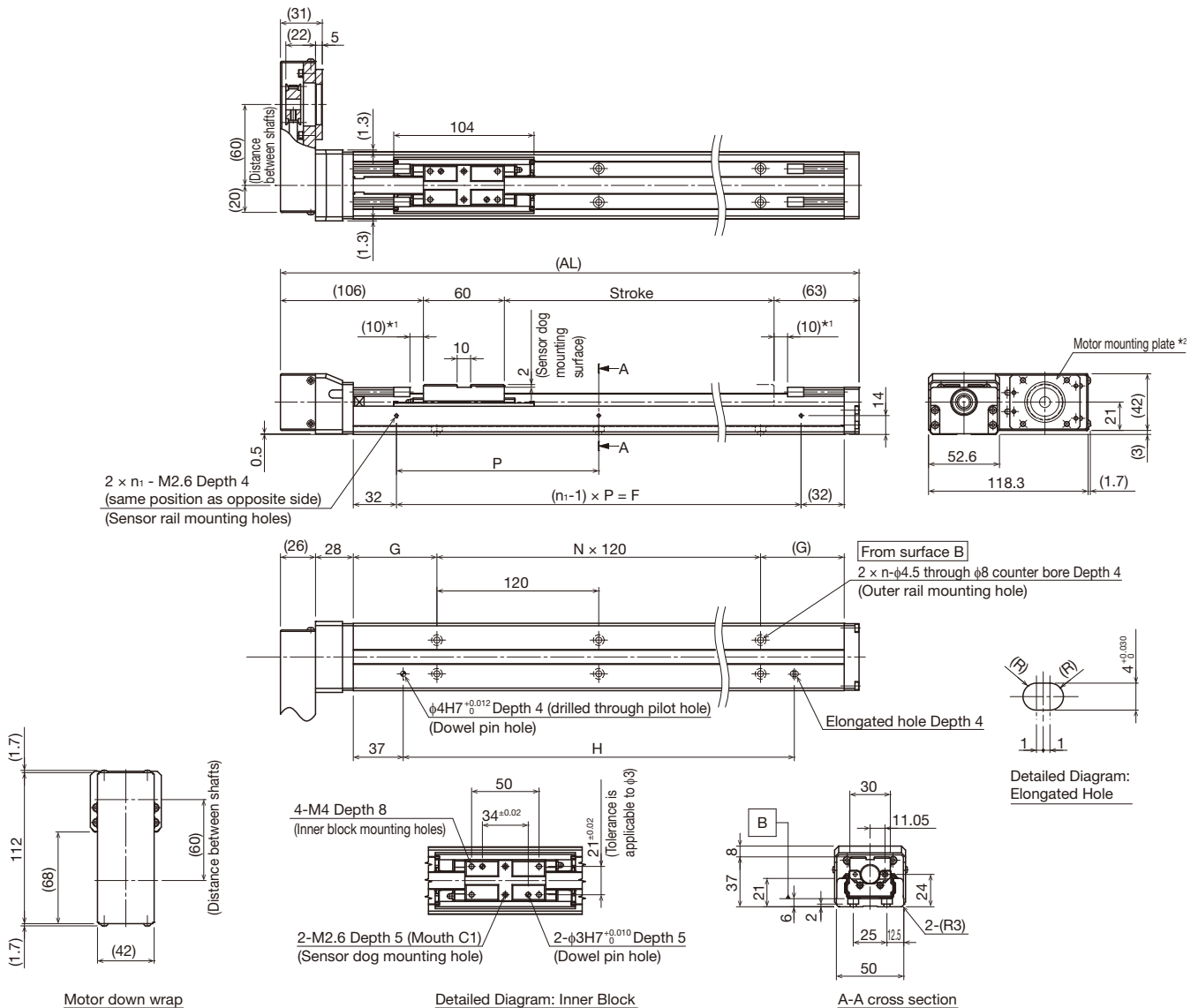
KSF 6U

KSF 8U

KSF 10U

Technical Materials

Dimensions



*1 Stroke up to mechanical stopper.
*2 See P.78 for motor mounting plate dimensions.

Stroke [mm]		50	100	150	200	250	300	350	400	450
(Stroke between mechanical stoppers)		(70)	(120)	(170)	(220)	(270)	(320)	(370)	(420)	(470)
Maximum speed *3 [mm/s]	Ball screw lead: 10 mm	500								
	Ball screw lead: 20 mm	1000								
Dimensions [mm]	AL	279	329	379	429	479	529	579	629	679
	G	47	72	97	62	87	52	77	102	67
	H	140	190	240	290	340	390	440	490	540
	P	150	200	250	150	175	200	225	250	275
	F	150	200	250	300	350	400	450	500	550
Mounting pitch count	N	1	1	1	2	2	3	3	3	4
Mounting hole count	n	2	2	2	3	3	4	4	4	5
	n ₁	2	2	2	3	3	3	3	3	3
Weight [kg]		2.1	2.3	2.6	2.8	3.0	3.3	3.5	3.8	4.0
Stroke [mm]		500	550	600	650	700	750	800	850	900
(Stroke between mechanical stoppers)		(520)	(570)	(620)	(670)	(720)	(770)	(820)	(870)	(920)
Maximum speed *3 [mm/s]	Ball screw lead: 10 mm	500								
	Ball screw lead: 20 mm	1000								
Dimensions [mm]	AL	729	779	829	879	929	979	1029	1079	1129
	G	92	57	82	47	72	97	62	87	52
	H	590	640	690	740	790	840	890	940	990
	P	200	130	175	150	200	170	150	190	200
	F	600	650	700	750	800	850	900	950	1000
Mounting pitch count	N	4	5	5	6	6	7	7	7	8
Mounting hole count	n	5	6	6	7	7	8	8	8	9
	n ₁	4	6	5	6	5	6	7	6	6
Weight [kg]		4.3	4.5	4.8	5.0	5.2	5.5	5.7	6.0	6.2

*3 The maximum speed is the value restricted by the motor rotational speed (at 3000 min⁻¹) or by the permissible rotational speed of the ball screw.



KSF6U Without Motor

Model Configuration

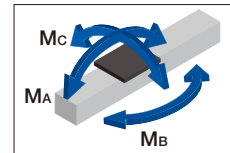
Model	Ball screw lead	Stroke	With/without motor	Intermediate flange	Option
KSF6U	20	0050	0	AV	T-6
KSF6U	20: 20 mm 30: 30 mm	0050: 50 mm to 1300: 1300 mm	0: Without motor 1: With motor	A0 AV AY AU	No symbol: None T: Back tap 1: Sensor rail only 6: Photo sensor J: Proximity sensor M: Proximity sensor (PNP)

Basic Specifications

LM guide portion	Basic dynamic load rating C [N]	17,400	
	Basic static load rating C ₀ [N]	33,000	
Ball screw portion	Basic dynamic load rating Ca [N]	3,400	3,230
	Basic static load rating Coa [N]	8,070	6,570
	Screw shaft diameter [mm]	φ15	
	Ball screw lead [mm]	20	30
Bearing portion (Fixed side)	Axial direction	Basic dynamic load rating Ca [N]	6,650
		Static permissible load P _{0a} [N]	3,250
	Permissible rotational speed *1 [min ⁻¹]	3,000	
	Starting torque *2 [N·cm]	6.2	8.3
	Positioning repeatability *3 [mm]	±0.010	
	Lost motion *3 [mm]	0.1	
	Permissible input torque [N·m]	3.1	
	Static permissible moment *4 [N·m]	M _A : 355 M _B : 203 M _C : 152	

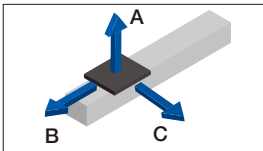
- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment for M_A and M_C are the top face of the table, and that for M_B is the center of the table.

Static Permissible Moment

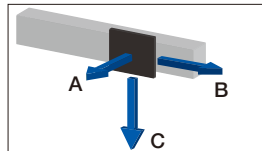


Permissible Overhang Length *5

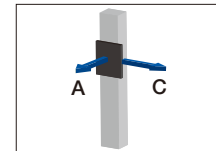
Horizontal use



Wall use



Vertical use



Acceleration and deceleration rate 1.0 G

Ball screw lead [mm]	Load mass [kg]	A	B	C
20	5.5	600	340	460
	11	350	160	230
	22	160	70	110
30	3.5	600	430	470
	7	330	210	230
	14	150	100	110

Ball screw lead [mm]	Load mass [kg]	A	B	C
20	5.5	430	320	600
	11	200	140	330
	22	80	60	140
30	3.5	440	410	600
	7	200	190	310
	14	80	80	130

Ball screw lead [mm]	Load mass [kg]	A	C
20	2.5	600	600
	5	310	310
	10	140	140
	1.5	600	600
30	3	370	370
	6	170	170

Acceleration and deceleration rate 2.0 G

Ball screw lead [mm]	Load mass [kg]	A	B	C
20	1.25	600	600	600
	2.5	600	600	600
	5	500	370	410
30	1.5	600	600	600
	3	510	500	430
	6	240	240	220

Ball screw lead [mm]	Load mass [kg]	A	B	C
20	1.25	600	600	600
	2.5	600	600	600
	5	370	350	490
30	1.5	600	600	600
	3	390	480	500
	6	180	220	230

Ball screw lead [mm]	Load mass [kg]	A	C
20	0.75	600	600
	1.5	600	600
	3	470	470
30	1	600	600
	2	470	470
	4	220	220

*5 This value is the overhang length whose running life is 20,000 km for each direction.
A permissible value of the applied load in each direction.

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

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KSF 5T

KSF 6T

KSF 8T

KSF 10T

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KSF 5U

KSF 6U

KSF 8U

KSF 10U

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KSF6U

Features

Product Lineup

Model Configuration

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KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

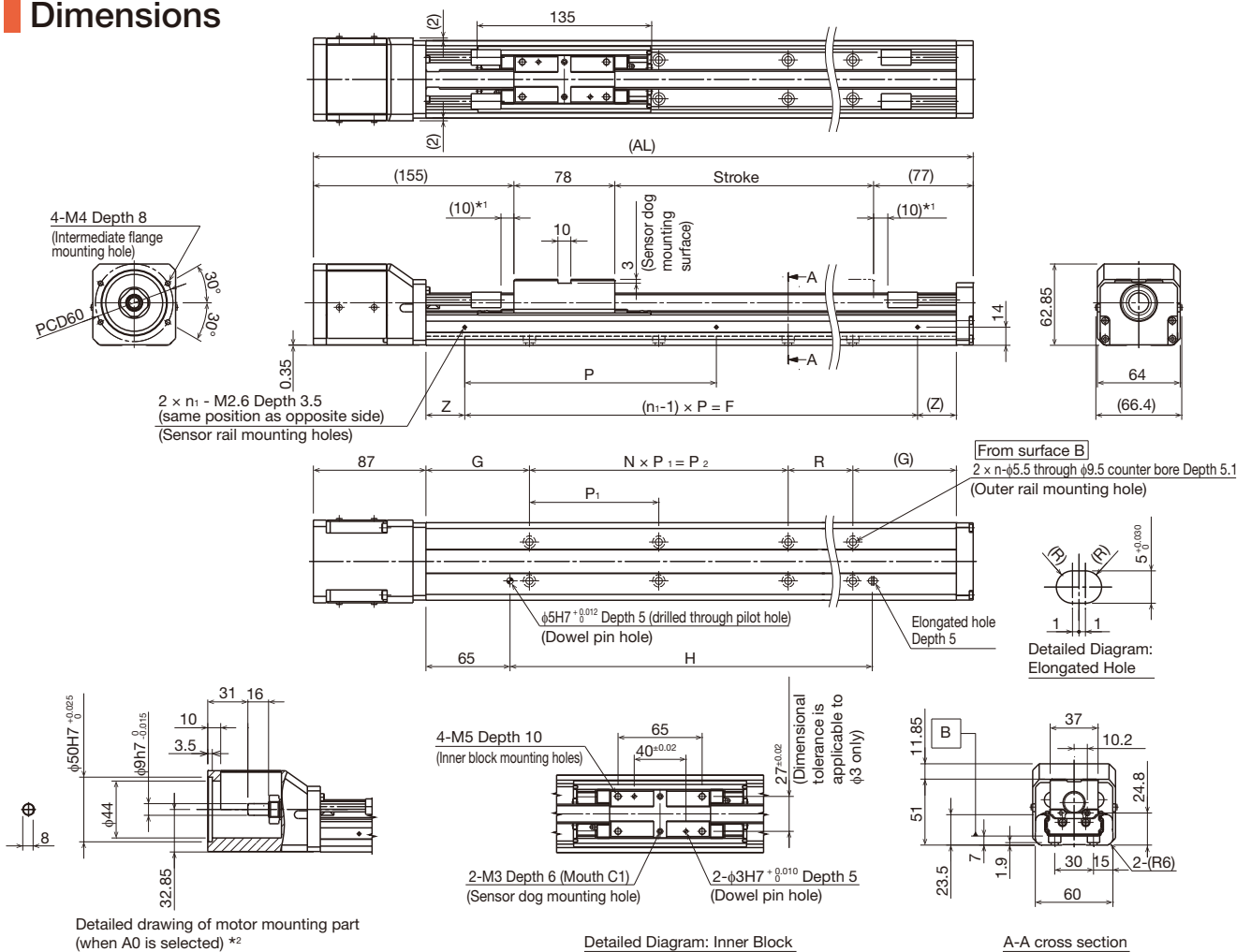
KSF 6U

KSF 8U

KSF 10U

Technical Materials

Dimensions



Detailed drawing of motor mounting part (when A0 is selected) *2

Detailed Diagram: Inner Block

A-A cross section

*1 Stroke up to mechanical stopper.
*2 See P.79 for intermediate flange dimensions.

Stroke [mm]	50	100	150	200	250	300	350	400	450	500	550	600	650	
(Stroke between mechanical stoppers)	(70)	(120)	(170)	(220)	(270)	(320)	(370)	(420)	(470)	(520)	(570)	(620)	(670)	
Maximum speed *3 [mm/s]	Ball screw lead: 20 mm	1000												
	Ball screw lead: 30 mm	1500												
Dimensions [mm]	AL	360	410	460	510	560	610	660	710	760	810	860	910	960
	G	80	105	80	105	80	105	80	105	80	105	80	105	80
	P ₁	100	100	200	200	200	200	200	200	200	200	200	200	200
	P ₂	-	-	-	-	-	-	400	400	400	400	600	600	600
	R	-	-	-	-	100	100	-	-	100	100	-	-	100
	H	130	180	230	280	330	380	430	480	530	580	630	680	730
	Z	30	55	30	5	30	55	30	5	30	55	30	5	30
	P	200	200	100	200	200	200	100	200	200	200	100	200	200
F	200	200	300	400	400	400	500	600	600	600	700	800	800	
Mounting pitch count	N	-	-	-	-	-	2	2	2	2	3	3	3	
Mounting hole count	n	2	2	2	2	3	3	3	4	4	4	4	5	
	n ₁	2	2	4	3	3	3	6	4	4	4	8	5	
Weight [kg]	3.5	3.8	4.1	4.5	4.8	5.1	5.4	5.8	6.1	6.4	6.8	7.1	7.4	
Stroke [mm]	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	
(Stroke between mechanical stoppers)	(720)	(770)	(820)	(870)	(920)	(970)	(1020)	(1070)	(1120)	(1170)	(1220)	(1270)	(1320)	
Maximum speed *3 [mm/s]	Ball screw lead: 20 mm	980	870	770	690	630	570	520	470	430	400	370	340	320
	Ball screw lead: 30 mm	1470	1300	1160	1040	940	850	780	710	650	600	550	510	480
Dimensions [mm]	AL	1010	1060	1110	1160	1210	1260	1310	1360	1410	1460	1510	1560	1610
	G	105	80	105	80	105	80	105	80	105	80	105	80	105
	P ₁	200	200	200	200	200	200	200	200	200	200	200	200	200
	P ₂	600	800	800	800	800	1000	1000	1000	1000	1200	1200	1200	1200
	R	100	-	-	100	100	-	-	100	100	-	-	100	100
	H	780	830	880	930	980	1030	1080	1130	1180	1230	1280	1330	1380
	Z	55	30	5	30	55	30	5	30	55	30	5	30	55
	P	200	100	200	200	200	100	200	200	200	100	200	200	200
F	800	900	1000	1000	1000	1100	1200	1200	1200	1300	1400	1400	1400	
Mounting pitch count	N	3	4	4	4	4	5	5	5	5	6	6	6	
Mounting hole count	n	5	5	5	6	6	6	6	7	7	7	7	8	
	n ₁	5	10	6	6	6	12	7	7	7	14	8	8	
Weight [kg]	7.7	8.1	8.4	8.7	9.1	9.4	9.7	10.0	10.4	10.7	11.0	11.4	11.7	

*3 The maximum speed is the value restricted by the motor rotational speed (at 3000 min⁻¹) or by the permissible rotational speed of the ball screw.

