THK

ELECTRIC ACTUATORS

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

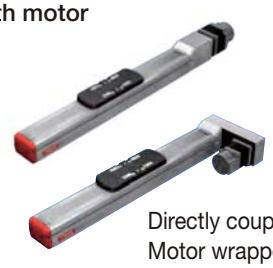
CATALOG No.385-7E

# Lineup

## Compact Series KSF

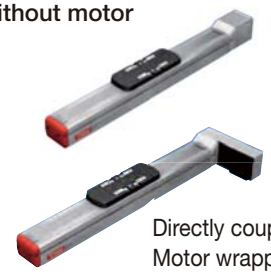
### Fully Enclosed Type

With motor



Directly coupled: From P.15
Motor wrapped: From P.17

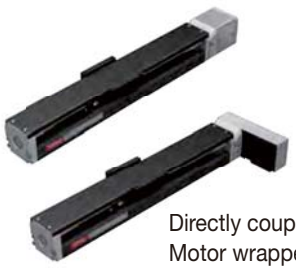
Without motor



Directly coupled: From P.71
Motor wrapped: From P.73

### Top Cover Type

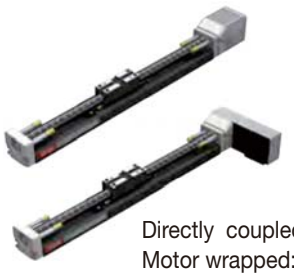
Directly coupled: From P.35
Motor wrapped: From P.37



Directly coupled: From P.91
Motor wrapped: From P.93

### Open Cover Type

Directly coupled: From P.51
Motor wrapped: From P.53



Directly coupled: From P.107
Motor wrapped: From P.109

## Controller series

### THC

P140

### TNU/TJU

P151

# Contents


**Features** ..... 3
**Product Lineup** ..... 9
**Model Configuration** .....11

### Specifications / Dimensions
### Fully Enclosed Type / THC Specifications
- KSF4 ..... 15
- KSF4R ..... 17
- KSF5 ..... 19
- KSF5R ..... 21
- KSF6 ..... 23
- KSF6R ..... 25
- KSF8 ..... 27
- KSF8R ..... 29
- KSF10 ..... 31
- KSF10R ..... 33

### Top Cover Type / THC Specifications
- KSF5T ..... 35
- KSF5RT ..... 37
- KSF6T ..... 39
- KSF6RT ..... 41
- KSF8T ..... 43
- KSF8RT ..... 45
- KSF10T ..... 47
- KSF10RT ..... 49

### Open Cover Type / THC Specifications
- KSF4U ..... 51
- KSF4RU ..... 53
- KSF5U ..... 55
- KSF5RU ..... 57
- KSF6U ..... 59
- KSF6RU ..... 61
- KSF8U ..... 63
- KSF8RU ..... 65
- KSF10U ..... 67
- KSF10RU ..... 69

### Fully Enclosed Type / Without Motor Specification
- KSF4 (Without Motor) ..... 71
- KSF4R (Without Motor) ..... 73
- KSF5 (Without Motor) ..... 75
- KSF5R (Without Motor) ..... 77
- KSF6 (Without Motor) ..... 79
- KSF6R (Without Motor) ..... 81
- KSF8 (Without Motor) ..... 83
- KSF8R (Without Motor) ..... 85
- KSF10 (Without Motor) ..... 87
- KSF10R (Without Motor) ..... 89

### Top Cover Type / Without Motor Specification
- KSF5T (Without Motor) ..... 91
- KSF5RT (Without Motor) ..... 93
- KSF6T (Without Motor) ..... 95
- KSF6RT (Without Motor) ..... 97
- KSF8T (Without Motor) ..... 99
- KSF8RT (Without Motor) ..... 101
- KSF10T (Without Motor) ..... 103
- KSF10RT (Without Motor) ..... 105

### Open Cover Type / Without Motor Specification
- KSF4U (Without Motor) ..... 107
- KSF4RU (Without Motor) ..... 109
- KSF5U (Without Motor) ..... 111
- KSF5RU (Without Motor) ..... 113
- KSF6U (Without Motor) ..... 115
- KSF6RU (Without Motor) ..... 117
- KSF8U (Without Motor) ..... 119
- KSF8RU (Without Motor) ..... 121
- KSF10U (Without Motor) ..... 123
- KSF10RU (Without Motor) ..... 125

### Option
- Back tap ..... 127
- Sensors ..... 128
- Change the cover color to gray ..... 131

Intermediate flange ..... 131
Motor mounting plate for motor wrap option ..... 133

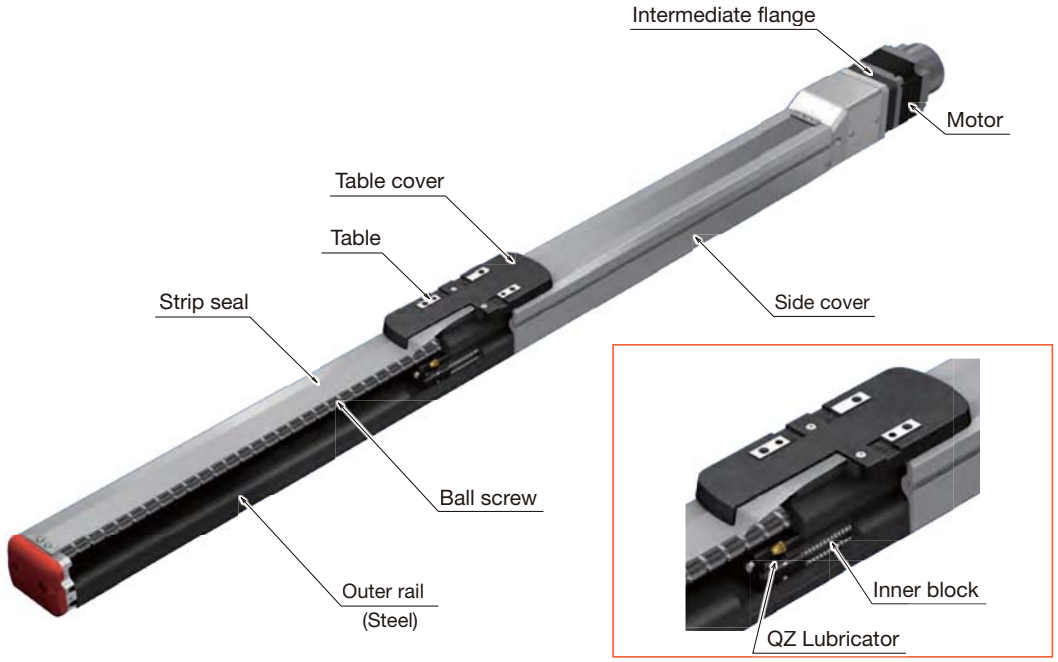
### Controller
- THC ..... 140
- Option ..... 145
- TNU/TJU ..... 151

**KSF technical materials** ..... **153**

## Compact series

# KSF

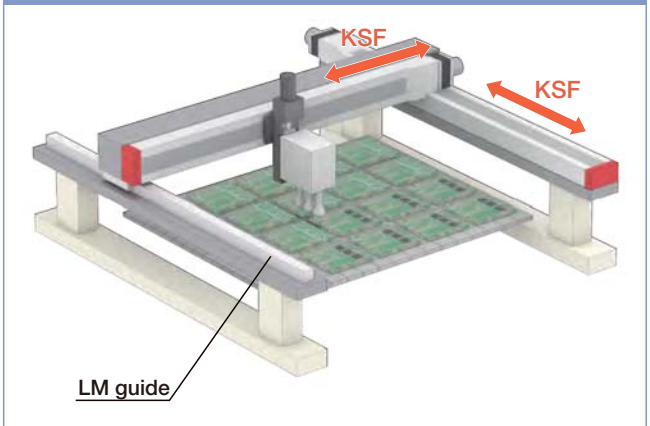
# The adoption of a large diameter ball screw enables both long service life as well as improved process time via high-speed and high-acceleration/deceleration