KSF6RU Without Motor



Model Configuration

Model	Ball screw lead	Stroke	With/without motor	Motor mounting plate	Motor shaft diameter	Motor shaft fixing method	Option
KSF6RU	20	0050	0	WV	14	K	MR-T

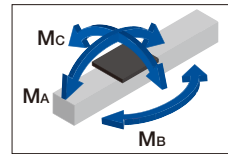
KSF6RU	20: 20 mm 30: 30 mm	0050: 50 mm to 1300: 1300 mm	0: Without motor 1: With motor	WV WY	11: 11 mm 14: 14 mm	D: D-cut K: Key M: Friction tightening	MR: Motor right wrap ML: Motor left wrap MD: Motor down wrap T: Back tap 1: Sensor rail only 6: Photo sensor J: Proximity sensor M: Proximity sensor (PNP)
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Basic Specifications

LM guide portion	Basic dynamic load rating C [N]	17,400		
	Basic static load rating Co [N]	33,000		
Ball screw portion	Basic dynamic load rating Ca [N]	3,400	3,230	
	Basic static load rating Coa [N]	8,070	6,570	
	Screw shaft diameter [mm]	φ15		
	Ball screw lead [mm]	20	30	
Bearing portion (Fixed side)	Axial direction	Basic dynamic load rating Ca [N]		6,650
		Static permissible load Poa [N]		3,250
	Permissible rotational speed *1 [min ⁻¹]			3,000
	Starting torque *2 [N·cm]	6.2	8.3	
	Positioning repeatability *3 [mm]			±0.010
	Lost motion *3 [mm]			0.1
	Permissible input torque [N·m]			2.2
	Static permissible moment *4 [N·m]	Ma: 355	Me: 203	Mc: 152

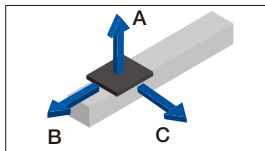
- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for Ma and Mc are the top face of the table, and that for Mb is the center of the table.

Static Permissible Moment

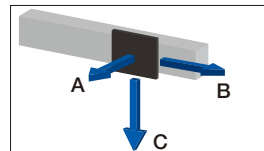


Permissible Overhang Length *5

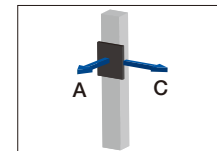
Horizontal use



Wall use



Vertical use



Acceleration and deceleration rate 1.0 G

Horizontal mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
20	4.75	600	340	460
	9.5	350	160	230
	19	160	70	110
30	2.75	600	430	470
	5.5	330	210	230
	11	150	100	110

Wall mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
20	4.75	430	320	600
	9.5	200	140	330
	19	80	60	140
30	2.75	440	410	600
	5.5	200	190	310
	11	80	80	130

Vertical mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	C
20	2.25	600	600
	4.5	310	310
	9	140	140
30	1.25	600	600
	2.5	370	370
	5	170	170

Acceleration and deceleration rate 2.0 G

Horizontal mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
20	1	600	600	600
	2	600	600	600
	4	500	370	410
30	1	600	600	600
	2	510	500	430
	4	240	240	220

Wall mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
20	1	600	600	600
	2	600	600	600
	4	370	350	490
30	1	600	600	600
	2	390	480	500
	4	180	220	230

Vertical mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	C
20	0.625	600	600
	1.25	600	600
	2.5	470	470
30	0.625	600	600
	1.25	470	470
	2.5	220	220

*5 This value is the overhang length whose running life is 20,000 km for each direction.

A permissible value of the applied load in each direction.

Features
Product Lineup
Model Configuration
Specifications / Dimensions

KSF4
KSF5
KSF6
KSF8
KSF10
KSF 5T
KSF 6T
KSF 8T
KSF 10T
KSF 4U
KSF 5U
KSF 6U
KSF 8U
KSF 10U

Technical Materials

KSF6RU

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

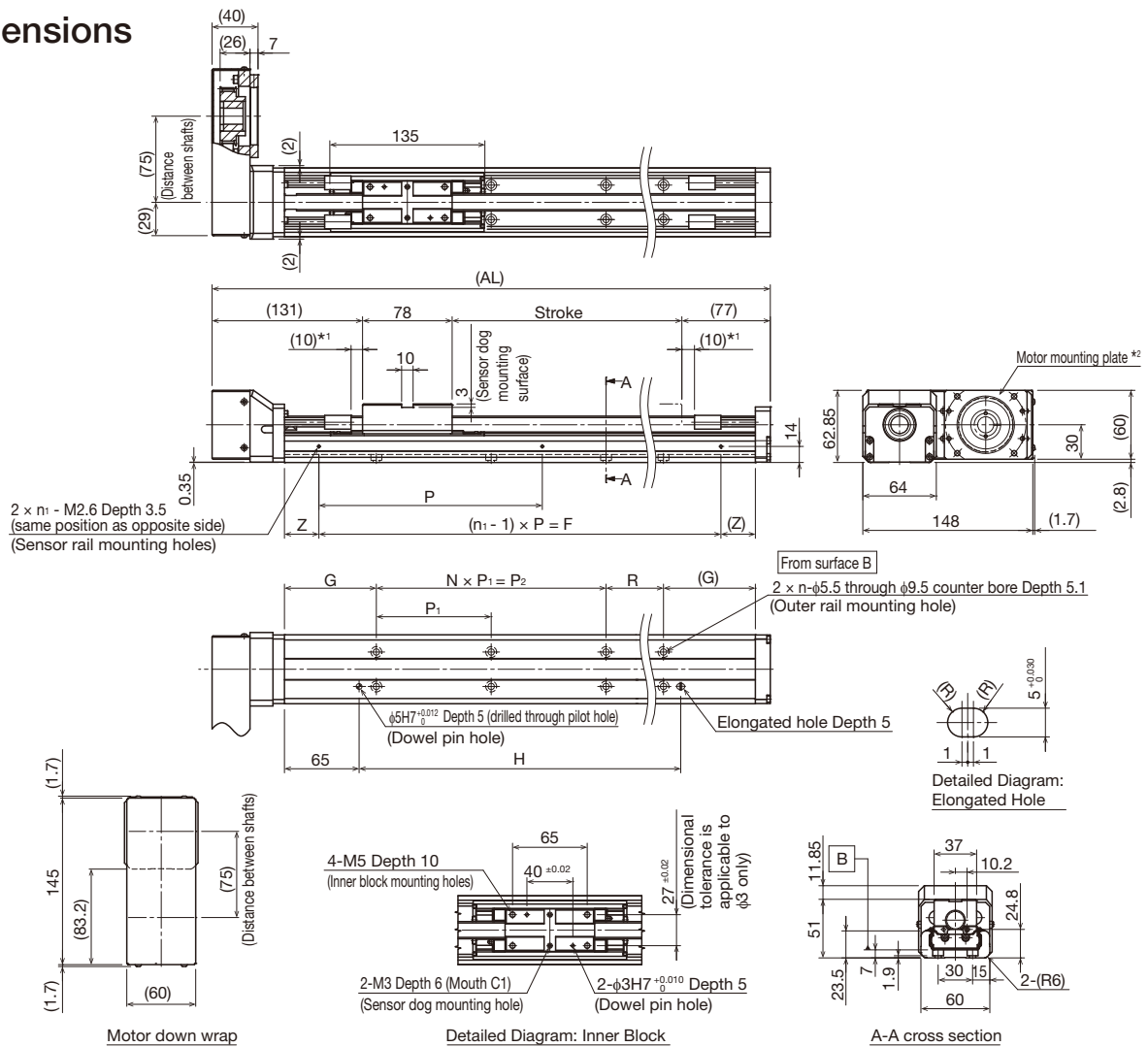
KSF 6U

KSF 8U

KSF 10U

Technical Materials

Dimensions



*1 Stroke up to mechanical stopper.
*2 See P.79 for motor mounting plate dimensions.

Stroke [mm] (Stroke between mechanical stoppers)	50 (70)	100 (120)	150 (170)	200 (220)	250 (270)	300 (320)	350 (370)	400 (420)	450 (470)	500 (520)	550 (570)	600 (620)	650 (670)	
Maximum speed ^{*3} [mm/s]	Ball screw lead: 20 mm 1000 Ball screw lead: 30 mm 1500													
Dimensions [mm]	AL	336	386	436	486	536	586	636	686	736	786	836	886	936
	G	80	105	80	105	80	105	80	105	80	105	80	105	80
	P ₁	100	100	200	200	200	200	200	200	200	200	200	200	200
	P ₂	-	-	-	-	-	-	400	400	400	400	600	600	600
	R	-	-	-	-	100	100	-	-	100	100	-	-	100
	H	130	180	230	280	330	380	430	480	530	580	630	680	730
	Z	30	55	30	5	30	55	30	5	30	55	30	5	30
	P	200	200	100	200	200	200	100	200	200	200	100	200	200
F	200	200	300	400	400	400	500	600	600	600	700	800	800	
Mounting pitch count	N	-	-	-	-	-	2	2	2	2	3	3	3	
Mounting hole count	n	2	2	2	2	3	3	3	4	4	4	4	5	
	n ₁	2	2	4	3	3	3	4	4	4	8	5	5	
Weight [kg]	4.0	4.3	4.7	5.0	5.3	5.6	6.0	6.3	6.6	7.0	7.3	7.6	8.0	
Stroke [mm] (Stroke between mechanical stoppers)	700 (720)	750 (770)	800 (820)	850 (870)	900 (920)	950 (970)	1000 (1020)	1050 (1070)	1100 (1120)	1150 (1170)	1200 (1220)	1250 (1270)	1300 (1320)	
Maximum speed ^{*3} [mm/s]	Ball screw lead: 20 mm 980 Ball screw lead: 30 mm 1470													
Dimensions [mm]	AL	986	1036	1086	1136	1186	1236	1286	1336	1386	1436	1486	1536	1586
	G	105	80	105	80	105	80	105	80	105	80	105	80	105
	P ₁	200	200	200	200	200	200	200	200	200	200	200	200	200
	P ₂	600	800	800	800	800	1000	1000	1000	1000	1200	1200	1200	1200
	R	100	-	-	100	100	-	-	100	100	-	-	100	100
	H	780	830	880	930	980	1030	1080	1130	1180	1230	1280	1330	1380
	Z	55	30	5	30	55	30	5	30	55	30	5	30	55
	P	200	100	200	200	200	100	200	200	200	100	200	200	200
F	800	900	1000	1000	1000	1100	1200	1200	1200	1300	1400	1400	1400	
Mounting pitch count	N	3	4	4	4	4	5	5	5	6	6	6	6	
Mounting hole count	n	5	5	5	6	6	6	6	7	7	7	8	8	
	n ₁	5	10	6	6	6	12	7	7	7	14	8	8	
Weight [kg]	8.3	8.6	8.9	9.3	9.6	9.9	10.3	10.6	10.9	11.2	11.6	11.9	12.2	

*3 The maximum speed is the value restricted by the motor rotational speed (at 3000 min⁻¹) or by the permissible rotational speed of the ball screw.



KSF8U Without Motor

Features
Product Lineup
Model Configuration
Specifications / Dimensions

Model Configuration

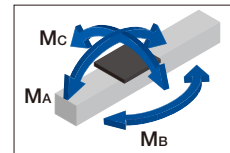
Model	Ball screw lead	Stroke	With/without motor	Intermediate flange	Option
KSF8U	20	0800	0	AV	T-6
KSF8U	20: 20 mm 40: 40 mm	0100: 100 mm to 1500: 1500 mm	0: Without motor 1: With motor	A0 AV AY AU	No symbol: None T: Back tap 1: Sensor rail only 6: Photo sensor J: Proximity sensor M: Proximity sensor (PNP)

Basic Specifications

LM guide portion	Basic dynamic load rating C [N]	32,400
	Basic static load rating C ₀ [N]	63,500
Ball screw portion	Basic dynamic load rating Ca [N]	4,030
	Basic static load rating Coa [N]	10,540
	Screw shaft diameter [mm]	φ20
Bearing portion (Fixed side)	Ball screw lead [mm]	20
	Axial direction	40
Bearing portion (Fixed side)	Basic dynamic load rating Ca [N]	7,600
	Static permissible load P _{0a} [N]	4,000
Bearing portion (Fixed side)	Permissible rotational speed *1 [min ⁻¹]	3,000
	Starting torque *2 [N·cm]	12
Bearing portion (Fixed side)	Positioning repeatability *3 [mm]	±0.010
	Lost motion *3 [mm]	0.1
Bearing portion (Fixed side)	Permissible input torque [N·m]	7.1
	Static permissible moment *4 [N·m]	M _A : 730 M _B : 414 M _C : 277

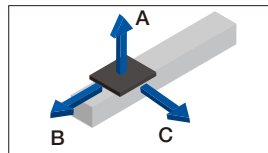
- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for M_A and M_C are the top face of the table, and that for M_B is the center of the table.

Static Permissible Moment

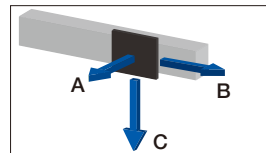


Permissible Overhang Length *5

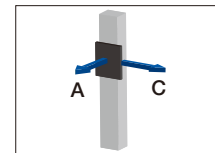
Horizontal use



Wall use



Vertical use



Acceleration and deceleration rate 1.0 G

Horizontal mount [mm]		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
20	10.75	800	500	640
	21.5	510	240	310
	43	230	110	150
40	4	800	800	800
	8	700	530	480
	16	330	260	240

Wall mount [mm]		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
20	10.75	620	490	800
	21.5	280	220	500
	43	110	90	210
40	4	800	800	800
	8	440	510	680
	16	200	230	310

Vertical mount [mm]		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
20	5	800	800
	10	440	440
	20	210	210
40	2	800	800
	4	710	710
	8	340	340

Acceleration and deceleration rate 2.0 G

Horizontal mount [mm]		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
20	1.5	800	800	800
	3	800	800	800
	6	800	800	800
40	1.75	800	800	800
	3.5	800	800	800
	7	500	610	430

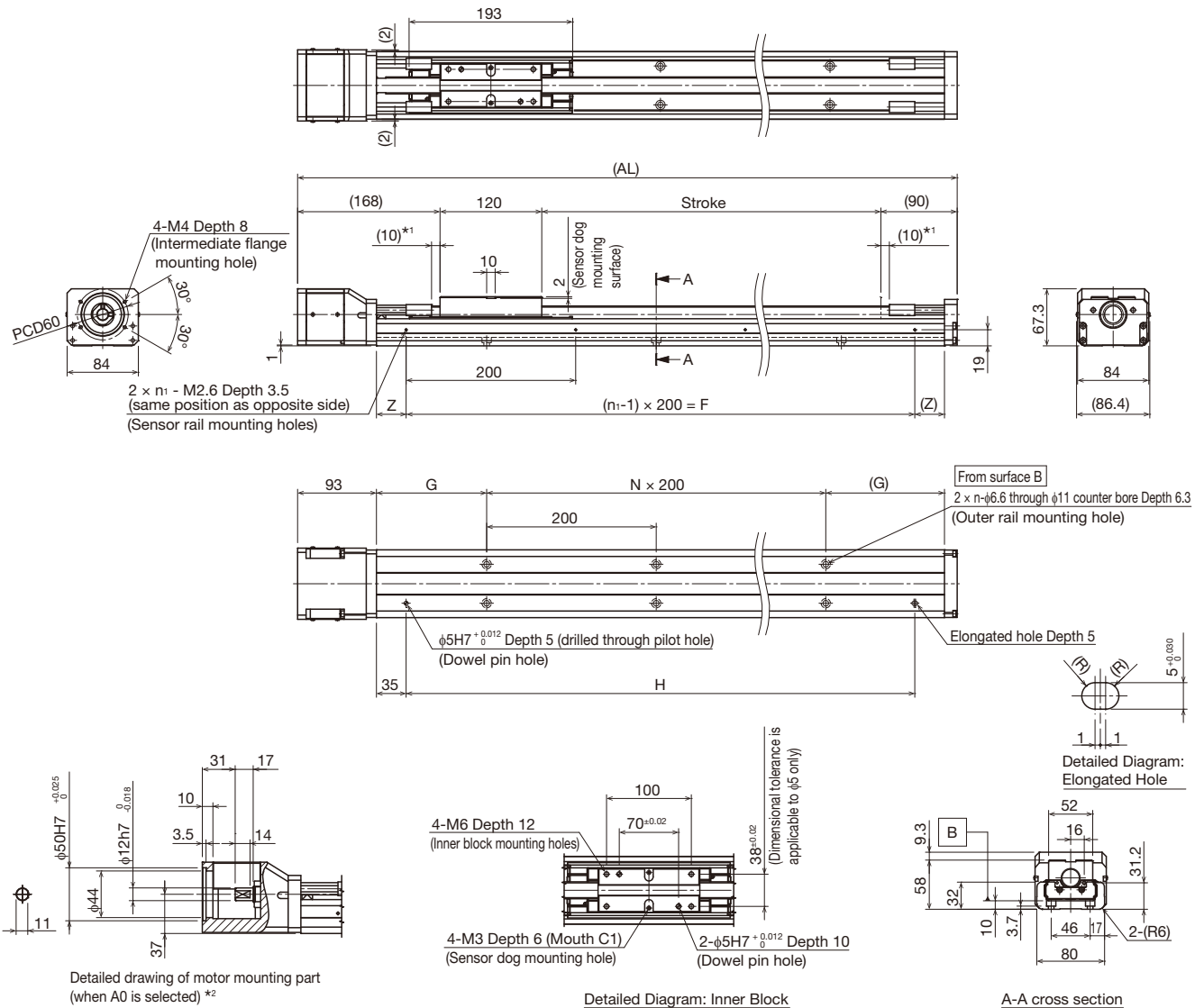
Wall mount [mm]		[mm]		
Ball screw lead [mm]	Load mass [kg]	A	B	C
20	1.5	800	800	800
	3	800	800	800
	6	800	800	800
40	1.75	800	800	800
	3.5	800	800	800
	7	380	590	490

Vertical mount [mm]		[mm]	
Ball screw lead [mm]	Load mass [kg]	A	C
20	0.75	800	800
	1.5	800	800
	3	800	800
40	1.25	800	800
	2.5	800	800
	5	460	460

*5 This value is the overhang length whose running life is 20,000 km for each direction.
A permissible value of the applied load in each direction.

Technical Materials

Dimensions



*1 Stroke up to mechanical stopper.
*2 See P.80 for intermediate flange dimensions.

Stroke [mm]	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	
(Stroke between mechanical stoppers)	(120)	(220)	(320)	(420)	(520)	(620)	(720)	(820)	(920)	(1020)	(1120)	(1220)	(1320)	(1420)	(1520)	
Maximum speed ^{*3} [mm/s]	Ball screw lead: 20 mm	1000						970	790	660	550	470	410	360	320	
	Ball screw lead: 40 mm	2000						1940	1580	1320	1110	950	830	720	640	
Dimensions [mm]	AL	478	578	678	778	878	978	1078	1178	1278	1378	1478	1578	1678	1778	1887
	G	85	135	85	135	85	135	85	135	85	135	85	135	85	135	85
	H	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700
	Z	85	35	85	35	85	35	85	35	85	35	85	35	85	35	85
	F	200	400	400	600	600	800	800	1000	1000	1200	1200	1400	1400	1600	1600
Mounting pitch count	N	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
Mounting hole count	n	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9
	n ₁	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9
Weight [kg]	7.4	8.6	9.8	10.9	12.1	13.3	14.5	15.6	16.8	18.0	19.2	20.3	21.5	22.7	23.9	

*3 The maximum speed is the value restricted by the motor rotational speed (at 3000 min⁻¹) or by the permissible rotational speed of the ball screw.

KSF8RU Without Motor



Model Configuration

Model	Ball screw lead	Stroke	With/without motor	Motor mounting plate	Motor shaft diameter	Motor shaft fixing method	Option
KSF8RU	20	0800	0	WV	14	M	MR-T

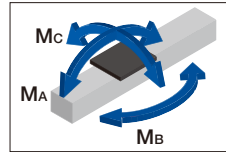
KSF8RU	20: 20 mm 40: 40 mm	0100: 100 mm to 1500: 1500 mm	0: Without motor 1: With motor	WV WY	14: 14 mm	M: Friction tightening	MR: Motor right wrap ML: Motor left wrap MD: Motor down wrap T: Back tap 1: Sensor rail only 6: Photo sensor J: Proximity sensor M: Proximity sensor (PNP)
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Basic Specifications

LM guide portion	Basic dynamic load rating C [N]	32,400	
	Basic static load rating Co [N]	63,500	
Ball screw portion	Basic dynamic load rating Ca [N]	4,030	3,750
	Basic static load rating Coa [N]	10,540	8,870
	Screw shaft diameter [mm]	φ20	
Bearing portion (Fixed side)	Axial direction	Basic dynamic load rating Ca [N]	7,600
		Static permissible load Poa [N]	4,000
Permissible rotational speed *1 [min ⁻¹]		3,000	
Starting torque *2 [N·cm]		12	
Positioning repeatability *3 [mm]		±0.010	
Lost motion *3 [mm]		0.1	
Permissible input torque [N·m]		4.5	
Static permissible moment *4 [N·m]		Ma: 730 Mb: 414 Mc: 277	

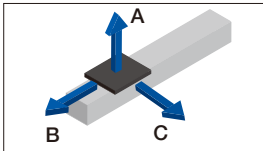
- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for Ma and Mc are the top face of the table, and that for Mb is the center of the table.

Static Permissible Moment

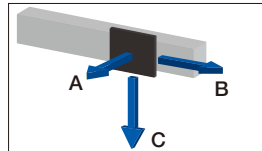


Permissible Overhang Length *5

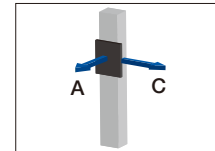
Horizontal use



Wall use



Vertical use



Acceleration and deceleration rate 1.0 G

Horizontal mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
20	10.25	800	520	670
	20.5	540	250	330
	41	240	110	160
40	4	800	800	800
	8	700	530	480
	16	330	260	240

Wall mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
20	10.25	630	500	800
	20.5	290	230	510
	41	120	90	220
40	4	800	800	800
	8	440	510	680
	16	200	230	310

Vertical mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	C
20	5	800	800
	10	440	440
	20	210	210
40	2	800	800
	4	710	710
	8	340	340

Acceleration and deceleration rate 2.0 G

Horizontal mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
20	1.5	800	800	800
	3	800	800	800
	6	800	800	800
40	1.75	800	800	800
	3.5	800	800	800
	7	500	610	430

Wall mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
20	1.5	800	800	800
	3	800	800	800
	6	800	800	800
40	1.75	800	800	800
	3.5	800	800	800
	7	380	590	490

Vertical mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	C
20	0.75	800	800
	1.5	800	800
	3	800	800
40	1.25	800	800
	2.5	800	800
	5	460	460

*5 This value is the overhang length whose running life is 20,000 km for each direction.

A permissible value of the applied load in each direction.

Features
Product Lineup
Model Configuration
Specifications / Dimensions

KSF4
KSF5
KSF6
KSF8
KSF10
KSF 5T
KSF 6T
KSF 8T
KSF 10T
KSF 4U
KSF 5U
KSF 6U
KSF 8U
KSF 10U

Technical Materials

KSF8RU

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

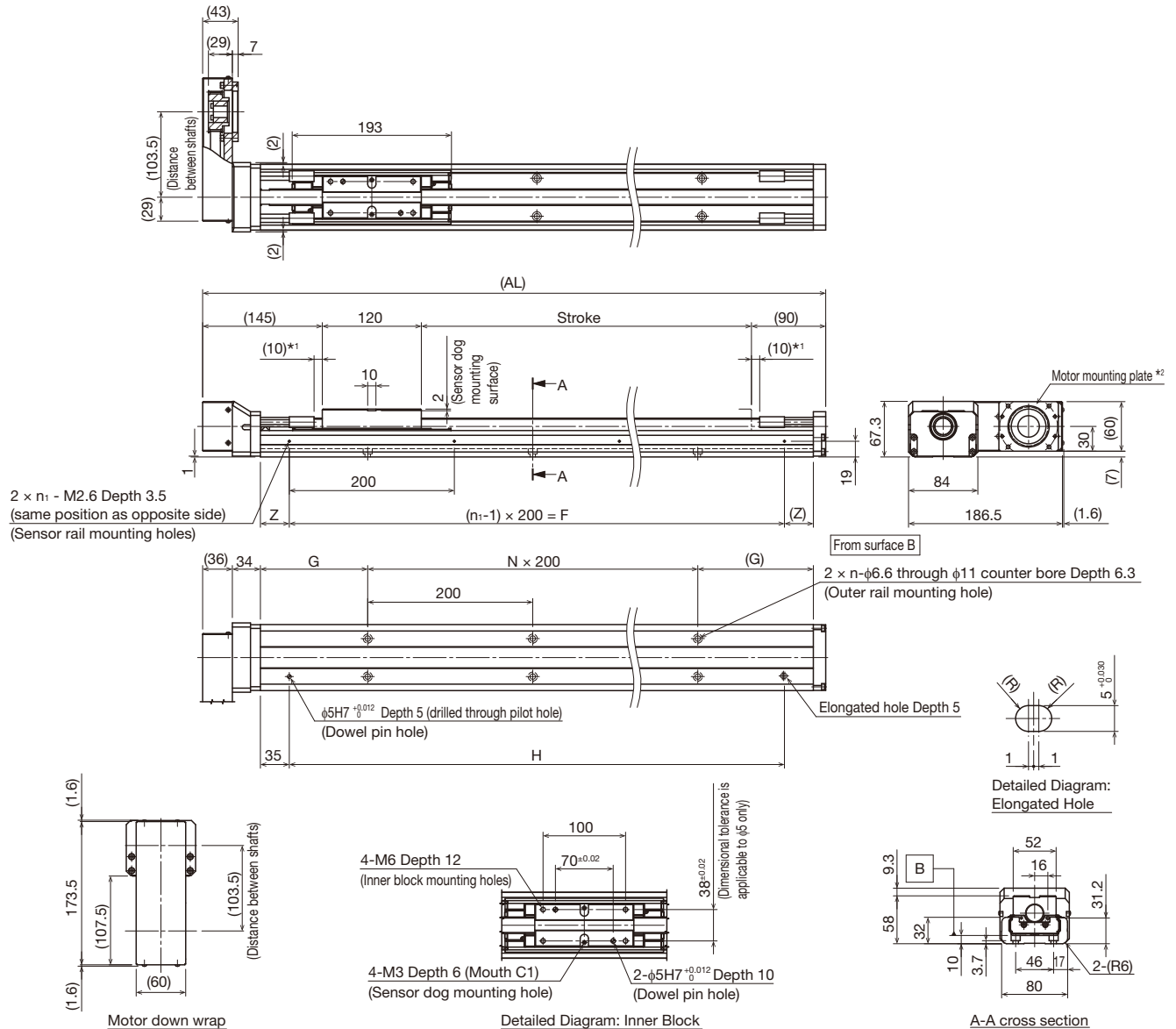
KSF 5U

KSF 6U

KSF 8U

KSF 10U

Dimensions



*1 Stroke up to mechanical stopper.
*2 See P.80 for motor mounting plate dimensions.

Stroke [mm]	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500
(Stroke between mechanical stoppers)	(120)	(220)	(320)	(420)	(520)	(620)	(720)	(820)	(920)	(1020)	(1120)	(1220)	(1320)	(1420)	(1520)
Maximum speed ^{*3} [mm/s]	Ball screw lead: 20 mm	1000						970	790	660	550	470	410	360	320
	Ball screw lead: 40 mm	2000						1940	1580	1320	1110	950	830	720	640
Dimensions [mm]	AL	455	555	655	755	855	955	1055	1155	1255	1355	1455	1555	1655	1855
	G	85	135	85	135	85	135	85	135	85	135	85	135	85	85
	H	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1700
	Z	85	35	85	35	85	35	85	35	85	35	85	35	85	85
Mounting pitch count	N	1	1	2	2	3	3	4	4	5	5	6	6	7	8
	n	2	2	3	3	4	4	5	5	6	6	7	7	8	9
Mounting hole count	n ₁	2	3	3	4	4	5	5	6	6	7	8	8	9	9
	Weight [kg]	8.0	9.2	10.4	11.5	12.7	13.9	15.1	16.2	17.4	18.6	19.8	20.9	22.1	23.3

*3 The maximum speed is the value restricted by the motor rotational speed (at 3000 min⁻¹) or by the permissible rotational speed of the ball screw.

Technical Materials



KSF10U Without Motor

Model Configuration

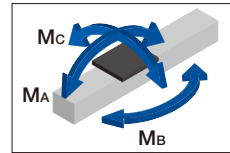
Model	Ball screw lead	Stroke	With/without motor	Intermediate flange	Option
KSF10U	25	0800	0	AZ	T-6
KSF10U	25: 25 mm 50: 50 mm	0100: 100 mm to 1500: 1500 mm	0: Without motor 1: With motor	A0 AZ A5 A6	No symbol: None T : Back tap 1 : Sensor rail only 6 : Photo sensor J : Proximity sensor M : Proximity sensor (PNP)

Basic Specifications

LM guide portion	Basic dynamic load rating C [N]	58,500	
	Basic static load rating C ₀ [N]	103,700	
Ball screw portion	Basic dynamic load rating Ca [N]	6,650	4,150
	Basic static load rating Coa [N]	21,050	11,170
	Screw shaft diameter [mm]	φ25	
	Ball screw lead [mm]	25	50
Bearing portion (Fixed side)	Axial direction	Basic dynamic load rating Ca [N]	13,700
		Static permissible load P _{0a} [N]	5,830
	Permissible rotational speed *1 [min ⁻¹]	3,000	
	Starting torque *2 [N·cm]	12	16
	Positioning repeatability *3 [mm]	±0.010	
	Lost motion *3 [mm]	0.1	
	Permissible input torque [N·m]	15.5	
	Static permissible moment *4 [N·m]	M _A : 1,259 M _B : 775 M _C : 504	

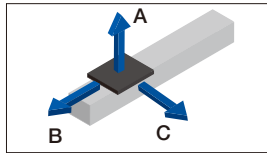
- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment for M_A and M_C are the top face of the table, and that for M_B is the center of the table.

Static Permissible Moment

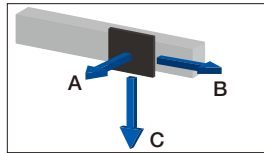


Permissible Overhang Length *5

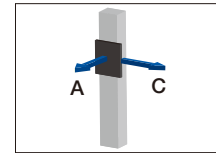
Horizontal use



Wall use



Vertical use



Acceleration and deceleration rate 1.0 G

Horizontal mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
25	15	1000	760	900
	30	680	370	440
	60	320	170	220
50	4.25	1000	1000	1000
	8.5	1000	1000	840
	17	600	530	420

Wall mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
25	15	860	740	1000
	30	400	350	650
	60	170	150	290
50	4.25	1000	1000	1000
	8.5	810	1000	1000
	17	380	500	570

Vertical mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	C
25	6.25	1000	1000
	12.5	730	730
	25	350	350
50	2.25	1000	1000
	4.5	1000	1000
	9	960	960

Acceleration and deceleration rate 1.5 G

Horizontal mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
25	6.5	1000	1000	1000
	13	1000	880	910
	26	600	430	460
50	2	1000	1000	1000
	4	1000	1000	1000
	8	1000	1000	780

Wall mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	B	C
25	6.5	1000	1000	1000
	13	870	860	1000
	26	410	400	580
50	2	1000	1000	1000
	4	1000	1000	1000
	8	730	1000	990

Vertical mount [mm]

Ball screw lead [mm]	Load mass [kg]	A	C
25	3.25	1000	1000
	6.5	1000	1000
	13	650	650
50	1.25	1000	1000
	2.5	1000	1000
	5	970	970

*5 This value is the overhang length whose running life is 20,000 km for each direction.

A permissible value of the applied load in each direction.

Features
Product Lineup
Model Configuration
Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

KSF 6U

KSF 8U

KSF 10U

Technical Materials

KSF10U

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

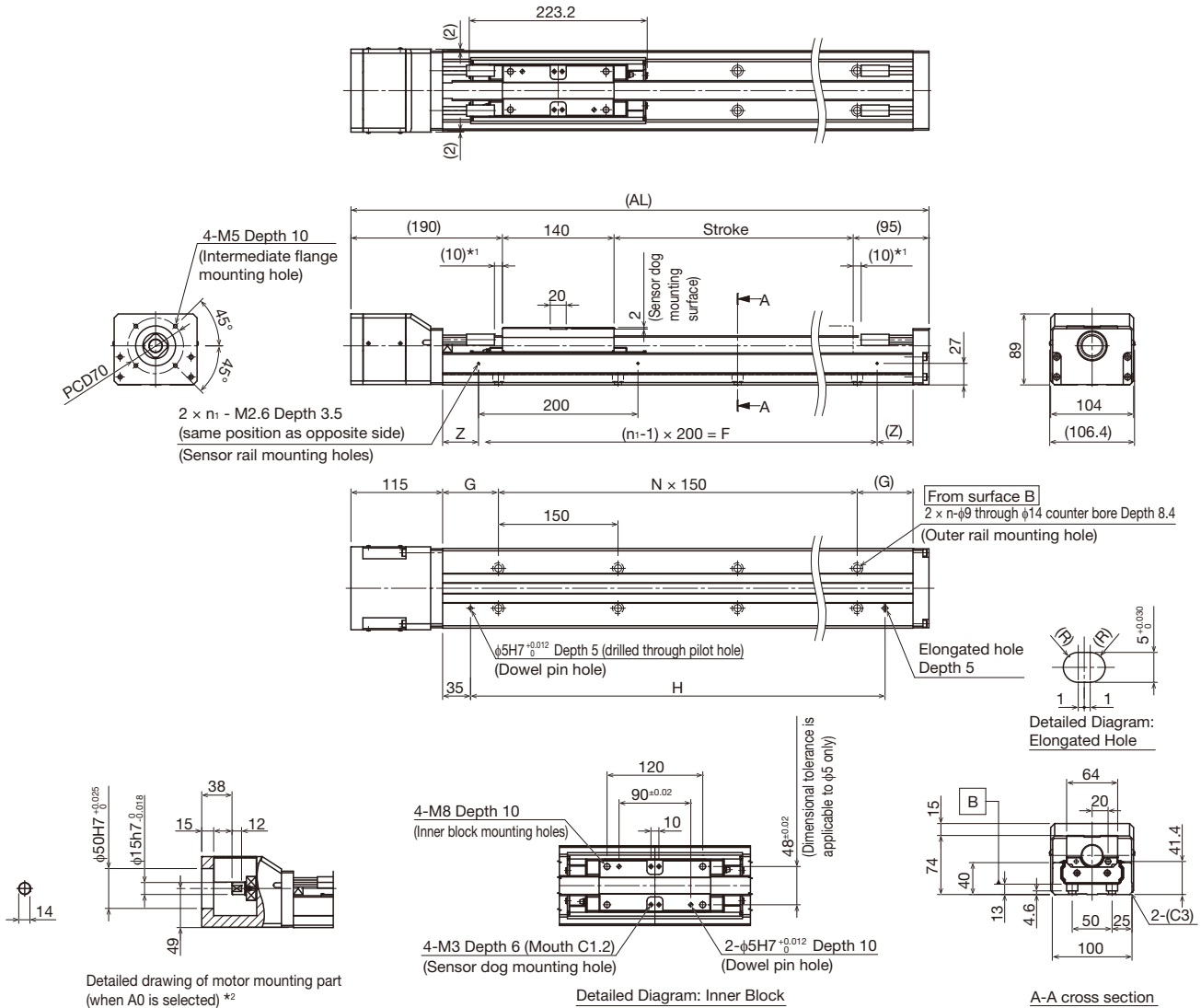
KSF 6U

KSF 8U

KSF 10U

Technical Materials

Dimensions



*1 Stroke up to mechanical stopper.