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

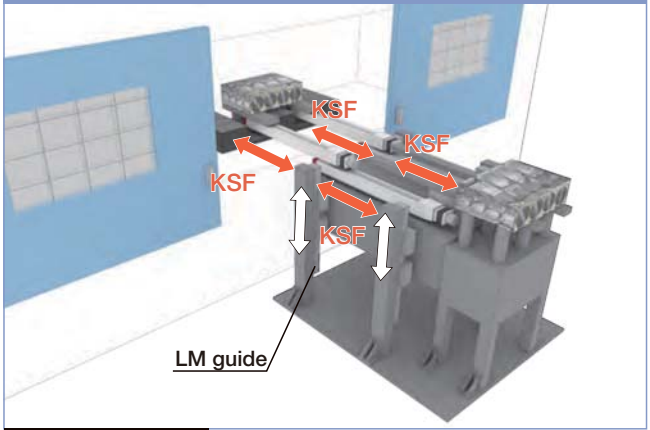
### Board Mounting Device — Processing / Assembly




| 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



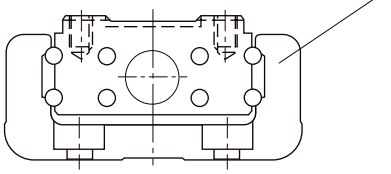

| Model Number Used | |
|---|---|
| KSF | LM guide |

2 stacked KSF units are used for the changer. This makes for more compact and rigid units than conventional multi-jointed robots.

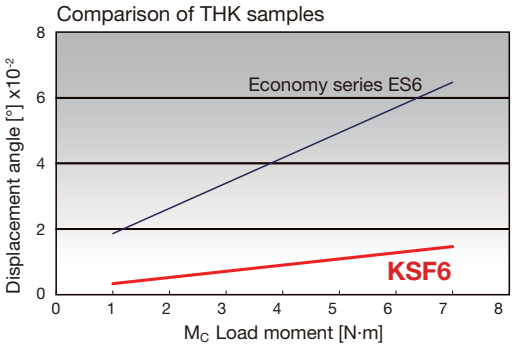
## Features and Lineup of the Compact Series

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

**KR/SKR** Steel outer rail of U-shaped cross-sectional shape



**4-way equal loads, high rigidity**




**SKR**

High Speed
Long service life
Caged

**KSF** NEW

High speed & high acceleration/ deceleration
Long stroke

**KR**

Basic Model of Compact Series
Versatile size options
Consistent seller

**KRF**

Fully enclosed
High speed

## 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.

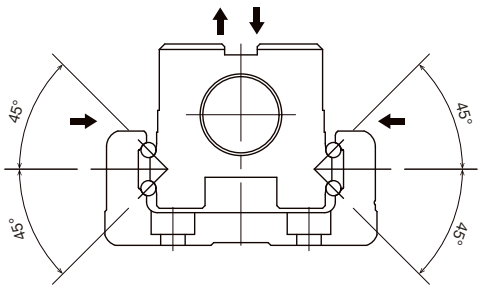



Figure: Load Capacity and Contact Angle of Model KSF

## 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.

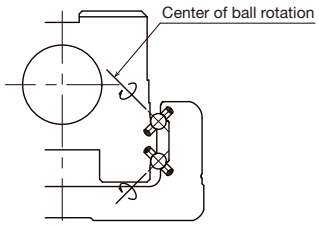



Figure: Contact Structure of KSF

## 3 High Rigidity

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

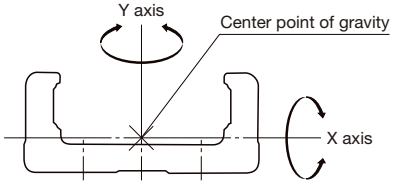



Figure: Cross Section of the Outer Rail

Table: Cross-sectional Characteristics of the Outer rail

| Model | $I_X$[mm$^4$] | $I_Y$[mm$^4$] | Weight [kg/m] |
|---|---|---|---|
| KSF4 | 6.1 x 10$^3$ | 6.2 x 10$^4$ | 2.6 |
| KSF5 | 1.7 x 10$^4$ | 1.5 x 10$^5$ | 3.9 |
| KSF6 | 2.7 x 10$^4$ | 2.8 x 10$^5$ | 5.0 |
| KSF8 | 8.4 x 10$^4$ | 8.9 x 10$^5$ | 9.0 |
| KSF10 | 2.2 x 10$^5$ | 2.3 x 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.

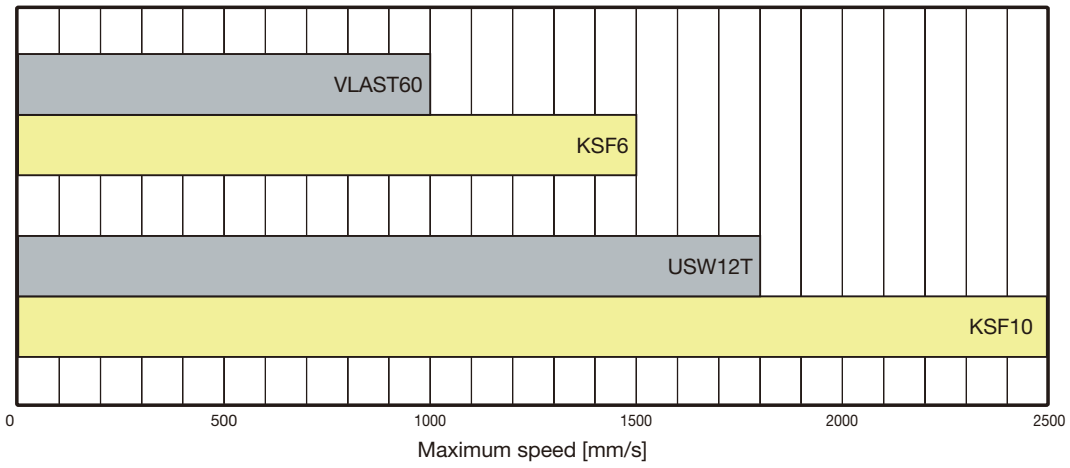
| Model | Motor rated output (W) | Model | Motor rated output (W) | Model | Motor rated output (W) | Model | Motor rated output (W) |
|---|---|---|---|---|---|---|---|
| **KSF4, KSF5** | **100** | **KSF6** | **200** | **KSF8** | **400** | **KSF10** | **750** |
| VLAST45 | 30 | VLAST60 | 100 | US8T |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

# 2 High speed & high acceleration/deceleration

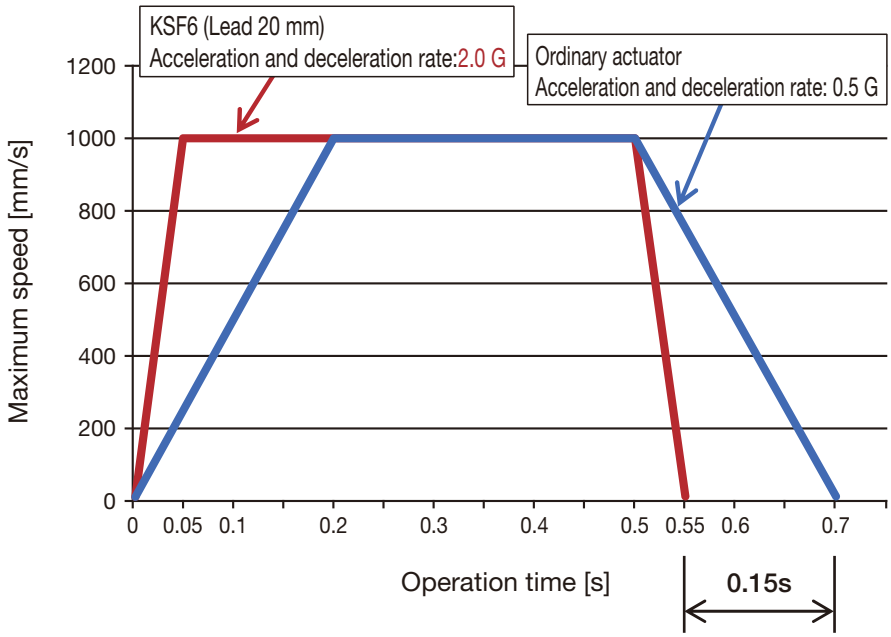
**Maximum speed 2,500 mm/s Maximum acceleration/deceleration 2 G**