*2 See P.81 for intermediate flange dimensions.

Stroke [mm] (Stroke between mechanical stoppers)	100 (120)	200 (220)	300 (320)	400 (420)	500 (520)	600 (620)	700 (720)	800 (820)	900 (920)	1000 (1020)	1100 (1120)	1200 (1220)	1300 (1320)	1400 (1420)	1500 (1520)	
Maximum speed * ³ [mm/s]	Ball screw lead: 25 mm	1250								1050	890	760	660	580	510	
	Ball screw lead: 50 mm	2500								2110	1790	1530	1330	1160	1030	
Dimensions [mm]	AL	525	625	725	825	925	1025	1125	1225	1325	1425	1525	1625	1725	1825	1925
	G	120	95	70	120	95	70	120	95	70	120	95	70	120	95	70
	H	320	420	520	620	720	820	920	1020	1120	1220	1320	1420	1520	1620	1720
	Z	95	45	95	45	95	45	95	45	95	45	95	45	95	45	95
	F	200	400	400	600	600	800	800	1000	1000	1200	1200	1400	1400	1600	1600
Mounting pitch count	N	1	2	3	3	4	5	5	6	7	7	8	9	9	10	11
Mounting hole count	n	2	3	4	4	5	6	6	7	8	8	9	10	10	11	12
	n ₁	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9
Weight [kg]	13.3	15.2	17.1	19.0	20.9	22.8	24.6	26.5	28.4	30.3	32.2	34.0	35.9	37.8	39.7	

*³ The maximum speed is the value restricted by the motor rotational speed (at 3000 min⁻¹) or by the permissible rotational speed of the ball screw.

KSF10RU Without Motor



Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

KSF 6U

KSF 8U

KSF 10U

Technical Materials

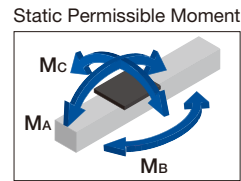
Model Configuration

Model	Ball screw lead	Stroke	With/without motor	Motor mounting plate	Motor shaft diameter	Motor shaft fixing method	Option
KSF10RU	25	0800	0	WZ	19	M	MR-T
KSF10RU	25: 25 mm 50: 50 mm	0100: 100 mm to 1500: 1500 mm	0: Without motor 1: With motor	WZ W5	16: 16 mm 19: 19 mm	M: Friction tightening	MR : Motor right wrap ML : Motor left wrap MD : Motor down wrap T : Back tap 1 : Sensor rail only 6 : Photo sensor J : Proximity sensor M : Proximity sensor (PNP)

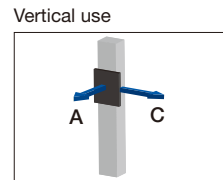
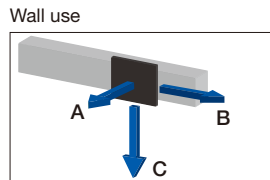
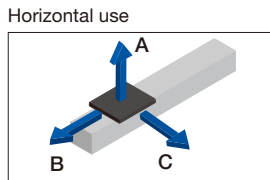
Basic Specifications

LM guide portion	Basic dynamic load rating C [N]	58,500	
	Basic static load rating Co [N]	103,700	
Ball screw portion	Basic dynamic load rating Ca [N]	6,650	
	Basic static load rating Coa [N]	21,050	
	Screw shaft diameter [mm]	φ25	
	Ball screw lead [mm]	25 50	
Bearing portion (Fixed side)	Axial direction	Basic dynamic load rating Ca [N]	13,700
		Static permissible load Poa [N]	5,830
	Permissible rotational speed *1 [min ⁻¹]	3,000	
	Starting torque *2 [N·cm]	12 16	
	Positioning repeatability *3 [mm]	±0.010	
	Lost motion *3 [mm]	0.1	
	Permissible input torque [N·m]	8.5	
	Static permissible moment *4 [N·m]	MA: 1,259 MB: 775 MC: 504	

- *1 The permissible rotational speed is restricted by the stroke.
- *2 The starting torque represents values when the standard grease is filled.
- *3 These represent values when measured using a motor provided by THK.
- *4 Applied point of moment load for MA and Mc are the top face of the table, and that for MB is the center of the table.



Permissible Overhang Length *5



Acceleration and deceleration rate 1.0 G

Horizontal mount [mm]		A	B	C
Ball screw lead [mm]	Load mass [kg]			
	9.5	1000	1000	1000
	19	1000	600	700
25	38	530	290	350
	3	1000	1000	1000
	50	6	1000	1000
	12	870	760	600

Wall mount [mm]		A	B	C
Ball screw lead [mm]	Load mass [kg]			
	9.5	1000	1000	1000
	19	670	570	1000
25	38	310	260	500
	3	1000	1000	1000
	50	6	1000	1000
	12	560	730	840

Vertical mount [mm]		A	C
Ball screw lead [mm]	Load mass [kg]		
	4.75	1000	1000
	25	9.5	970
	19	470	470
50	1.75	1000	1000
	3.5	1000	1000
	7	770	770

Acceleration and deceleration rate 1.5 G

Horizontal mount [mm]		A	B	C
Ball screw lead [mm]	Load mass [kg]			
	2	1000	1000	1000
	25	4	1000	1000
	8	1000	1000	1000
50	1	1000	1000	1000
	2	1000	1000	1000
	4	1000	1000	1000

Wall mount [mm]		A	B	C
Ball screw lead [mm]	Load mass [kg]			
	2	1000	1000	1000
	25	4	1000	1000
	8	1000	1000	1000
50	1	1000	1000	1000
	2	1000	1000	1000
	4	1000	1000	1000

Vertical mount [mm]		A	C
Ball screw lead [mm]	Load mass [kg]		
	0.75	1000	1000
	25	1.5	1000
	3	1000	1000
50	0.75	1000	1000
	1.5	1000	1000
	3	1000	1000

*5 This value is the overhang length whose running life is 20,000 km for each direction.
A permissible value of the applied load in each direction.

KSF10RU

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

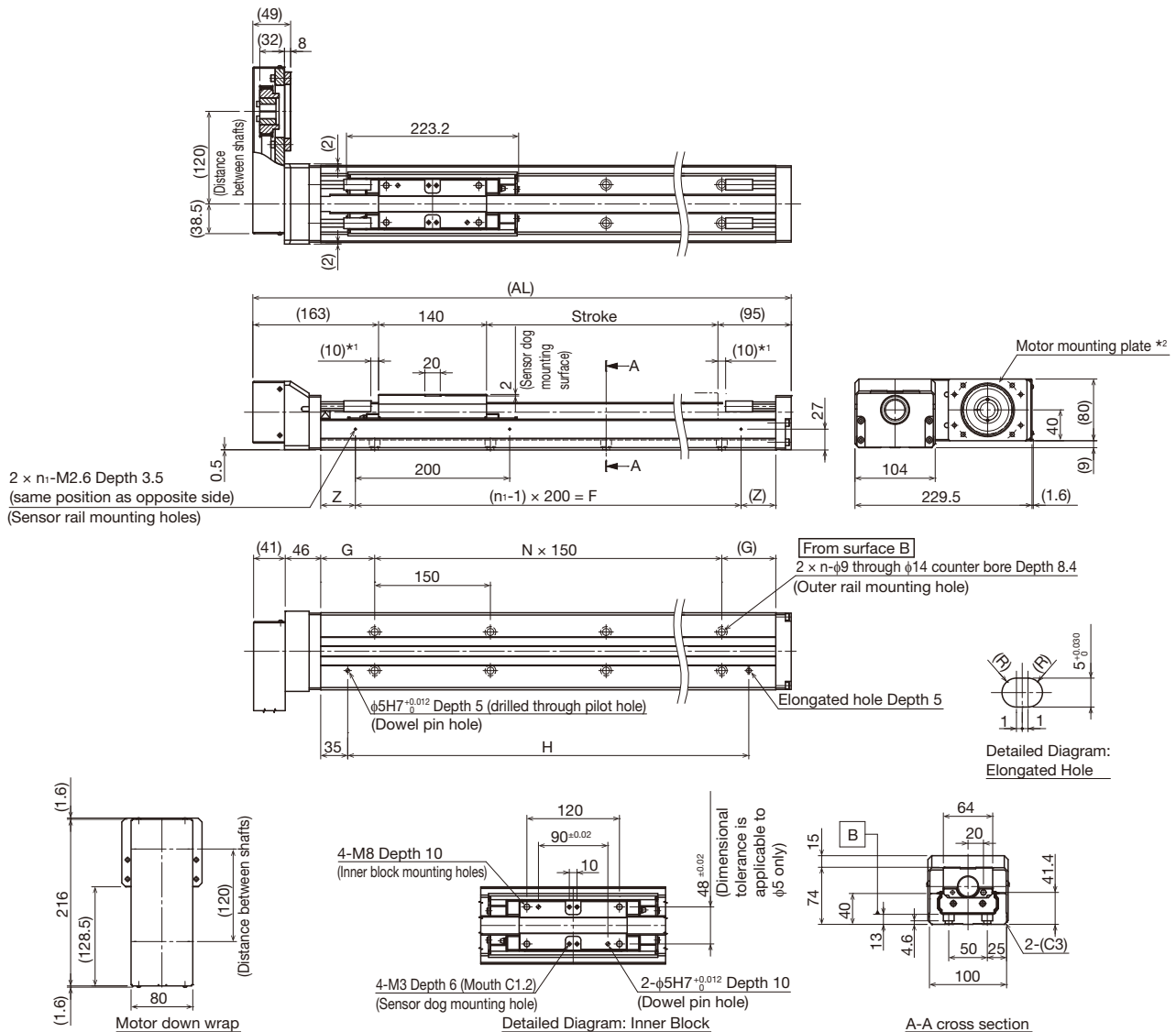
KSF 6U

KSF 8U

KSF 10U

Technical Materials

Dimensions



*1 Stroke up to mechanical stopper.

*2 See P.81 for motor mounting plate dimensions.

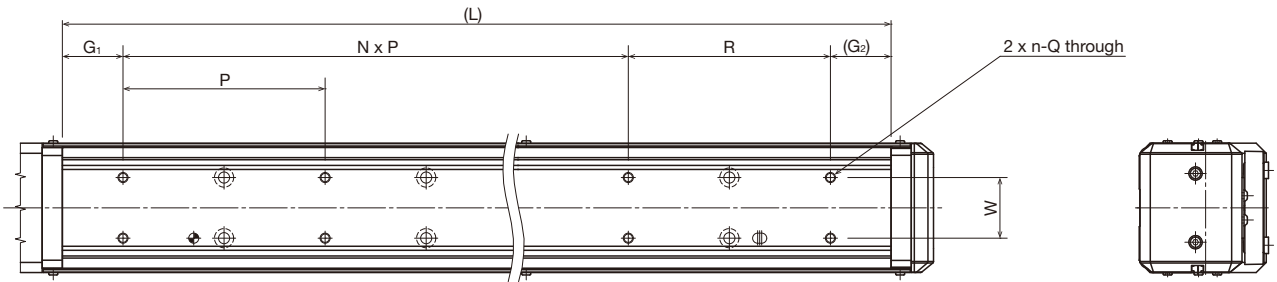
Stroke [mm] (Stroke between mechanical stoppers)	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	
Maximum speed *3 [mm/s]	Ball screw lead: 25 mm 1250									Ball screw lead: 50 mm 2110 1790 1530 1330 1160 1030						
Dimensions [mm]	AL	498	598	698	798	898	998	1098	1198	1298	1398	1498	1598	1698	1798	1898
	G	120	95	70	120	95	70	120	95	70	120	95	70	120	95	70
	H	320	420	520	620	720	820	920	1020	1120	1220	1320	1420	1520	1620	1720
	Z	95	45	95	45	95	45	95	45	95	45	95	45	95	45	95
	F	200	400	400	600	600	800	800	1000	1000	1200	1200	1400	1400	1600	1600
Mounting pitch count	N	1	2	3	3	4	5	5	6	7	7	8	9	9	10	11
Mounting hole count	n	2	3	4	4	5	6	6	7	8	8	9	10	10	11	12
	n ₁	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9
Weight [kg]	14.4	16.2	18.1	20.0	21.9	23.8	25.7	27.5	29.4	31.3	33.2	35.1	36.9	38.8	40.7	

*3 The maximum speed is the value restricted by the motor rotational speed (at 3000 min⁻¹) or by the permissible rotational speed of the ball screw.

Option

T: Back tap

Back taps are available for KSF to enable mounting without removing the cover.



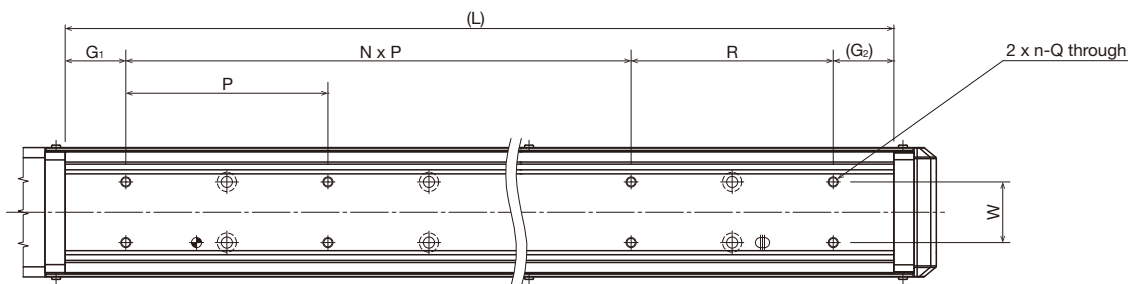
Note) The standard counter bore will remain even if a back tap is selected.

Model	Stroke [mm]	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900		
KSF4	Dimensions [mm]	L	202	252	302	352	402	452	502	552	602	652	702	752	802	852	902	952	1002	1052	
		P	120																		
	G ₁	G ₁	34	59	84	42	74	39	78	89	54	79	44	69	34	59	84	42	74	39	
		G ₂	48	73	98	70	88	53	64	103	68	93	58	83	48	73	98	70	88	53	
	R	R	-																		
	W	W	18																		
	Mounting pitch count	N	1	1	1	2	2	3	3	3	4	4	5	5	6	6	6	7	7	8	
Mounting hole count	n	2	2	2	3	3	4	4	4	5	5	6	6	7	7	7	8	8	9		
Tap hole size	Q	M4																			

Model	Stroke [mm]	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900		
KSF5	Dimensions [mm]	L	214	264	314	364	414	464	514	564	614	664	714	764	814	864	914	964	1014	1064	
		P	80	120																	
	G ₁	G ₁	27	12	27	52	77	27	67	92	57	82	47	72	27	62	87	52	77	27	
		G ₂	27	12	47	72	97	77	87	112	77	102	67	92	67	82	107	72	97	77	
	R	R	-																		
	W	W	25																		
	Mounting pitch count	N	2	2	2	2	2	3	3	3	4	4	5	5	6	6	6	7	7	8	
Mounting hole count	n	3	3	3	3	3	4	4	4	5	5	6	6	7	7	7	8	8	9		
Tap hole size	Q	M5																			

Model	Stroke [mm]	50	100	150	200	250	300	350	400	450	500	550	600	650	
KSF6	Dimensions [mm]	L	260	310	360	410	460	510	560	610	660	710	760	810	860
		P	100	200											
	G ₁	G ₁	30	55	30	55	30	55	30	55	30	55	30	55	30
		G ₂	30	55	30	55	30	55	30	55	30	55	30	55	30
	R	R	-	-	100	100	-	-	100	100	-	-	100	100	-
	W	W	30												
	Mounting pitch count	N	2	2	1	1	2	2	2	2	3	3	3	3	4
Mounting hole count	n	3	3	3	3	3	3	4	4	4	4	5	5	5	
Tap hole size	Q	M5													

Model	Stroke [mm]	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	
KSF8	Dimensions [mm]	L	370	470	570	670	770	870	970	1070	1170	1270	1370	1470	1570	1670	1770
		P	120	200													
	G ₁	G ₁	65	25	70	120	70	120	70	120	70	120	70	120	70	120	70
		G ₂	65	45	100	150	100	150	100	150	100	150	100	150	100	150	100
	R	R	-														
	W	W	46														
	Mounting pitch count	N	2	2	2	2	3	3	4	4	5	5	6	6	7	7	8
Mounting hole count	n	3	3	3	3	4	4	5	5	6	6	7	7	8	8	9	
Tap hole size	Q	M6															



Note) The standard counter bore will remain even if a back tap is selected.

Model	Stroke [mm]	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	
KSF10	Dimensions [mm]	L	390	490	590	690	790	890	990	1090	1190	1290	1390	1490	1590	1690	1790
		P	150														
		G ₁	45	80	55	105	80	55	105	80	55	105	80	55	105	80	55
		G ₂	45	110	85	135	110	85	135	110	85	135	110	85	135	110	85
		R	-														
	W	50															
	Mounting pitch count	N	2	2	3	3	4	5	5	6	7	7	8	9	9	10	11
	Mounting hole count	n	3	3	4	4	5	6	6	7	8	8	9	10	10	11	12
Tap hole size	Q	M8															

Option

☐: Sensors

Optional proximity sensors and photo sensors are available for KSF. Please use the sensor with the following precautions (Notes 1 to 3) in mind.

- Note 1) Types without motor will be shipped with the sensor and the sensor dog.
- Note 2) If proximity sensors are placed too close to each other, they may not work properly. In this case, the customer must provide sensors with variant frequencies. (For specifications, contact each manufacturer.)
- Note 3) Mount two sensor dogs or sensor rails for 50 mm strokes.

Description	Model	Accessory*1	Symbol
With sensor rail*2	-	Mounting screws, sensor rail	1
Photo sensor*3[3 pieces]	EE-SX674 (Omron Corp.)	Mounting screw, nut, mounting plate (× 3), connector (EE-1001, × 3), sensor dog, sensor rail	6
Sensor N.O. contact [x 1] N.C. contact [x 2]	GX-F12A (Panasonic Industrial Devices SUNX Co., Ltd.) GX-F12B (Panasonic Industrial Devices SUNX Co., Ltd.)	Mounting screws, nuts, sensor dog, sensor rail	J
Sensors N.O. contact [x 1] (PNP output) N.C. contact [x 2] (PNP output)	GX-F12A-P (Panasonic Industrial Devices SUNX Co., Ltd.) GX-F12B-P (Panasonic Industrial Devices SUNX Co., Ltd.)	Mounting screws, nuts, sensor dog, sensor rail	M

N.O. contact: Normally open contact point

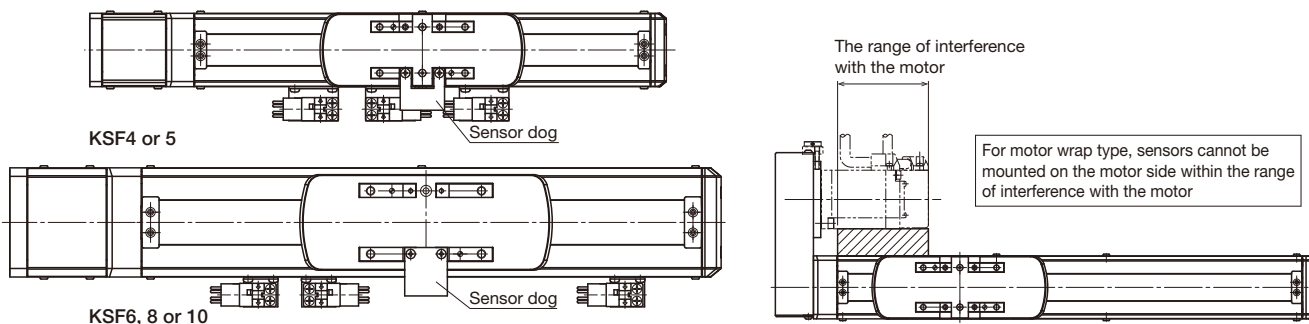
N.C. contact: Normally closed contact point

Sensors marked with a symbol "M", if combined with our controller, cannot be used as a home position sensor.

*1 Sensor rails are included for Top Cover and Open Cover specification types only.

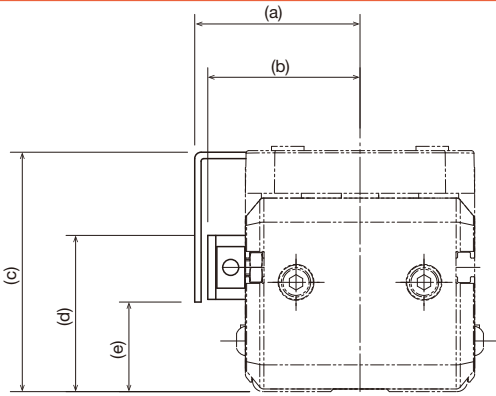
*2 Selectable only for Top Cover and Open Cover specification types.

*3 The photo sensors can be switched between ON when lit and ON when unlit.



Fully enclosed

Symbols J, M: Proximity sensor GX-F12* (Panasonic Industrial Devices SUNX Co., Ltd.)

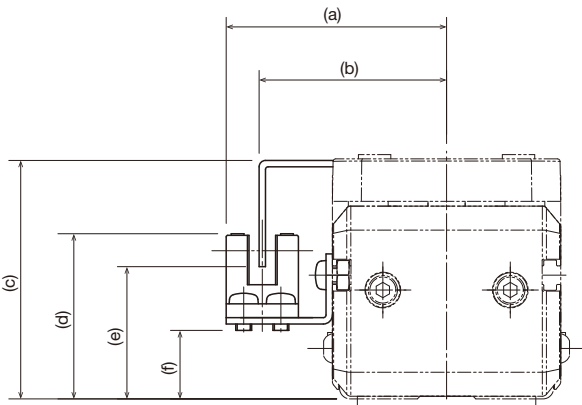


Unit: mm

Model	a	b	c	d	e
KSF4	31	28.6	44.8	29.2	16.7
KSF5	36.2	33.8	48.9	36	23.5
KSF6	41.5	39.1	63.3	34.9	22.6
KSF8	51.5	49.1	64.8	42	29.4
KSF10	61.4	59.1	86.8	59.2	46.6

Sensor dog width: KSF4 26mm
 KSF5 26mm
 KSF6 25mm
 KSF8 27mm
 KSF10 27mm

Symbol 6: Photo sensor EE-SX674 (OMRON Corporation)



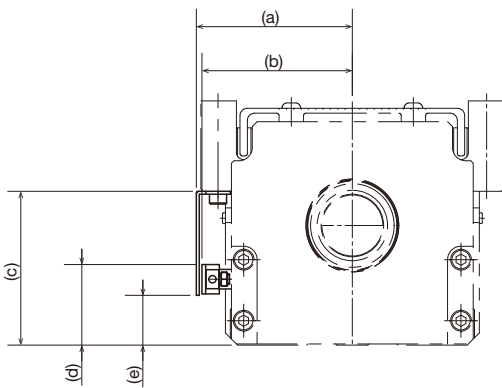
Unit: mm

Model	a	b	c	d	e	f
KSF4	41.5	35.3	44.8	31	24.8	12.8
KSF5	46.3	40.1	48.9	37.8	31.6	19.6
KSF6	49.5	43.1	63.3	34.2	27.3	16
KSF8	59.5	53.1	64.8	41.3	34.2	23.1
KSF10	69.5	63.1	86.8	58.5	51.4	40.3

Sensor dog width: KSF4 26mm
 KSF5 26mm
 KSF6 25mm
 KSF8 27mm
 KSF10 27mm

Top cover

Symbols J, M: Proximity sensor GX-F12* (Panasonic Industrial Devices SUNX Co., Ltd.)

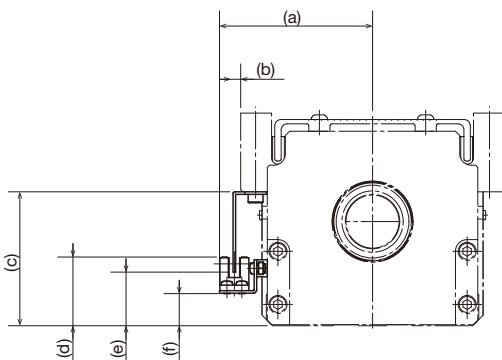


Unit: mm

Model	a	b	c	d	e
KSF5T	39.2	36.8	27.7	20	7.5
KSF6T	44.3	41.9	27.9	20	7.5
KSF8T	54.2	51.9	48	25	12.4
KSF10T	63.9	61.6	63	33	20.4

Sensor dog width: KSF5T 15mm
 KSF6T 15mm
 KSF8T 10mm
 KSF10T 10mm

Symbol 6: Photo sensor EE-SX674 (OMRON Corporation)



Unit: mm

Model	a	b	c	d	e	f
KSF5T	49.7	43.5	27.7	21.8	15.4	3.6
KSF6T	52.3	46	31.7	19.3	12.2	1.1
KSF8T	62.3	55.9	48	24.3	17.2	6.1
KSF10T	72	65.6	63	32.3	25.2	14.1

Sensor dog width: KSF5T 15mm
 KSF6T 15mm
 KSF8T 10mm
 KSF10T 10mm

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

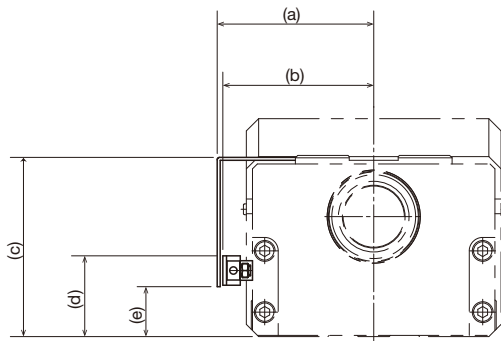
KSF 6U

KSF 8U

KSF 10U

Open Cover

Symbols J, M: Proximity sensor GX-F12* (Panasonic Industrial Devices SUNX Co., Ltd.)

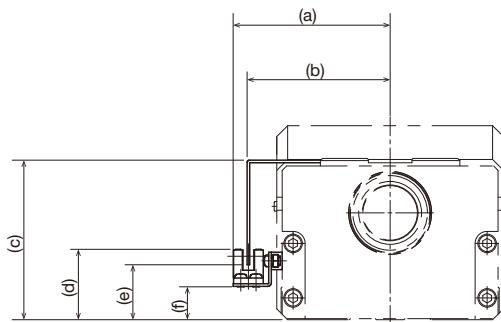


Unit: mm

Model	a	b	c	d	e
KSF4U	33.9	31.9	36.8	16.4	3.8
KSF5U	39.2	36.8	36.2	20	7.5
KSF6U	44.3	41.9	49.2	20	7.5
KSF8U	54.2	51.9	57.2	25	12.4
KSF10U	63.9	61.6	73.2	33	20.4

Sensor dog width: KSF4U 9mm
 KSF5U 9mm
 KSF6U 9mm
 KSF8U 9mm
 KSF10U 18mm

Symbol 6: Photo sensor EE-SX674 (OMRON Corporation)



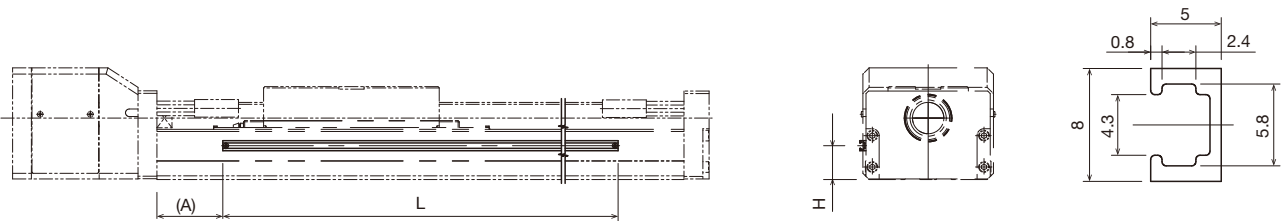
Unit: mm

Model	a	b	c	d	e	f
KSF4U	44.8	38.4	36.8	18.1	11.8	0.9
KSF5U	49.7	43.5	36.2	21.8	15.4	3.6
KSF6U	52.3	46	49.2	19.3	12.2	1.1
KSF8U	62.3	56	57.2	24.3	17.2	6.1
KSF10U	72	65.6	73.2	32.3	25.2	14.1

Sensor dog width: KSF4U 9mm
 KSF5U 9mm
 KSF6U 9mm
 KSF8U 9mm
 KSF10U 18mm

Sensor rail

Symbol 1: Sensor rail



Model	Stroke [mm]	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
KSF4U	Dimensions [mm]	A 23.5																	
		155	205	255	305	355	405	455	505	555	605	655	705	755	805	855	905	955	1005
		H 10.35																	

Model	Stroke [mm]	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
KSF5T KSF5U	Dimensions [mm]	A 29.5																	
		155	205	255	305	355	405	455	505	555	605	655	705	755	805	855	905	955	1005
		H 14																	

Model	Stroke [mm]	50	100	150	200	250	300	350	400	450	500	550	600	650	
KSF6T KSF6U	Dimensions [mm]	A	27.5	52.5	27.5	2.5	27.5	2.5	27.5	2.5	27.5	52.5	27.5	2.5	27.5
		L	205	305	405	405	505	605	705	805					
		H	14												
Model	Stroke [mm]	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	
KSF6T KSF6U	Dimensions [mm]	A	2.5	27.5	52.5	27.5	52.5	27.5	2.5	27.5	52.5	27.5	2.5	27.5	52.5
		L	805	905	1005	1105	1205	1305	1405						
		H	14												

Model	Stroke [mm]	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500
KSF8T KSF8U	Dimensions [mm]	A	82.5	32.5	82.5	32.5	82.5	32.5	82.5	32.5	82.5	32.5	82.5	32.5	82.5	82.5
		L	205	405	605	805	1005	1205	1405	1605						
		H	19													

Model	Stroke [mm]	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500
KSF10T KSF10U	Dimensions [mm]	A	92.5	42.5	92.5	42.5	92.5	42.5	92.5	42.5	92.5	42.5	92.5	42.5	92.5	92.5
		L	205	405	605	805	1005	1205	1405	1605						
		H	27													

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

KSF 6U

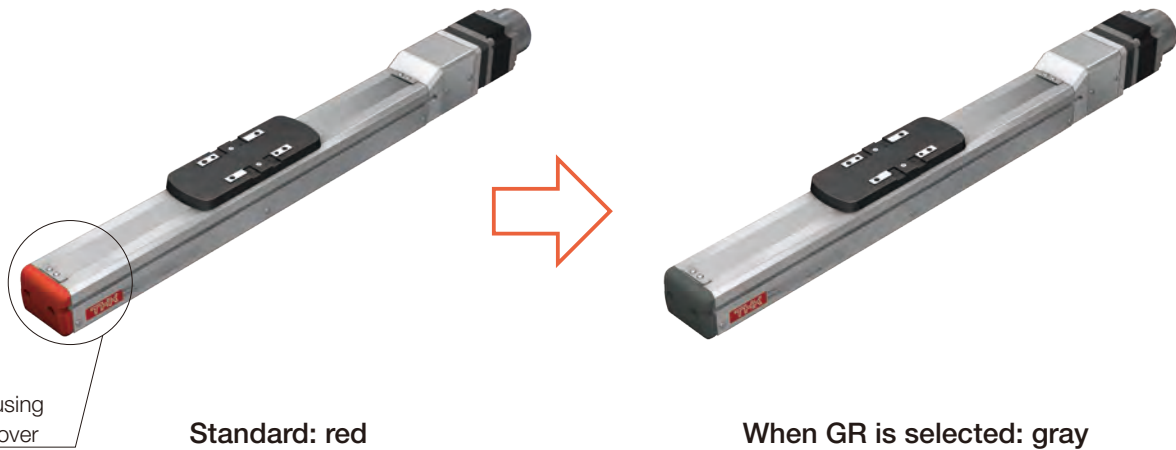
KSF 8U

KSF 10U

Technical Materials

GR: Gray cover

As an option for KSF, the cover color can be changed from red to gray.



Standard: red

When GR is selected: gray

Intermediate flange

Intermediate flanges are available to mount various kinds of motors.

If choosing "0" or "1" as with/without motor for model of type without motor, specify the intermediate flange suited for your motor.