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**

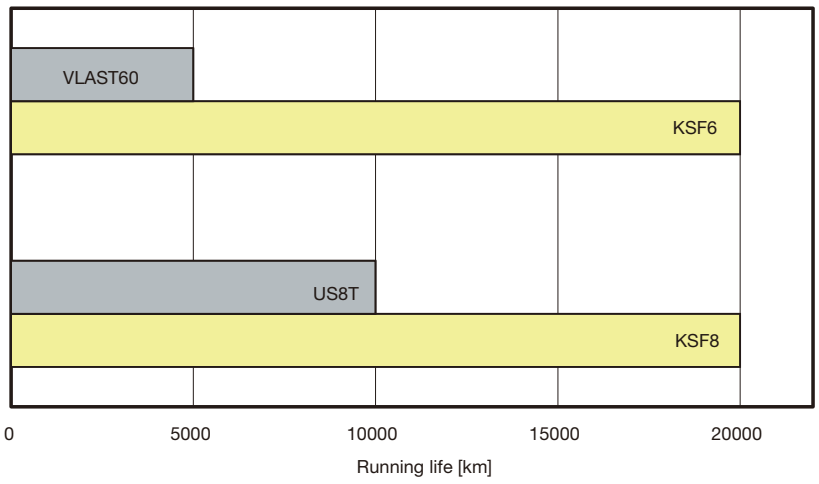



Process time reduced by 0.3 seconds per cycle (500 mm stroke)
Process time reduced by 30 seconds per 100 cycles, for roughly 20% increase in productivity

# 3 Long service life 20,000 km

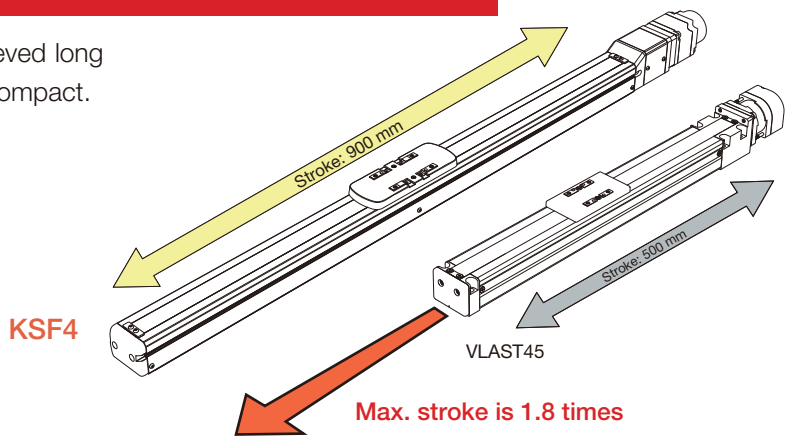
The long life of 20,000 km running life (10,000 km running life for KSF4 and KSF5 lead 10 mm) was made possible at the maximum load capacity by increasing the basic dynamic load rating of the LM guide unit and the ball screw unit.

Running life comparison between KSF and other THK products

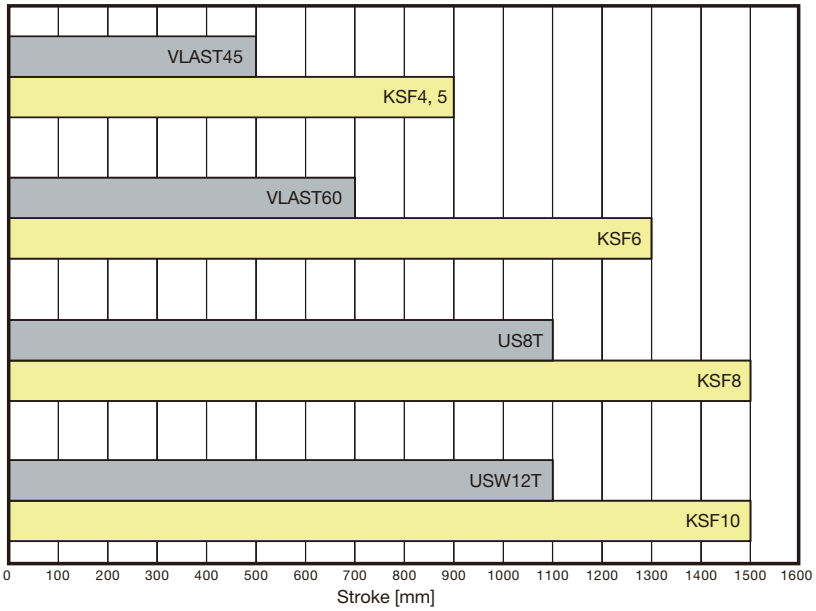



# 4 Long stroke Maximum stroke 1,500 mm

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

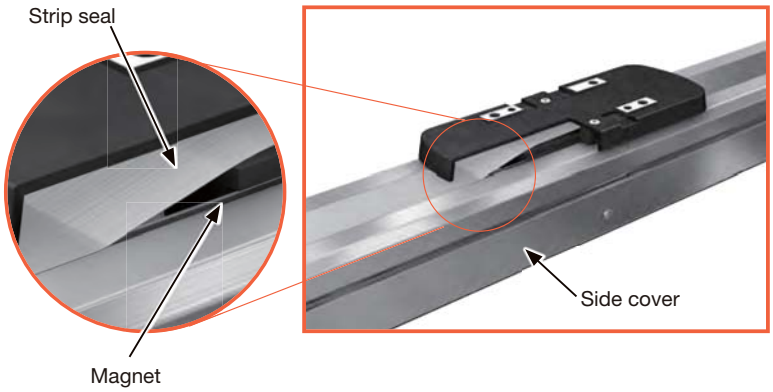
Lubricator QZ, which supplies the right amount of lubricant, adopted as the standard feature allows for long-term maintenance-free operations.

# 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

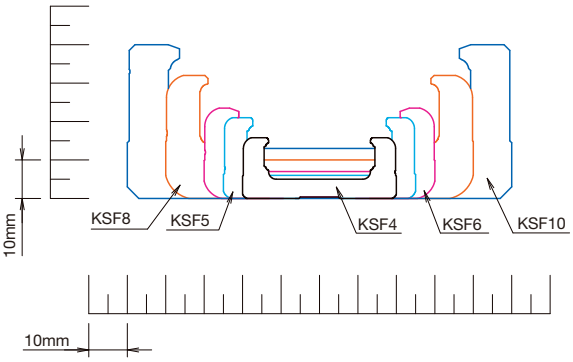
The magnet built in the side cover attracts the strip seal and prevents it from lifting, reducing the development of clearance.