Table: Table of Motors Used and Corresponding Intermediate Flanges

Motor type		Rated output [W]	Flange angle [mm]	KSF4	KSF5	KSF6	KSF8	KSF10			
AC servo motor	Yaskawa Electric Corporation	Σ -V	SGMJV-A5	50	□40	AQ	-	-	-		
			SGMAV-A5			AQ	-	-	-		
			Σ -V	200	□60	SGMJV-01	AQ	AQ	-	-	
						SGMAV-01	AQ	AQ	-	-	
			Σ -V	400	□60	SGMJV-02	-	-	AV	-	
						SGMAV-02	-	-	AV	-	
			Σ -V	750	□80	SGMJV-04	-	-	-	AV	
						SGMAV-04	-	-	-	AV	
			Σ -V	750	□80	SGMJV-08	-	-	-	AZ	
						SGMAV-08	-	-	-	AZ	
		Mitsubishi Electric Corporation	J3	50	□40	SGM7J-A5	AQ	-	-	-	
						SGM7A-A5	AQ	-	-	-	
				100	□40	SGM7J-01	AQ	AQ	-	-	-
						SGM7A-01	AQ	AQ	-	-	
				200	□60	SGM7J-02	-	-	AV	-	-
						SGM7A-02	-	-	AV	-	-
	400			□60	SGM7J-04	-	-	-	AV	-	
					SGM7A-04	-	-	-	AV	-	
	750			□80	SGM7J-08	-	-	-	-	AZ	
					SGM7A-08	-	-	-	-	AZ	
	Mitsubishi Electric Corporation			J4	50	□40	HF-MP053	AQ	-	-	-
							HF-KP053	AQ	-	-	-
		100	□40		HF-MP13	AQ	AQ	-	-	-	
					HF-KP13	AQ	AQ	-	-		
		200	□60		HF-MP23	-	-	AV	-	-	
					HF-KP23	-	-	AV	-	-	
		400	□60		HF-MP43	-	-	-	AV	-	
					HF-KP43	-	-	-	AV	-	
750		□80	HF-MP73		-	-	-	-	AZ		
			HF-KP73		-	-	-	-	AZ		
Mitsubishi Electric Corporation		J4	50		□40	HG-MR053	AQ	-	-	-	
						HG-KR053	AQ	-	-	-	
	100		□40	HG-MR13	AQ	AQ	-	-	-		
				HG-KR13	AQ	AQ	-	-			
	200		□60	HG-KR23	-	-	AV	-	-		
				HG-MR23	-	-	AV	-	-		
	400		□60	HG-KR43	-	-	-	AV	-		
				HG-MR43	-	-	-	AV	-		
750	□80	HG-KR73	-	-	-	-	AZ				
		HG-MR73	-	-	-	-	AZ				
Tamagawa Seiki Co., Ltd.	TBL-III	TS4602	50	□40	AQ	-	-	-			
		TS4603	100	□40	AQ	AQ	-	-			
		TS4607	200	□60	-	-	AV	-	-		
		TS4609	400	□60	-	-	-	AV	-		
		TS4614	750	□80	-	-	-	-	AZ		

Note 1) The symbols in the table indicate the housing A and the intermediate flange.

- Features
- Product Lineup
- Model Configuration
- Specifications / Dimensions
- KSF4
- KSF5
- KSF6
- KSF8
- KSF10
- KSF 5T
- KSF 6T
- KSF 8T
- KSF 10T
- KSF 4U
- KSF 5U
- KSF 6U
- KSF 8U
- KSF 10U
- Technical Materials

Table: Table of Motors Used and Corresponding Intermediate Flanges

Motor type			Rated output [W]	Flange angle [mm]	KSF4	KSF5	KSF6	KSF8	KSF10		
AC servo motor	Panasonic Corporation	MINAS A5	MSMD5A	50	□ 38	AP	-	-	-	-	
			MSME5A			AP	-	-	-	-	
			MSMD01	100	□ 38	AP	AP	-	-	-	
			MSME01			AP	AP	-	-	-	
		MSMD02	200	□ 60	-	-	AY	-	-		
		MSME02			-	-	AY	-	-		
		MSMD04	400	□ 60	-	-	-	AY	-		
		MSME04			-	-	-	AY	-		
	MSMD08	750	□ 80	-	-	-	-	A5			
	MSME08			-	-	-	-	A5			
	Sanyo Denki Co., Ltd.	SANMOTION R	R2AA04005	50	□ 40	AQ	-	-	-	-	
			R2AA04010	100	□ 40	AQ	AQ	-	-	-	
			R2AA06020	200	□ 60	-	-	AV	-	-	
			R2AA06040	400	□ 60	-	-	-	AV	-	
	Omron Corporation	OMNUC G5	R88M-K05030	50	□ 40	AQ	-	-	-	-	
			R88M-K10030	100	□ 40	AQ	AQ	-	-	-	
			R88M-K20030	200	□ 60	-	-	AY	AY	-	
			R88M-K40030	400	□ 60	-	-	-	AY	-	
			R88M-K75030	750	□ 80	-	-	-	-	A5	
	Fanuc Corporation	β is series	β is 0.2/5000	50	□ 40	AQ	-	-	-	-	
			β is 0.3/5000	100	□ 40	AQ	AQ	-	-	-	
	Keyence Corporation	SV	SV-M005	50	□ 40	AQ	-	-	-	-	
			SV-M010	100	□ 40	AQ	AQ	-	-	-	
			SV-M020	200	□ 60	-	-	AV	-	-	
			SV-M040	400	□ 60	-	-	-	AV	-	
			SV-M075	750	□ 80	-	-	-	-	AZ	
	Stepper motor	Oriental Motor Co. Ltd.	α step	AS46, ASC46, AR46		□ 42	AR	AR	-	-	-
				AS6*, ASC66, AR6*		□ 60	-	-	AU	AU	-
AR9*, ARL9*, AS9*					□ 85	-	-	-	-	A6	
5 phase			CRK	CRK54		□ 42	AR	AR	-	-	-
				CRK56		□ 60	-	-	AU	AU	-
			CSK II	CSK54		□ 42	AR	AR	-	-	-
				CSK56		□ 60	-	-	AU	AU	-
			RK II	RKS54		□ 42	AR	AR	-	-	-
				RKS56		□ 60	-	-	AU	AU	-
2 phase				RKS59		□ 85	-	-	-	-	A6
			UMK	UMK24		□ 42	AR	AR	-	-	-
			CSK	CSK24		□ 42	AR	AR	-	-	-

Note 1) The symbols in the table indicate the housing A and the intermediate flange.

Note 2) See the KSF technical materials for couplings used with installing the motors listed in the table. (→P.82)

Note 3) Motor model number in the table shows the main part of the model number only. For more details, please refer to catalogs from each motor manufacturers.

Motor mounting plate for motor wrap option

Wrap symbol configuration

Motor wrap components are available to mount various kinds of motors.
Specify the wrap symbol corresponding to the motor used.

$$\frac{W}{(1)} \quad \frac{Q}{(2)} \quad - \quad \frac{08}{(3)} \quad \frac{D}{(4)}$$

(1) Motor wrap symbol W

(2) Intermediate flange/motor mounting plate type

Refer to the table below "Motor wrap symbols corresponding to motors used".

(3) Motor shaft diameter [mm]

Please specify a motor shaft diameter. (Refer to the table below "Motor wrap symbols corresponding to motors used")

(4) Motor shaft fixing method

K : Key

D : D-cut

M: Friction tightening

Motor type		Rated output [W]	Flange angle [mm]	KSF4	KSF5	KSF6	KSF8	KSF10		
AC servo motor	Yaskawa Electric Corporation	SGMJV-A5	50	□ 40	WQ-08D, WQ-08K	WQ-08D, WQ-08K	-	-	-	
					WQ-08D, WQ-08K	WQ-08D, WQ-08K	-	-	-	
		SGMAV-A5	100	□ 40	WQ-08D, WQ-08K	WQ-08D, WQ-08K	-	-	-	
					WQ-08D, WQ-08K	WQ-08D, WQ-08K	-	-	-	
		SGMJV-01	200	□ 60	-	-	WV-14D, WV-14K, WV-14M	-	-	
					-	-	WV-14D, WV-14K, WV-14M	-	-	
		SGMAV-01	400	□ 60	-	-	-	WV-14M	-	
					-	-	-	WV-14M	-	
		SGMJV-02	750	□ 80	-	-	-	-	WZ-19M	
					-	-	-	-	WZ-19M	
		SGMAV-02	50	□ 40	WQ-08D, WQ-08K	WQ-08D, WQ-08K	-	-	-	
					WQ-08D, WQ-08K	WQ-08D, WQ-08K	-	-	-	
		SGMJV-04	100	□ 40	WQ-08D, WQ-08K	WQ-08D, WQ-08K	-	-	-	
					WQ-08D, WQ-08K	WQ-08D, WQ-08K	-	-	-	
		SGMAV-04	200	□ 60	-	-	WV-14D, WV-14K, WV-14M	-	-	
					-	-	WV-14D, WV-14K, WV-14M	-	-	
	SGMJV-08	400	□ 60	-	-	-	WV-14M	-		
				-	-	-	WV-14M	-		
	SGMAV-08	750	□ 80	-	-	-	-	WZ-19M		
				-	-	-	-	WZ-19M		
	Mitsubishi Electric Corporation	J3	HF-MP053	50	□ 40	WQ-08D	WQ-08D	-	-	-
						WQ-08D	WQ-08D	-	-	-
			HF-KP053	100	□ 40	WQ-08D	WQ-08D	-	-	-
						WQ-08D	WQ-08D	-	-	-
			HF-MP13	200	□ 60	-	-	WV-14M	-	-
						-	-	WV-14M	-	-
			HF-KP13	400	□ 60	-	-	-	WV-14M	-
						-	-	-	WV-14M	-
HF-MP23		750	□ 80	-	-	-	-	WZ-19M		
				-	-	-	-	WZ-19M		
J4		HG-MR053	50	□ 40	WQ-08D	WQ-08D	-	-	-	
					WQ-08D	WQ-08D	-	-	-	
		HG-KR053	100	□ 40	WQ-08D	WQ-08D	-	-	-	
					WQ-08D	WQ-08D	-	-	-	
		HG-MR13	200	□ 60	-	-	WV-14M	-	-	
					-	-	WV-14M	-	-	
	HG-KR13	400	□ 60	-	-	-	WV-14M	-		
				-	-	-	WV-14M	-		
HG-MR23	750	□ 80	-	-	-	-	WZ-19M			
			-	-	-	-	WZ-19M			
HG-KR23	50	□ 40	WQ-08D, WQ-08K	WQ-08D, WQ-08K	-	-	-			
			WQ-08D, WQ-08K	WQ-08D, WQ-08K	-	-	-			
HG-MR23	100	□ 40	-	-	WV-14D, WV-14K, WV-14M	-	-			
			-	-	WV-14D, WV-14K, WV-14M	-	-			
HG-KR43	200	□ 60	-	-	-	WV-14M	-			
			-	-	-	WV-14M	-			
HG-MR43	400	□ 60	-	-	-	-	WZ-19M			
			-	-	-	-	WZ-19M			
HG-KR73	750	□ 80	-	-	-	-	WZ-19M			
			-	-	-	-	WZ-19M			
Tamagawa Seiki Co., Ltd.	TBL-III	TS4602	50	□ 40	WQ-08D, WQ-08K	WQ-08D, WQ-08K	-	-	-	
		TS4603	100	□ 40	WQ-08D, WQ-08K	WQ-08D, WQ-08K	-	-	-	
		TS4607	200	□ 60	-	-	WV-14D, WV-14K, WV-14M	-	-	
		TS4609	400	□ 60	-	-	-	WV-14M	-	
		TS4614	750	□ 80	-	-	-	-	WZ-19M	

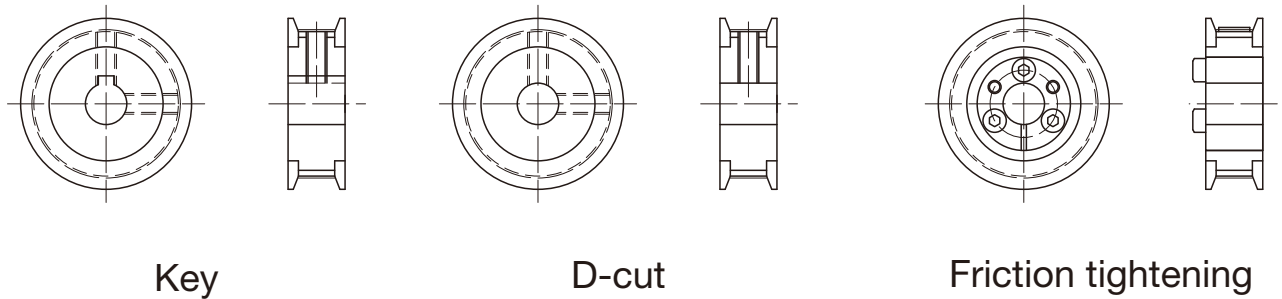


Figure : Motor shaft fixing method

Motor type			Rated output [W]	Flange angle [mm]	KSF4	KSF5	KSF6	KSF8	KSF10			
AC servo motor	Panasonic Corporation	MINAS A5	MSMD5A	50	□38	WP-08D, WP-08K	WP-08D, WP-08K	-	-	-		
			MSME5A			WP-08D, WP-08K	WP-08D, WP-08K	-	-	-		
					MSMD01	100	□38	WP-08D, WP-08K	WP-08D, WP-08K	-	-	-
					MSME01			WP-08D, WP-08K	WP-08D, WP-08K	-	-	-
					MSMD02	200	□60	-	-	WY-11D, WY-11K, WY-11M	-	-
					MSME02			-	-	WY-11D, WY-11K, WY-11M	-	-
					MSMD04	400	□60	-	-	-	WY-14M	-
					MSME04			-	-	-	WY-14M	-
					MSMD08	750	□80	-	-	-	-	W5-19M
					MSME08			-	-	-	-	W5-19M
	Sanyo Denki Co., Ltd.	SANMOTION R		R2AA06020	200	□60	-	-	WV-14M	-	-	
				R2AA06040	400	□60	-	-	-	WV-14M	-	
				R2AA08075	750	□80	-	-	-	-	WZ-16M	
	Omron Corporation	OMNUC G5		R88M-K05030	50	□40	WQ-08K	WQ-08K	-	-	-	
				R88M-K10030	100	□40	WQ-08K	WQ-08K	-	-	-	
				R88M-K20030	200	□60	-	-	WY-11K, WY-11M	WY-14M	-	
				R88M-K40030	400	□60	-	-	-	WY-14M	-	
				R88M-K75030	750	□80	-	-	-	-	W5-19M	
	Keyence Corporation	SV		SV-M005	50	□40	WQ-08K	WQ-08K	-	-	-	
				SV-M010	100	□40	WQ-08K	WQ-08K	-	-	-	
			SV-M020	200	□60	-	-	WV-14K, WV-14M	-	-		
			SV-M040	400	□60	-	-	-	WV-14M	-		
			SV-M075	750	□80	-	-	-	-	WZ-19M		

Note) Motor model number in the table shows the main part of the model number only. For more details, please refer to catalogs from each motor manufacturers.

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

KSF 6U

KSF 8U

KSF 10U

Technical Materials

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

KSF 6U

KSF 8U

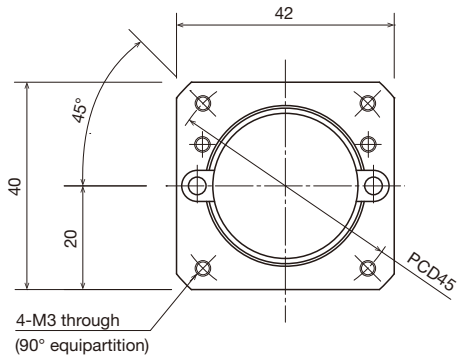
KSF 10U

Technical Materials

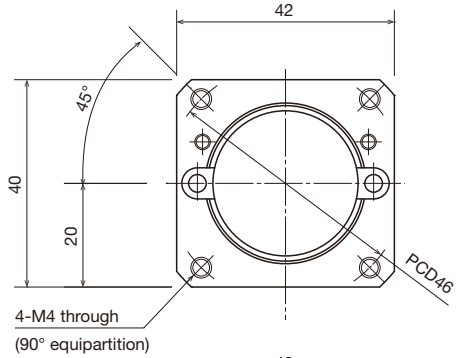
For KSF4

Intermediate flange

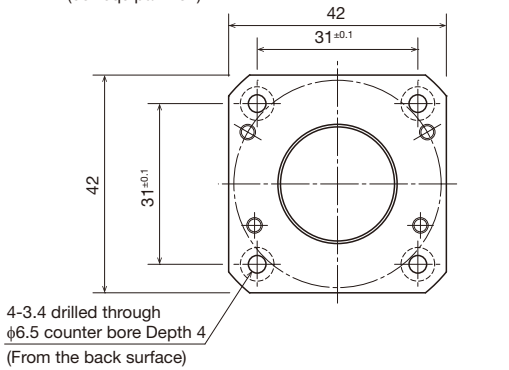
KSF4
AP



KSF4
AQ



KSF4
AR

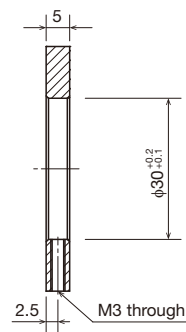
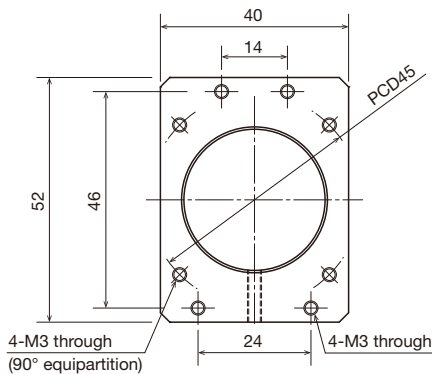


Note) For A0, see the external side view of intermediate flange without motor and the detailed drawing of motor mounting part. (→ P.14)

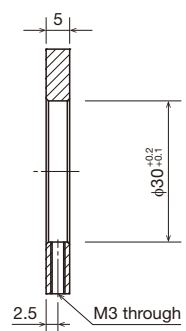
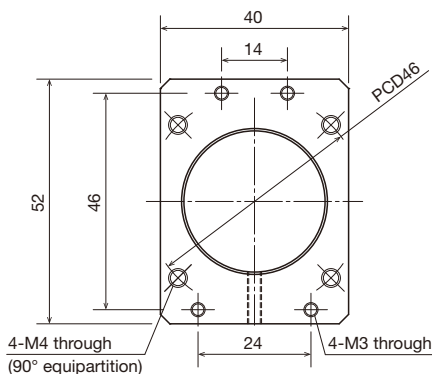
For KSF4R

Motor mounting plate

KSF4R
WP



KSF4R
WQ

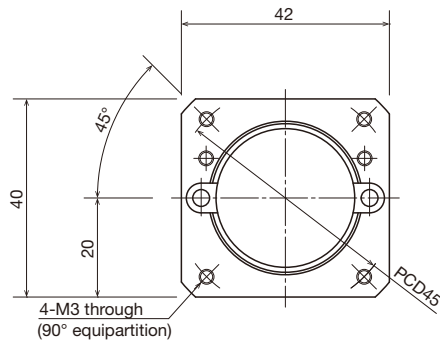


KSF*	... Actuator model
●	... Housing A
◇	... Intermediate flange

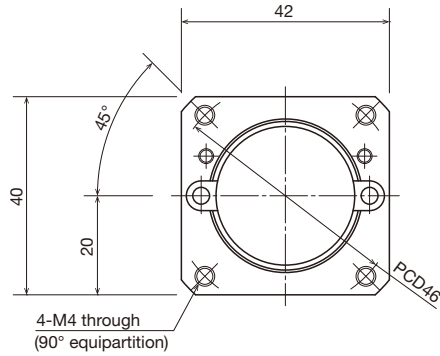
For KSF5

Intermediate flange

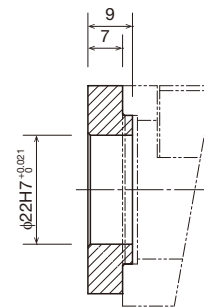
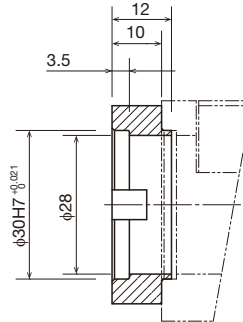
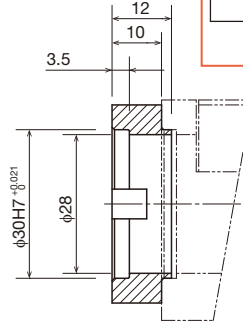
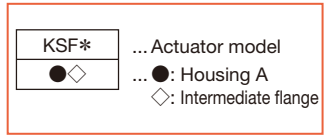
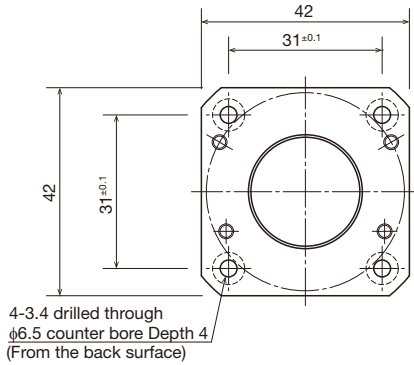
KSF5
AP



KSF5
AQ



KSF5
AR

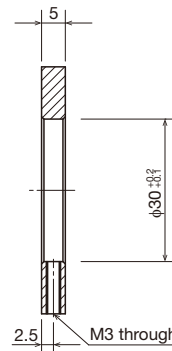
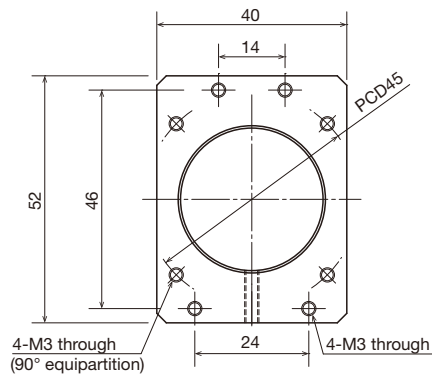


Note) For A0, see the external side view of intermediate flange without motor and the detailed drawing of motor mounting part. (→ P.18)

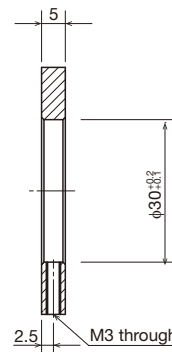
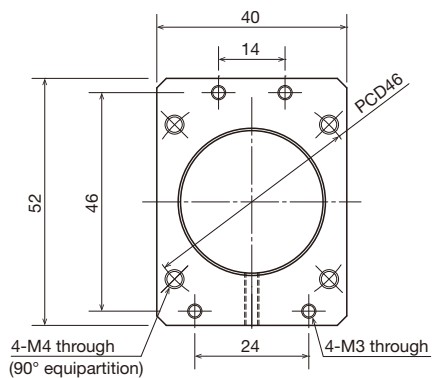
For KSF5R

Motor mounting plate

KSF5R
WP



KSF5R
WQ



Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

KSF 6U

KSF 8U

KSF 10U

Technical Materials

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

KSF 6U

KSF 8U

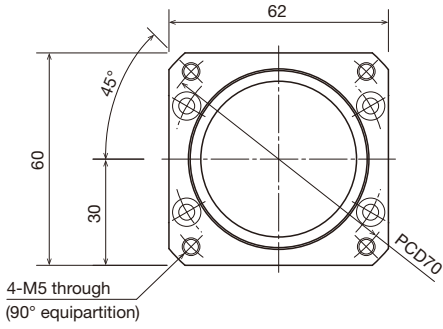
KSF 10U

Technical Materials

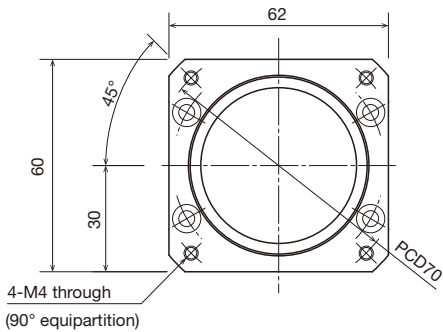
For KSF6

Intermediate flange

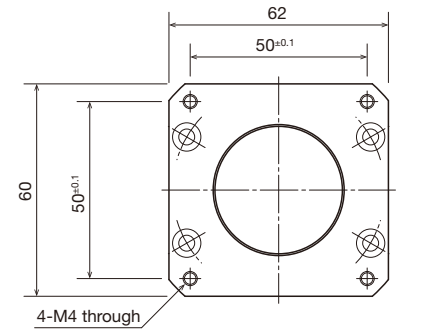
KSF6
AV



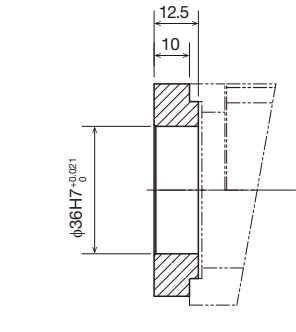
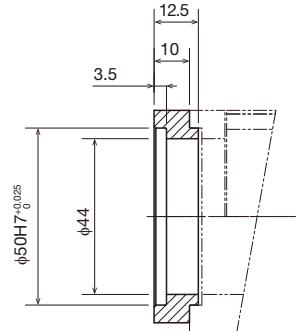
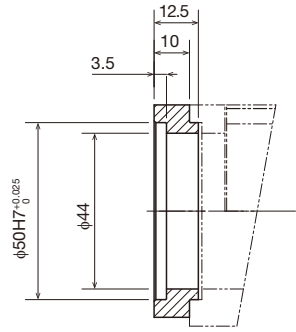
KSF6
AY



KSF6
AU



KSF*	... Actuator model
●	... Housing A
◇	Intermediate flange

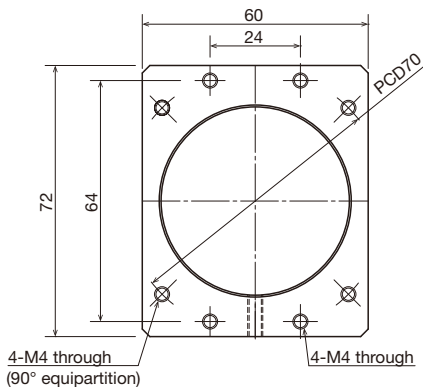


Note) For A0, see the external side view of intermediate flange without motor and the detailed drawing of motor mounting part. (→P.22)

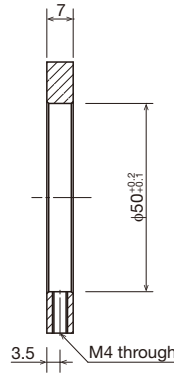
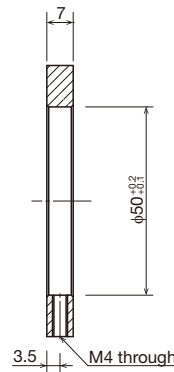
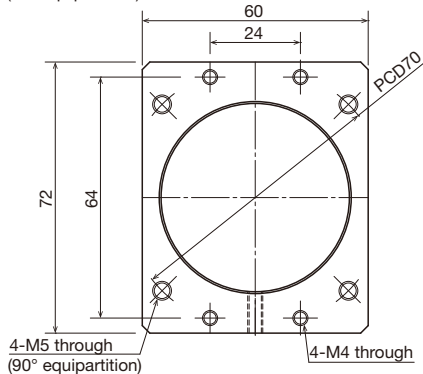
For KSF6R

Motor mounting plate

KSF6R
WY



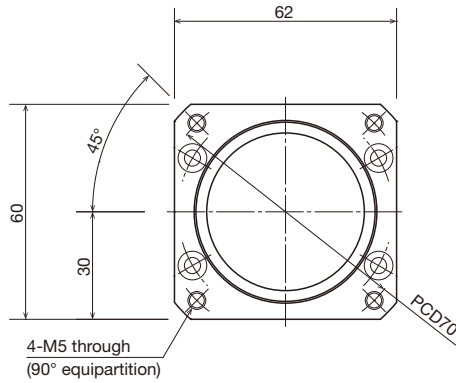
KSF6R
WV



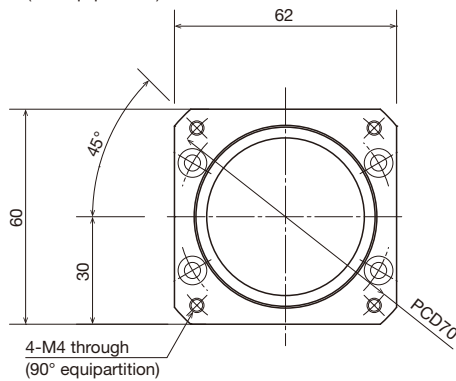
For KSF8

Intermediate flange

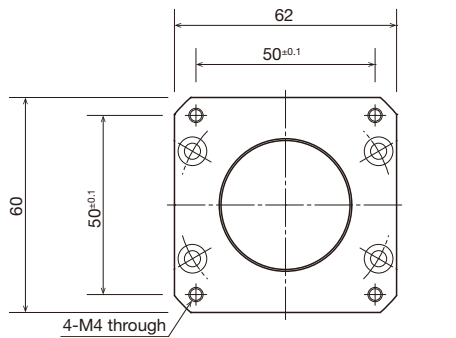
KSF8
AV



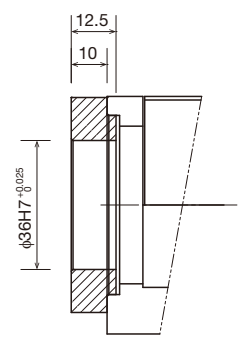
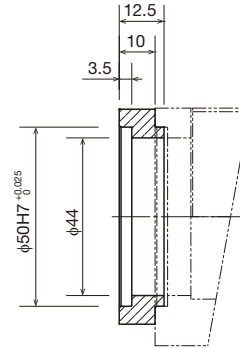
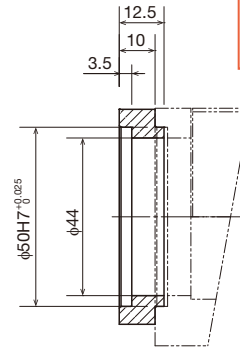
KSF8
AY



KSF8
AU



KSF*	... Actuator model
●	... Housing A
◇	Intermediate flange

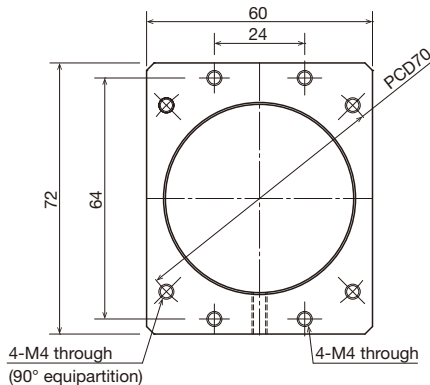


Note) For A0, see the external side view of intermediate flange without motor and the detailed drawing of motor mounting part. (→ P.26)

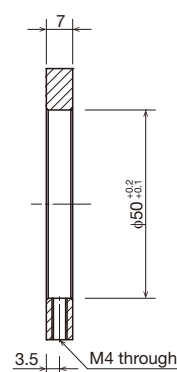
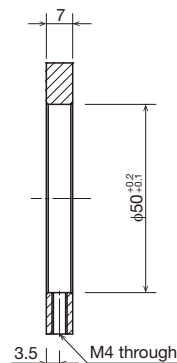
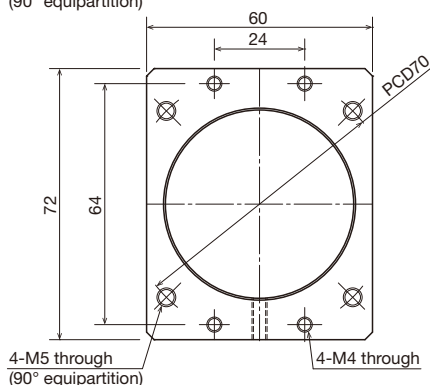
For KSF8R

Motor mounting plate

KSF8R
WY



KSF8R
WV



Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

KSF 6U

KSF 8U

KSF 10U

Technical Materials

Features

Product Lineup

Model Configuration

Specifications / Dimensions

KSF4

KSF5

KSF6

KSF8

KSF10

KSF 5T

KSF 6T

KSF 8T

KSF 10T

KSF 4U

KSF 5U

KSF 6U

KSF 8U

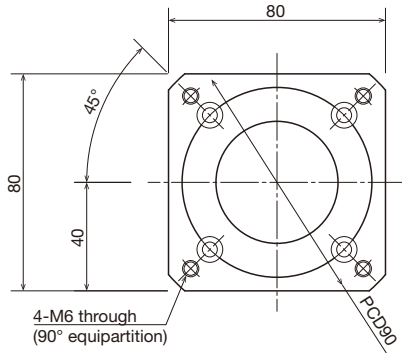
KSF 10U

Technical Materials

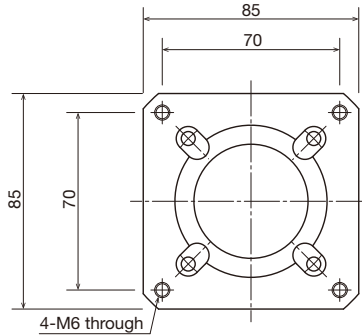
For KSF10

Intermediate flange

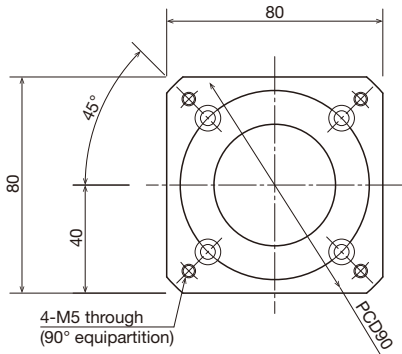
KSF10
AZ



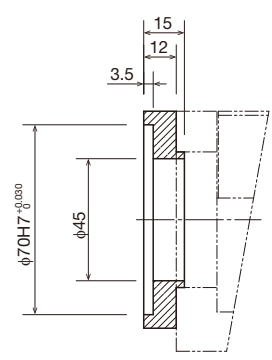
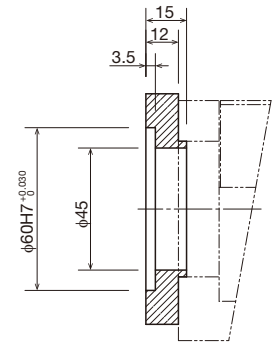
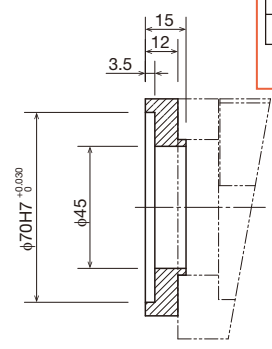
KSF10
A6