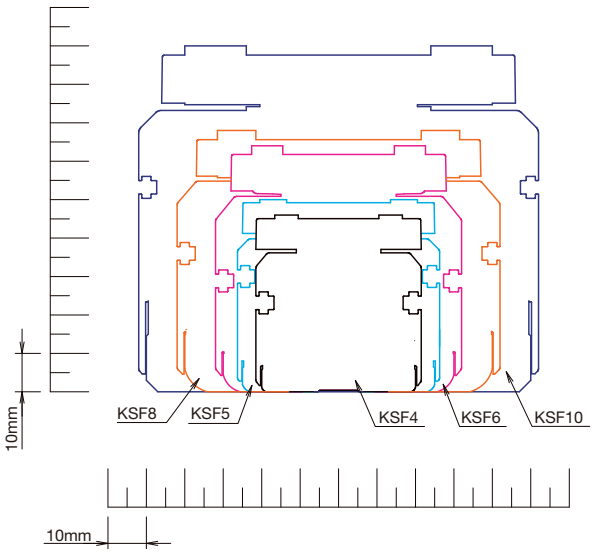

# 7 Versatile lineup

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

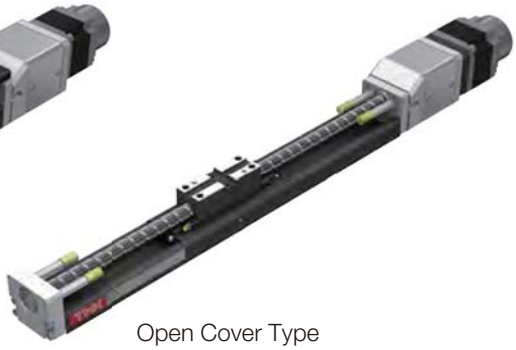



Comparison of fully enclosed cross-sections

• Shapes Lineup

Fully Enclosed Type

Top Cover Type



Open Cover Type

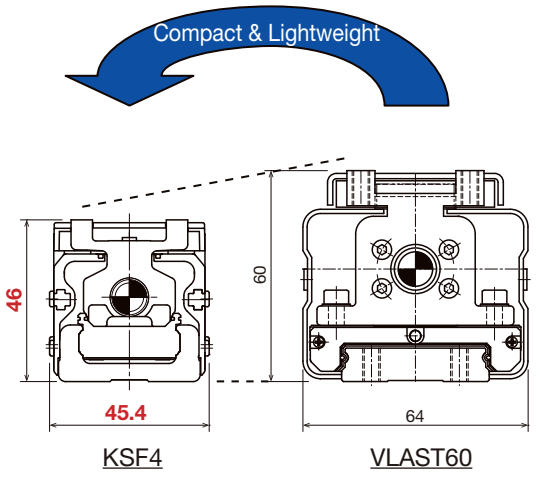
# 8 Compact & Lightweight

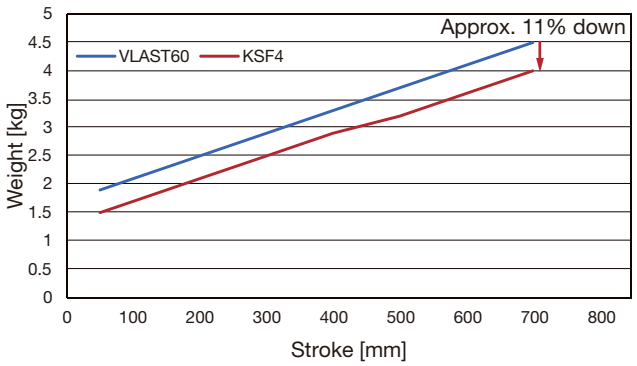
**Sectional dimensions 67% down, weight 37% down**

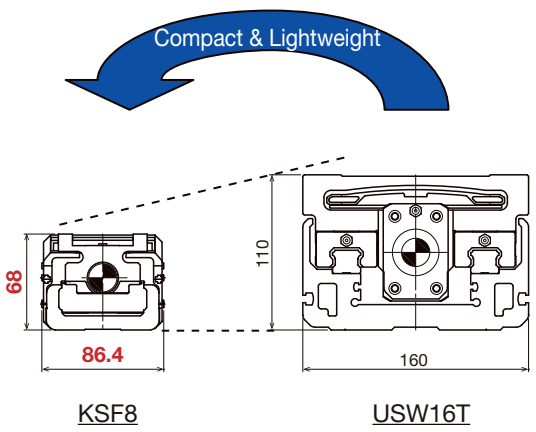
When compared with other THK actuators using motors of the same rated output, KSF4 is approximately 45% more compact and 11% lighter in weight than VLAST60 models, while KSF8 is approximately 67% more compact and 37% lighter in weight than USW16T models.

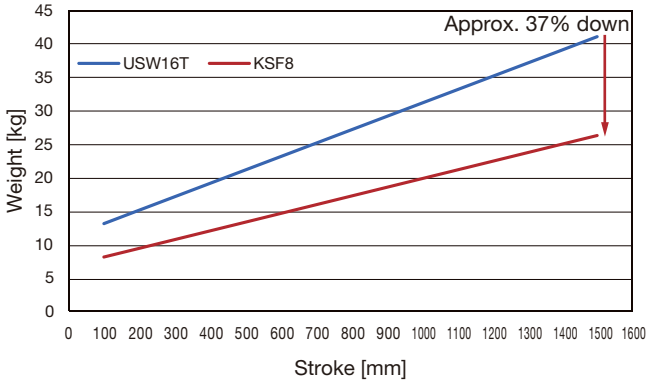
*KSF4: When the stroke is 700 mm

*KSF8: When the stroke is 1,500 mm



## Product Lineup

Fully Enclosed Type - Directly coupled
KSF4 to 10

Fully Enclosed Type - Motor wrapped
KSF4R to 10R

Top Cover Type - Directly coupled
KSF5T to 10T

| Model | Ball screw lead [mm] | Stroke [mm] | Motor rated output [W] | Acceleration and deceleration rate [G] | Maximum load capacity*1[kg] | |
|---|---|---|---|---|---|---|
| | | | | | Horizontal/ Wall mount | Vertical mount |
| KSF4<br>KSF4U | 10 | 50 to 900 | 100 | 0.5 | 12 | 8 |
| | | | | 1.0 | 8 | 6 |
| | 16 | | | 1.0 | 8 | 6 |
| | | | | 2.0 | 6 | 4 |
| KSF5<br>KSF5T<br>KSF5U | 10 | 50 to 900 | 100 | 0.5 | 20 | 13 |
| | | | | 1.0 | 15 | 8 |
| | 20 | | | 1.0 | 7 | 6 |
| | | | | 2.0 | 5 | 3 |
| KSF6<br>KSF6T<br>KSF6U | 20 | 50 to 1300 | 200 | 1.0 | 22 | 10 |
| | | | | 2.0 | 5 | 3 |
| | 30 | | | 1.0 | 14 | 6 |
| | | | | 2.0 | 6 | 4 |
| KSF8<br>KSF8T<br>KSF8U | 20 | 100 to 1500 | 400 | 1.0 | 43 | 20 |
| | | | | 2.0 | 6 | 3 |
| | 40 | | | 1.0 | 16 | 8 |
| | | | | 2.0 | 7 | 5 |
| KSF10<br>KSF10T<br>KSF10U | 25 | 100 to 1500 | 750 | 1.0 | 60 (58) | 25 (23) |
| | | | | 1.5 | 26 | 13 |
| | 50 | | | 1.0 | 17 (15) | 9 (7) |
| | | | | 1.5 | 8 | 5 |
| KSF4R<br>KSF4RU | 10 | 50 to 900 | 100 | 0.5 | 12 | 8 |
| | | | | 1.0 | 8 | 6 |
| | 16 | | | 1.0 | 8 | 6 |
| | | | | 2.0 | 6 | 4 |
| KSF5R<br>KSF5RT<br>KSF5RU | 10 | 50 to 900 | 100 | 0.5 | 20 | 11 |
| | | | | 1.0 | 15 | 8 |
| | 20 | | | 1.0 | 7 | 5 |
| | | | | 2.0 | 4 | 2.5 |
| KSF6R<br>KSF6RT<br>KSF6RU | 20 | 50 to 1300 | 200 | 1.0 | 19 | 9 |
| | | | | 2.0 | 4 | 2.5 |
| | 30 | | | 1.0 | 11 | 5 |
| | | | | 2.0 | 4 | 2.5 |
| KSF8R<br>KSF8RT<br>KSF8RU | 20 | 100 to 1500 | 400 | 1.0 | 41 | 20 |
| | | | | 2.0 | 6 | 3 |
| | 40 | | | 1.0 | 16 | 8 |
| | | | | 2.0 | 7 | 5 |
| KSF10R<br>KSF10RT<br>KSF10RU | 25 | 100 to 1500 | 750 | 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 - Motor wrapped
KSF5RT to 10RT