KSF10
A5



KSF*	... Actuator model
●	... Housing A
◇	... Intermediate flange

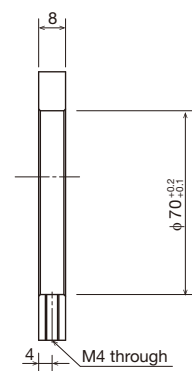
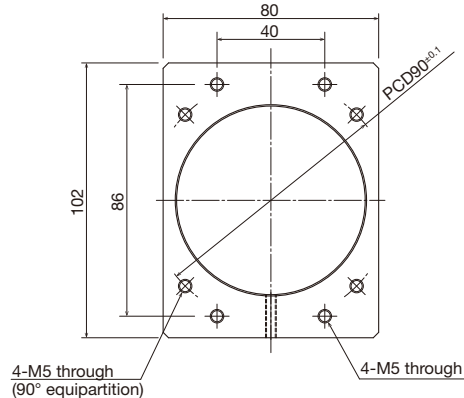


Note) For A0, see the external side view of intermediate flange without motor and the detailed drawing of motor mounting part. (→P.30)

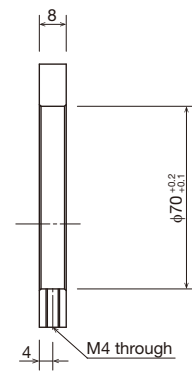
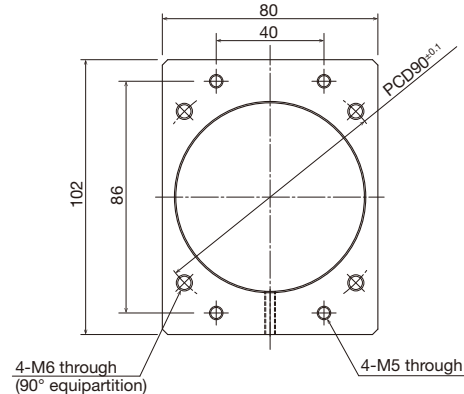
For KSF10R

Motor mounting plate

KSF10R
W5



KSF10R
WZ



Motor Selection

See the table below to select a motor to be installed to KSF. For details on how to select a motor and motor specifications, contact the manufacturer.

Model Configuration

Actuator		Ball screw				
Model	Stroke [mm]	Lead [mm]	Shaft diameter [mm]	Shaft length [mm]	Shaft end diameter [mm]	
KSF4	50	10	φ10	257	φ6h7	
	900			1107		
	50	16		257		φ6h7
	900			1107		
KSF5	50	10	φ13	274	φ8h7	
	900			1124		
	50	20		274		φ8h7
	900			1124		
KSF6	50	20	φ15	328	φ9h7	
	1300			1578		
	50	30		328		φ9h7
	1300			1578		
KSF8	100	20	φ20	446	φ12h7	
	1500			1846		
	100	40		446		φ12h7
	1500			1846		
KSF10	100	25	φ25	485	φ15h7	
	1500			1885		
	100	50		485		φ15h7
	1500			1885		

Weight of moving element

Model	Weight of moving element*[kg]		
	Fully enclosed	Open Cover	Top cover
KSF4	0.4	0.3	-
KSF5	0.5	0.4	0.5 (0.6)
KSF6	1.0	0.8	1.0 (1.4)
KSF8	2.1	1.9	2.4 (3.5)
KSF10	4.0	3.3	6.2

* () shows the value when option "F" is selected.

Permissible input torque

Model	Permissible input torque [N·m]	
	Direct motor coupling	Motor wrap
KSF4	1.2	1.1
KSF5	1.8	1.1
KSF6	3.1	2.2
KSF8	7.1	4.5
KSF10	15.5	8.4

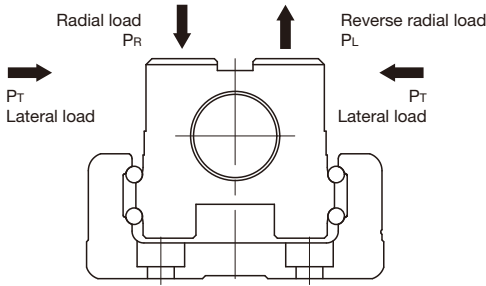
Recommended Coupling

Recommended coupling (flat spring type)		
Model	Type	Inertial moment [kg·cm ²]
KSF4	SFC-020DA2 (Miki Pulley Co., LTD.)	0.034
	XBW-25C2 (Nabeya Bi-tech Kaisha)	0.023
KSF5	SFC-020DA2 (Miki Pulley Co., LTD.)	0.034
	XBW-25C2 (Nabeya Bi-tech Kaisha)	0.023
KSF6	SFC-030DA2 (Miki Pulley Co., LTD.)	0.094
	XBW-34C3 (Nabeya Bi-tech Kaisha)	0.090
KSF8	SFC-030DA2 (Miki Pulley Co., LTD.)	0.116
	XBW-34C3 (Nabeya Bi-tech Kaisha)	0.090
KSF10	SFC-040DA2 (Miki Pulley Co., LTD.)	0.430
	XBW-44C2 (Nabeya Bi-tech Kaisha)	0.350

Timing Pulley

Timing Pulley (2 pieces total)	
Actuator model	Inertial moment [kg·cm ²]
KSF4R	0.028
KSF5R	0.028
KSF6R	0.398
KSF8R	0.497
KSF10R	2.061

Load Ratings in All Directions and Static Permissible Moment



Equivalent Load (LM Guide Unit)

The equivalent load when the LM Guide unit of model KSF simultaneously receives loads in all directions is obtained from the following equation.

$$P_E = P_R(P_L) + P_T$$

- P_E** : Equivalent load [N]
 · Radial direction
 · Reverse radial direction
 · Lateral directions
- P_R** : Radial load [N]
P_L : Reverse radial load [N]
P_T : Lateral load [N]

- KSF4
- KSF5
- KSF6
- KSF8
- KSF10
- KSF 5T
- KSF 6T
- KSF 8T
- KSF 10T
- KSF 4U
- KSF 5U
- KSF 6U
- KSF 8U
- KSF 10U

● LM Guide Unit

Model KSF is capable of receiving loads in four directions (radial, reverse radial and lateral directions). Its basic load ratings are equal in all four directions (radial, reverse radial and lateral directions), and their values are indicated in Table: KSF Rated Loads.

● Ball Screw Unit

Since the inner block is incorporated with a ball screw nut, model KSF is capable of receiving an axial load. The basic load rating value is indicated in Table: KSF Rated Loads.

● Bearing Unit (Fixed Side)

Since housing A contains an angular bearing, model KSF is capable of receiving an axial load. The basic load rating value is indicated in Table: KSF Rated Loads.

Table: KSF Rated Loads

Item		Model	KSF4		KSF5		KSF6		KSF8		KSF10	
			KSF4-10	KSF4-16	KSF5-10	KSF5-20	KSF6-20	KSF6-30	KSF8-20	KSF8-40	KSF10-25	KSF10-50
LM guide Unit	Basic dynamic load rating C [N]		6,400		10,200		17,400		32,400		58,500	
	Basic static load rating C ₀ [N]		12,900		17,900		33,000		63,500		103,700	
Ball screw Unit	Basic dynamic load rating C _a [N]		2,860	1,850	3,350	2,150	3,400	3,230	4,030	3,750	6,650	4,150
	Basic static load rating C _{0a} [N]		5,110	3,420	6,600	4,470	8,070	6,570	10,540	8,870	21,050	11,170
	Screw shaft diameter [mm]		φ10		φ13		φ15		φ20		φ25	
	Ball screw lead [mm]		10	16	10	20	20	40	20	40	25	50
Bearing Unit (Fixed side)	Axial direction	Basic dynamic load rating C _a [N]	2,930		6,100		6,650		7,600		13,700	
		Static permissible load P _{0a} [N]	2,140		3,100		3,250		4,000		5,830	

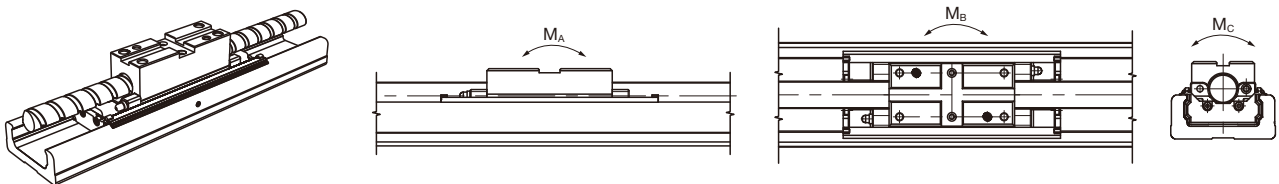


Table: Static Permissible Moment

Units: N·m

Model	Static Permissible Moment*			Model	Static Permissible Moment*		
	M _A	M _B	M _C		M _A	M _B	M _C
KSF4	103	103	58	KSF6U	355	203	152
KSF4U	103	95	58	KSF8	730	437	387
KSF5	147	147	149	KSF8T	324 (730)	253 (425)	265 (503)
KSF5T	103 (147)	61 (137)	80 (149)	KSF8U	730	414	277
KSF5U	147	107	89	KSF10	1,049	712	671
KSF6	330	216	188	KSF10T	1,259	949	787
KSF6T	150 (266)	124 (252)	139 (253)	KSF10U	1,259	775	504

* () shows the value for sub-table iron specifications.

Service Life

KSF is comprised of an LM guide, ball screw and retention bearing. The service life of each component can be obtained using the basic dynamic load rating indicated in P.154 Table: KSF Rated Loads.

LM Guide Unit

[Nominal Life]

$$L = \left(\frac{f_c \cdot C}{f_w \cdot P_c} \right)^3 \times 50$$

L : Nominal Life [km]

(this is the distance 90% of a group of the same LM guides can travel when operated individually under the same conditions)

C : Basic dynamic load rating [N]

P_c : Calculated applied load [N]

f_w : Load factor ("Table: Load factor (f_w)" serves as a reference)

f_c : Contact factor ("Table: Contact factor (f_c)" serves as a reference)

- If a moment is applied, calculate the equivalent load by multiplying the applied moment by the equivalent factor indicated in "Table: Moment Equivalent Factors (K)".

$$P_m = K \cdot M$$

P_m : Equivalent load (per 1 block) [N]

K : Equivalent moment factor ("Table: Moment Equivalent Factors (K)" serves as a reference)

M : Applied moment [N·mm]

(If planning to use the product with a wide inner block span, contact THK.)

- If a radial load (P) and a moment are simultaneously applied to model KSF

$$P_E = P_m + P$$

P_E : Overall equivalent radial load [N]

Perform a nominal life calculation using the above data.

[Service Life Time]

When the nominal life (L) has been obtained, the service life time is obtained using the following equation (if the stroke length and the number of reciprocations per minute are constant).

$$L_h = \frac{L \times 10^6}{2 \cdot \ell_s \cdot n_1 \times 60}$$

L_h : Service life time [h]

ℓ_s : Stroke length [mm]

n_1 : Number of reciprocations per minute [min^{-1}]

Ball Screw Unit/Bearing Unit(Fixed Side)

[Nominal Life]

$$L = \left(\frac{C_a}{f_w \cdot F_a} \right)^3 \times 10^6$$

L : Nominal Life [rev]

(The nominal life (L) means the total travel distance that 90% of a group of units of the same Ball Screw (bearing) can achieve without flaking after individually running under the same conditions.)

C_a : Basic dynamic load rating [N]

F_a : Axial load [N]

f_w : Load factor ("Table: Load factor (f_w)" serves as a reference)

[Service Life Time]

When the nominal life (L) has been obtained, the service life time is obtained using the following equation (if the stroke length and the number of reciprocations per minute are constant).

$$L_h = \frac{L \cdot \ell}{2 \cdot \ell_s \cdot n_1 \times 60}$$

L_h : Service Life Time [h]

ℓ_s : Stroke length [mm]

n_1 : Number of reciprocations per minute [min^{-1}]

ℓ : Ball screw lead [mm]

[f_w : Load Factor]

In general, machines in reciprocal motion are likely to cause vibration and impact during operation, and it is particularly difficult to accurately determine each of vibration generated during high-speed operation, impact applied during repeated starting and stopping in normal use, etc. Therefore, where the effect of speed vibration is estimated to be significant, divide the basic load rating (C) by an empirically obtained load factor.

[K: Moment Equivalent Factor (LM Guide Unit)]

When model KSF travels under a moment, the distribution of load applied to the LM Guide is locally large. In such cases, calculate the load by multiplying the moment value by the corresponding moment equivalent factor indicated in Table.

Symbols K_A , K_B and K_C indicate the moment equivalent loads in the M_A , M_B and M_C directions, respectively.

Table: Load Factor (f_w)

Vibration / Impact	Velocity (V)	f_w
Tiny	For tiny speeds $V \leq 0.25$ m/s	1 to 1.2
Weak	For low speeds 0.25 m/s $< V \leq 1$ m/s	1.2 to 1.5
Medium	For medium speeds 1 m/s $< V \leq 2$ m/s	1.5 to 2
Strong	For high speeds $V > 2$ m/s	2 to 3.5

Table: Equivalent Moment Factors (K)

Model	K_A	K_B	K_C
KSF4	1.37×10^{-1}	1.37×10^{-1}	7.9×10^{-2}
KSF5	1.34×10^{-1}	1.34×10^{-1}	6.0×10^{-2}
KSF6	1.03×10^{-1}	1.03×10^{-1}	4.9×10^{-2}
KSF8	6.7×10^{-2}	6.7×10^{-2}	3.6×10^{-2}
KSF10	5.7×10^{-2}	5.7×10^{-2}	2.9×10^{-2}

K_A : Moment equivalent factor in the M_A direction.

K_B : Moment equivalent factor in the M_B direction.

K_C : Moment equivalent factor in the M_C direction.



Precautions on Use

● Operation

- Do not unnecessarily disassemble the actuator or control devices. Doing so may allow foreign objects to enter or reduce functionality.
- Do not drop or knock the actuator or control devices. Doing so may cause injury or damage the unit. If the product is dropped or impacted, functionality may be reduced even if there is no surface damage.
- If the product will be used in location exposed to vibrations or in special environment such as vacuum/clean-room, and/or high/low temperatures, contact THK.
- Tilting the table or the outer rail may cause them to fall by their own weight.

● Environment

Wrong environment can cause failures of the actuator and control devices. The best place to use the product is as follows:

- Actuator: A place with an ambient temperature from 0 to 40°C and humidity of 80% RH or lower that will not expose the product to freezing or condensation.
- Controller: A place with an ambient temperature from 0 to 40°C and humidity of no more than 90% RH that will not expose the product to freezing or condensation.
- A place free from corrosive gas and flammable gas.
- A place free from electrically conductive powder (such as iron powder), dust, oil mist, moisture, salt, and organic solvent.
- A place free from direct sunlight and radiant heat.
- A place free from strong electric and magnetic fields.
- A place where vibration or impact is not transmitted to the unit.
- A place that is easily accessible for service and cleaning purposes.

● Safety Precautions

- When the actuator is in motion or about to be in motion, do not touch any moving parts. Do not go near the actuator when it is in motion.
- Before performing installation, adjustment, checking, or services regarding the actuator and the connected peripherals, ensure that all power is disconnected. In addition, take countermeasures to prevent anyone other than the operator from turning on the power.
- If two or more people are involved in the operation, confirm the procedures such as sequences, signs, and abnormalities in advance, and appoint another person for monitoring the operation.
- Before operation, please read thoroughly and obey "Manipulating industrial robots - Safety" (JIS B8433) and "Ordinance on Industrial Safety and Health" (Ministry of Health, Labor and Welfare).
- Operation of the actuator over the torque limit value leads to damage of parts or injury. Please keep the parameter torque limit settings within the allowable torque.
- Although a stopper is installed inside the product, it is intended to limit the stroke and therefore may be damaged in case of a hard collision.

● Lubrication

- Thoroughly wipe-off the anti-rust oil before using the product.
- In order to effectively use the KSF, lubrication is required. Insufficient lubrication may increase abrasion on moving parts and shorten service life.
- Do not use a mix of lubricants with different physical properties.
- Please contact THK if using special lubricants.
- When adopting oil lubrication method, contact THK.
- The greasing interval may vary depending on the usage conditions, so THK recommends determining a greasing interval during the initial inspection.


● Storage

- When storing the actuator, enclose it in a package designated by THK and store it in a horizontal position away from abnormally high or low temperatures and high humidity.
- When storing the control devices, avoid abnormally high or low temperatures and high humidity.



ACTUATOR
UNITS

Compact Series KSF

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