Open Cover Type - Directly coupled
KSF4U to 10U

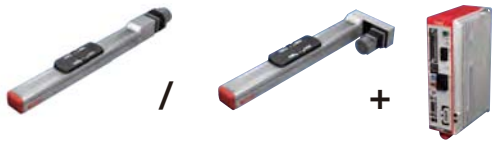
Open Cover Type - Motor wrapped
KSF4RU to 10RU

| 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 (THC Specifications)

**When combining with dedicated driver controller**



| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF4 - | 10 - | 0050 - | TH - | GR-6 / | M10 | L | S02 | D1 | H3 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| KSF4 | 10: 10 mm | 0050: 50 mm | TH: THC | No symbol : None | M10: 100 W | R : Right | D00: Motor side | D1: 100V | No symbol: None |
| KSF5 | 16: 16 mm | to | | MR: Motor right wrap* | M20: 200 W | L : Left | R00 : Reverse motor side | D2: 200V | F3 : Standard 3 m |
| KSF6 | 20: 20 mm | 1500: 1500 mm | | ML: Motor left wrap* | M40: 400 W | U : Up | S02 : Motor side (sensor right) | | F5 : Standard 5 m |
| KSF8 | 25: 25 mm | | | MD: Motor down wrap* | M75: 750W | D : Down | S03 : Reverse motor side (sensor right) | | FA : Standard 10 m |
| KSF10 | 30: 30 mm | | | T: Back tap | M10B: 100W with brake | | S20 : Motor side (sensor left) | | H3 : High flex 3 m |
| KSF4R | 40: 40 mm | | | GR: Change the cover color to gray | M20B: 200W with brake | | S30 : Reverse motor side (sensor left) | | H5 : High flex 5 m |
| KSF5R | 50: 50 mm | | | : Sensors | M40B: 400W with brake | | | | HA: High flex 10 m |
| KSF6R | | | | | M75B: 750W with brake | | | | |
| KSF8R | | | | | | | | | |
| KSF10R | | | | | | | | | |

R represents motor wrap.

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”

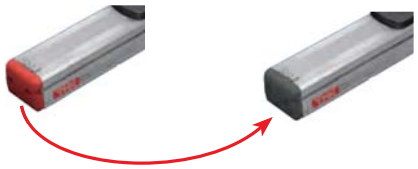
Stroke and stroke pitch differ depending on models.
KSF4: 50 to 900 mm (in 50mm pitch increments)
KSF5: 50 to 900 mm (in 50mm pitch increments)
KSF6: 50 to 1300 mm (in 50mm pitch increments)
KSF8: 100 to 1500 mm (in 100mm pitch increments)
KSF10: 100 to 1500 mm (in 100mm pitch increments)

Separate order for the control device is required.

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



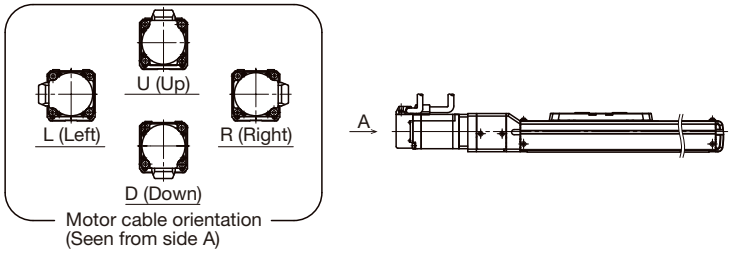
If you select “MR” as an option, “R” cannot be selected.
If you select “ML” as an option, “L” cannot be selected.
If you select “MD” as an option, “U” cannot be selected.

D00 and R00 are mechanical home seeking.
When motor wrap is selected, sensors cannot be mounted on the same side as the motor wrap direction.

Motors you can select differ depending on models.
KSF4: “M10”, “M10B”
KSF5: “M10”, “M10B”
KSF6: “M20”, “M20B”
KSF8: “M40”, “M40B”
KSF10: “M75”, “M75B”

Indicates the type and length of attached cables.

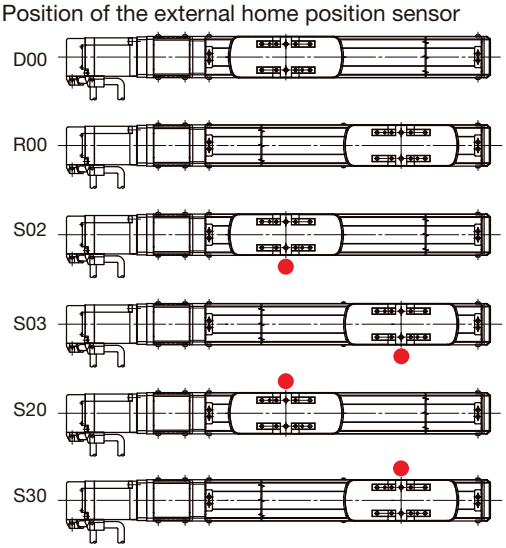
### (7) Motor cable orientation (directly coupled)



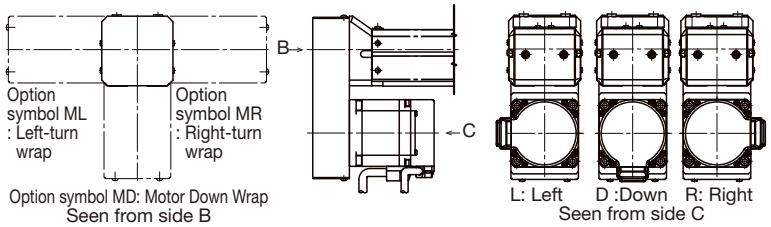

Motor cable orientation (Seen from side A)

### (8) Home position

●: Position of the external home position sensor




### (5) Motor wrap direction (7) Cable orientation (motor wrapped)




Option symbol MD: Motor Down Wrap
Seen from side B

Seen from side C

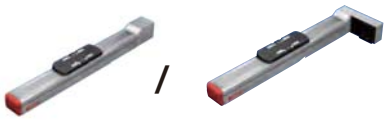
### Pages for detailed description

| | |
|---|---|
| (5) Option | T: Back taps → P.127 |
| | Sensors → P.128 |
| | GR: Change the cover color to gray → P.131 |

# 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 - | 10 - | 0050 - | 0 - | WQ - | 08 - | K - | ML-GR |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |

**(1) Model**

KSF4, KSF5, KSF6, KSF8, KSF10, KSF4R, KSF5R, KSF6R, KSF8R, KSF10R

R represents motor wrap.

**(2) Ball screw lead**

10: 10 mm, 20: 20 mm, 25: 25 mm, 30: 30 mm, 40: 40 mm, 50: 50 mm

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”

**(3) Stroke**

0050: 50 mm to 1500: 1500 mm

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)

**(4) With/without motor**

0: Without motor
1: With motor

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

*Specify the motor cable orientation separately.

**(5) Intermediate flange/ motor mounting plate**

A0, AQ, AP, AR, AV, AY, AU, AZ, A5, A6, WQ, WP, WV, WY, WZ, W5

**(6) Motor shaft diameter**

No symbol: Select when directly coupled
08: 8 mm
11: 11 mm
14: 14 mm
16: 16 mm
19: 19 mm

**(7) Motor shaft fixing method**

No symbol: Select when directly coupled
D: D-cut
K: Key
M: Friction tightening

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”

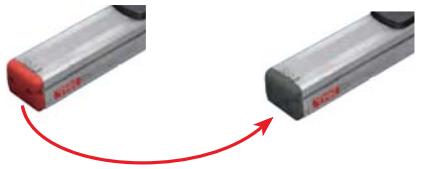
**(8) Option**

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

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.131 |
| (8) Options | T: Back taps → P.127 |
| | Sensors → P.128 |
| | GR: Change the cover color to gray → P.131 |

# Model Configuration

## KSF-T/U (THC Specifications)

**When combining with dedicated driver controller**

| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF4U - | 16 | - 0050 | - TH | - T-6 | / M10 | L | S02 | D1 | H3 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| KSF5T<br>KSF6T<br>KSF8T<br>KSF10T<br>KSF5RT<br>KSF6RT<br>KSF8RT<br>KSF10RT<br>KSF4U<br>KSF5U<br>KSF6U<br>KSF8U<br>KSF10U<br>KSF4RU<br>KSF5RU<br>KSF6RU<br>KSF8RU<br>KSF10RU | 10: 10 mm<br>16: 16 mm<br>20: 20 mm<br>25: 25 mm<br>30: 30 mm<br>40: 40 mm<br>50: 50 mm | 0050: 50 mm<br>to<br>1500: 1500 mm | TH: THC | No symbol: None<br>MR: Motor right wrap*1<br>ML: Motor left wrap*1<br>MD: Motor down wrap*1<br>T: Back tap<br>□: Sensors<br>F: Sub-table iron specification*2 | M10: 100 W<br>M20: 200 W<br>M40: 400 W<br>M75: 750 W<br>M10B: 100 W With brake<br>M20B: 200 W With brake<br>M40B: 400 W With brake<br>M75B: 750 W With brake | R: Right<br>L: Left<br>U: Up<br>D: Down | D00: Motor side (pressing)<br>D01: Motor side (pressing)<br>D10: Motor side (pressing)<br>D11: Motor side (pressing)<br>R00: Reverse motor side (pressing)<br>R01: Reverse motor side (pressing)<br>R10: Reverse motor side (pressing)<br>R11: Reverse motor side (pressing)<br>S02: Motor side (sensor right)<br>S12: Motor side (sensor right)<br>S20: Motor side (sensor left)<br>S21: Motor side (sensor left)<br>S03: Reverse motor side (sensor right)<br>S13: Reverse motor side (sensor right)<br>S30: Reverse motor side (sensor left)<br>S31: Reverse motor side (sensor left) | D1: 100V<br>D2: 200V | No symbol: None<br>F3: Standard 3 m<br>F5: Standard 5 m<br>FA: Standard 10 m<br>H3: High flex 3 m<br>H5: High flex 5 m<br>HA: High flex 10 m |

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

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”

Separate order for the control device is required.

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)

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.

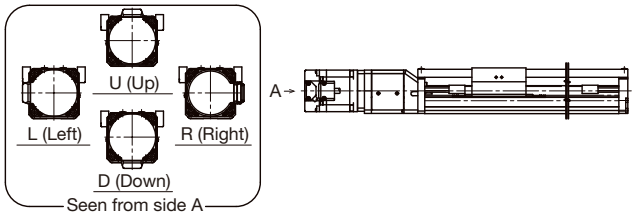
Motors you can select differ depending on models.
KSF4: “M10”, “M10B”
KSF5: “M10”, “M10B”
KSF6: “M20”, “M20B”
KSF8: “M40”, “M40B”
KSF10: “M75”, “M75B”

If you select “MR” as an option, “R” cannot be selected.
If you select “ML” as an option, “L” cannot be selected.
If you select “MD” as an option, “U” cannot be selected.

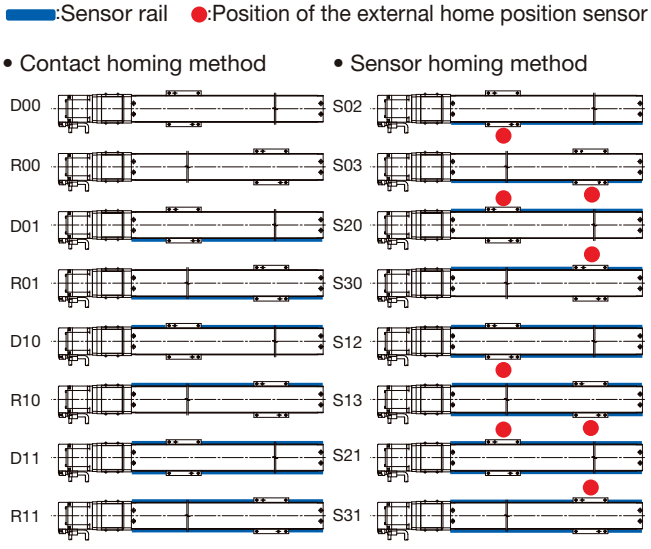
D00 and R00 are mechanical home seeking.
When motor wrap is selected, sensors cannot be mounted on the same side as the motor wrap direction.

Indicates the type and length of attached cables.

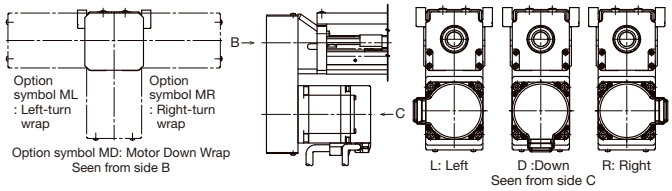
### (7) Motor cable orientation (directly coupled)




### (8) Home position




### (5) Motor wrap direction
### (7) Motor cable orientation (wrap)




### Pages for detailed description

| | |
|---|---|
| (5) Option | T: Back taps → P.127 |
| | Sensors → P.128 |
| | GR: Change the cover color to gray → P.131 |

# 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 | 10 | 0050 | 0 | WQ | 08 | K | ML |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (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 | | □ : 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 | | | | | | | |

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

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”

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)

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

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.

### 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.131 |
| (6) Options | Back taps → P.127 |
| | Sensors → P.128 |

# KSF4 THC Specifications

## Model Configuration

| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable type and length |
|---|---|---|---|---|---|---|---|---|---|
| KSF4 - | 10 - | 0050 - | TH - | GR-6 / | M10 | L | S02 | D1 | F3 |

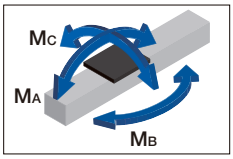
| KSF4 | 10: 10 mm<br>16: 16 mm | 0050: 50 mm<br>to<br>0900: 900 mm | TH: THC | No symbol: None<br>T : Back tap<br>GR : Change the cover color to gray<br>6 : Photo sensor<br>J : Proximity sensor | M10 : 100 W<br>M10B: 100W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00 : Motor side<br>R00 : Reverse motor side<br>S02 : Motor side (sensor right)<br>S03 : Reverse motor side (sensor right)<br>S20 : Motor side (sensor left)<br>S30 : Reverse motor side (sensor left) | D1: 100 V<br>D2: 200 V | No symbol : None<br>F3 : Standard 3 m<br>F5 : Standard 5 m<br>FA : Standard 10 m<br>H3 : High flex 3 m<br>H5 : High flex 5 m<br>HA : High flex 10 m |
|---|---|---|---|---|---|---|---|---|---|

## Basic Specifications

| Control device type | | | | THC | |
|---|---|---|---|---|---|
| Motor rated output [W] | | | | 100 | |
| Ball screw lead [mm] | | | | 10 | 16 |
| Rated speed *1 [mm/s] | | | | 500 | 800 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount | 0.5G | 12 | – |
| | | | 1.0G | 8 | 8 |
| | | | 2.0G | – | 6 |
| | | Vertical mount | 0.5G | 8 | – |
| | | | 1.0G | 6 | 6 |
| | | | 2.0G | – | 4 |
| Rated thrust *3 [N] | | | | 180 | 112 |
| Maximum thrust *4 [N] | | | | 537 | 336 |
| Electromagnetic brake retention [N] | | | | 180 | 112 |
| Running life *5 [km] | | | | 10,000 | 20,000 |
| Positioning repeatability [mm] | | | | ±0.010 | |
| Lost motion [mm] | | | | 0.1 | |
| Static permissible moment *6 [N·m] | | | | MA: 103 MB: 103 MC: 58 | |

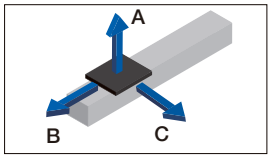
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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

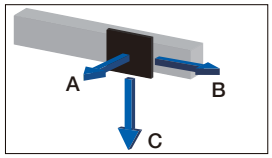



## Permissible Overhang Length *7

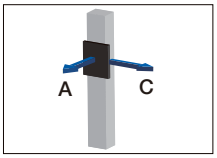
Horizontal use




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]

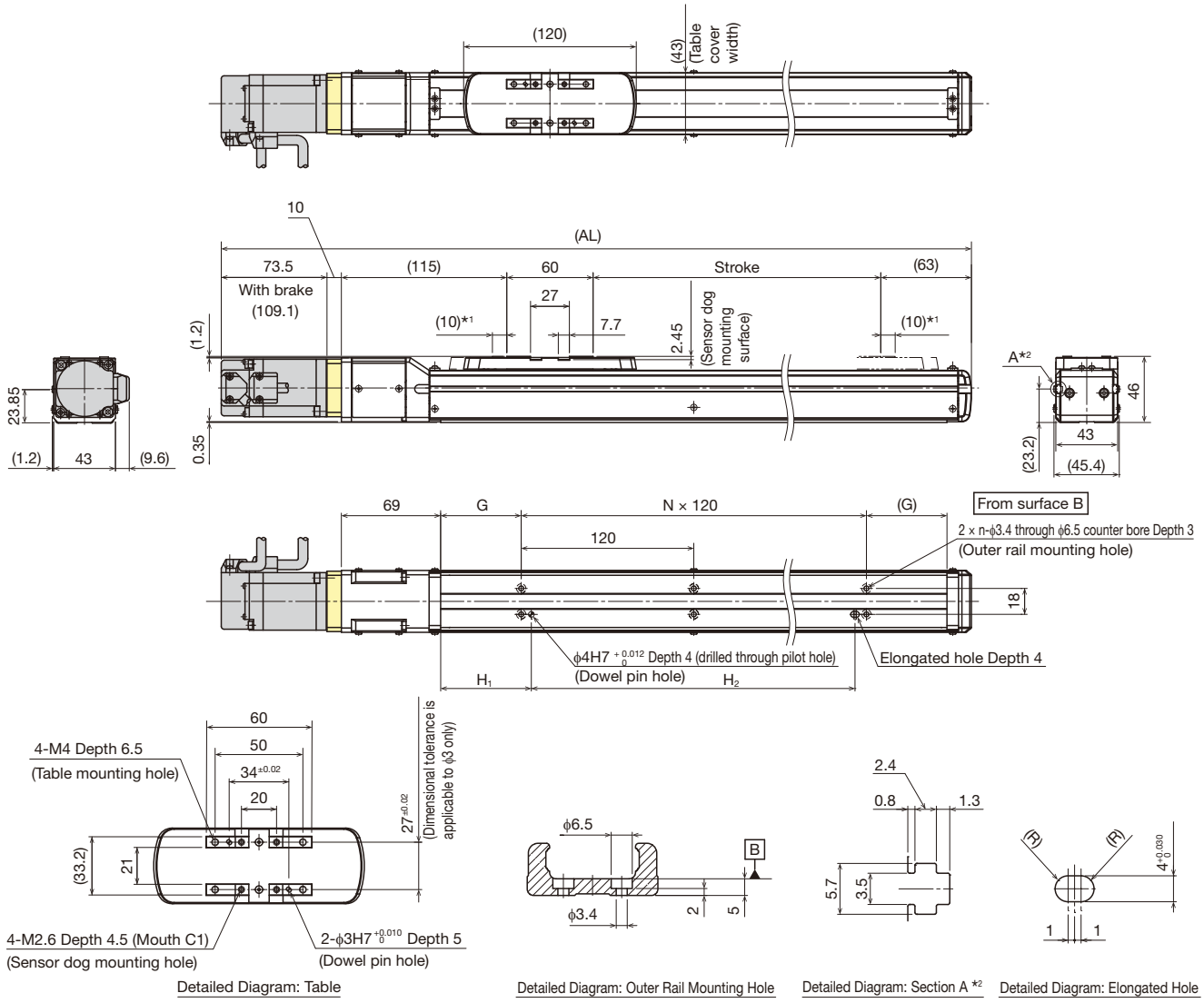
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 10 | 1.5 | 400 | 400 |
| | 3 | 190 | 190 |
| | 6 | 80 | 80 |
| 16 | 1 | 400 | 400 |
| | 2 | 190 | 190 |
| | 4 | 80 | 80 |

*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.

# KSF4 + THC

Motor rated output
**100W**

## Dimensions




Detailed Diagram: Table | Detailed Diagram: Outer Rail Mounting Hole | Detailed Diagram: Section A *2 | Detailed Diagram: Elongated Hole

*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.

| 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 *3 [mm/s] | Ball screw lead: 10 mm | 500 | | | | | | | | |
| | Ball screw lead: 16 mm | 800 | | | | | | | | |
| Dimensions *4 [mm] | AL | 371.5 (407.1) | 421.5 (457.1) | 471.5 (507.1) | 521.5 (557.1) | 571.5 (607.1) | 621.5 (657.1) | 671.5 (707.1) | 721.5 (757.1) | 771.5 (807.1) |
| | 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 *4 [kg] | | 2.1 (2.3) | 2.3 (2.5) | 2.4 (2.6) | 2.6 (2.8) | 2.8 (3.0) | 3.0 (3.2) | 3.2 (3.4) | 3.4 (3.6) | 3.6 (3.8) |
| 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 *3 [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 *4 [mm] | AL | 821.5 (857.1) | 871.5 (907.1) | 921.5 (957.1) | 971.5 (1007.1) | 1021.5 (1057.1) | 1071.5 (1107.1) | 1121.5 (1157.1) | 1171.5 (1207.1) | 1221.5 (1257.1) |
| | 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 *4 [kg] | | 3.8 (4.0) | 4.0 (4.2) | 4.1 (4.3) | 4.3 (4.5) | 4.5 (4.7) | 4.7 (4.9) | 4.9 (5.1) | 5.1 (5.3) | 5.3 (5.5) |

*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 Values when brake is installed are shown in parentheses.

# KSF4R THC Specifications

## Model Configuration

| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF4R - | 10 - | 0050 - | TH - | ML-GR-6 / | M10 | R | S02 | D1 | F3 |

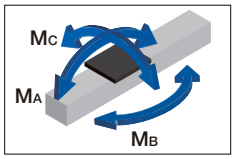
| KSF4R | 10: 10 mm<br>16: 16 mm | 0050: 50 mm<br>to<br>0900: 900 mm | TH: THC | MR : Motor right wrap<br>ML : Motor left wrap<br>MD : Motor down wrap<br>T : Back tap<br>GR : Change the cover color to gray<br>6 : Photo sensor<br>J : Proximity sensor | M10 : 100 W<br>M10B: 100W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00 : Motor side<br>R00 : Reverse motor side<br>S02 : Motor side (sensor right)<br>S03 : Reverse motor side (sensor right)<br>S20 : Motor side (sensor left)<br>S30 : Reverse motor side (sensor left) | D1: 100 V<br>D2: 200 V | No symbol: None<br>F3 : Standard 3 m<br>F5 : Standard 5 m<br>FA : Standard 10 m<br>H3 : High flex 3 m<br>H5 : High flex 5 m<br>HA: High flex 10 m |
|---|---|---|---|---|---|---|---|---|---|

## Basic Specifications

| Control device type | | | | THC | |
|---|---|---|---|---|---|
| Motor rated output [W] | | | | 100 | |
| Ball screw lead [mm] | | | | 10 | 16 |
| Rated speed *1 [mm/s] | | | | 500 | 800 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount | 0.5G | 12 | – |
| | | | 1.0G | 8 | 8 |
| | | | 2.0G | – | 6 |
| | | Vertical mount | 0.5G | 8 | – |
| | | | 1.0G | 6 | 6 |
| | | | 2.0G | – | 4 |
| Rated thrust *3 [N] | | | | 160 | 100 |
| Maximum thrust *4 [N] | | | | 478 | 298 |
| Electromagnetic brake retention [N] | | | | 160 | 100 |
| Running life *5 [km] | | | | 10,000 | 20,000 |
| Positioning repeatability [mm] | | | | ±0.010 | |
| Lost motion [mm] | | | | 0.1 | |
| Static permissible moment *6 [N·m] | | | | MA: 103 MB: 103 MC: 58 | |

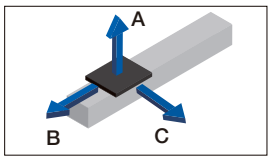
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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

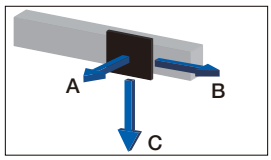



## Permissible Overhang Length *7

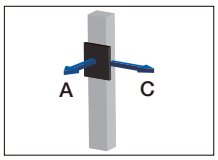
Horizontal use




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]

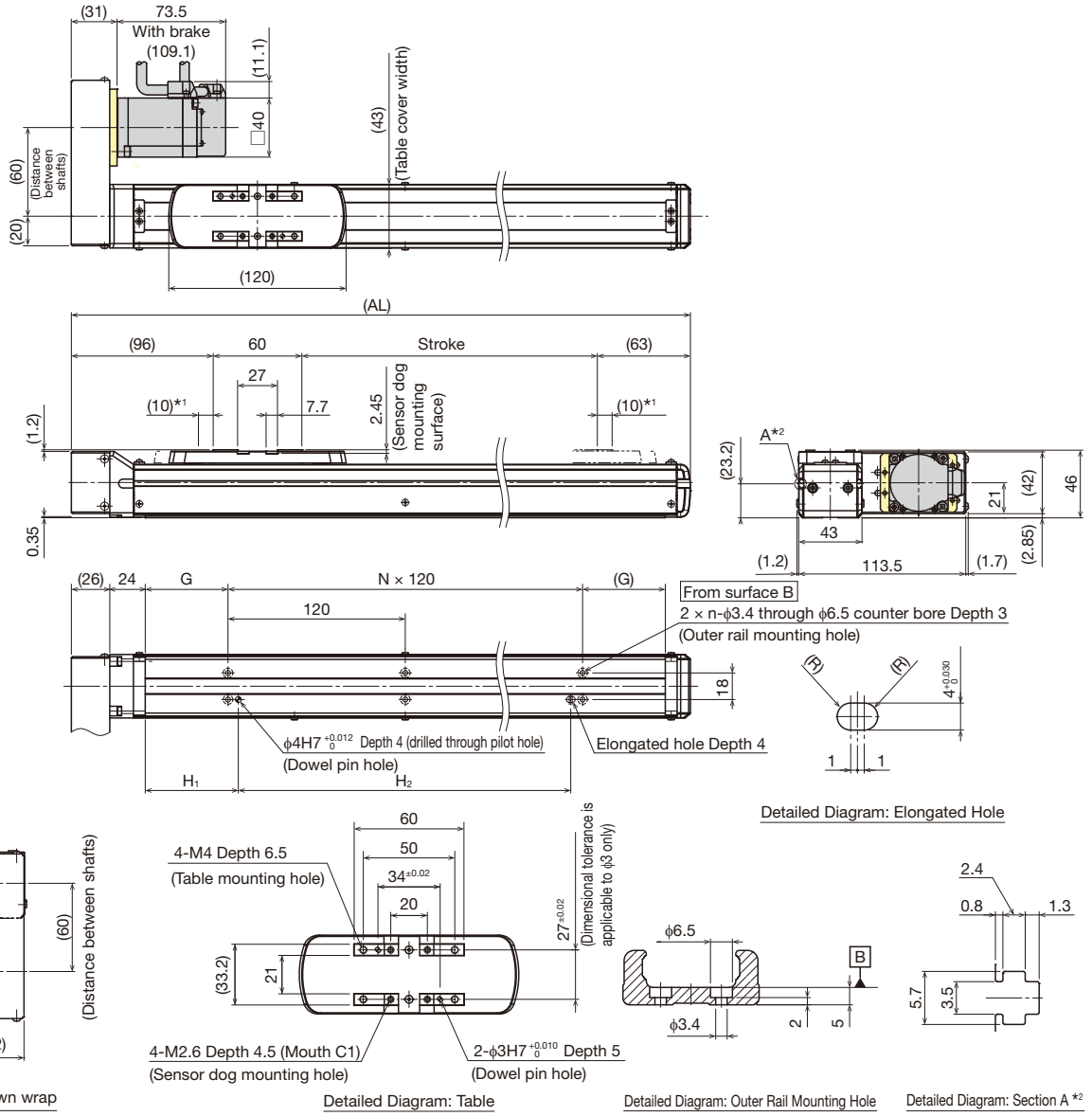
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 10 | 1.5 | 400 | 400 |
| | 3 | 190 | 190 |
| | 6 | 80 | 80 |
| 16 | 1 | 400 | 400 |
| | 2 | 190 | 190 |
| | 4 | 80 | 80 |

*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.

# KSF4R + THC

Motor rated output
**100W**

## 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.

| 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 *3 [mm/s] | 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 *4 [kg] | | 2.2 (2.4) | 2.4 (2.6) | 2.6 (2.8) | 2.8 (3.0) | 3.0 (3.2) | 3.2 (3.4) | 3.3 (3.5) | 3.5 (3.7) | 3.7 (3.9) |
| 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 *3 [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 | 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 *4 [kg] | | 3.9 (4.1) | 4.1 (4.3) | 4.3 (4.5) | 4.5 (4.7) | 4.7 (4.9) | 4.9 (5.1) | 5.0 (5.2) | 5.2 (5.4) | 5.4 (5.6) |

*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 Values when brake is installed are shown in parentheses.

# KSF5 THC Specifications

## Model Configuration

| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF5 - | 10 - | 0050 - | TH - | GR-6 / | M10 | L | S02 | D1 | F3 |

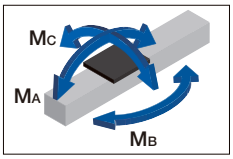
| KSF5 | 10: 10 mm<br>20: 20 mm | 0050: 50 mm<br>to<br>0900: 900 mm | TH: THC | No symbol: None<br>T : Back tap<br>GR : Change the cover color to gray<br>6 : Photo sensor<br>J : Proximity sensor | M10 : 100 W<br>M10B: 100W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00: Motor side<br>R00 : Reverse motor side<br>S02 : Motor side (sensor right)<br>S03 : Reverse motor side (sensor right)<br>S20 : Motor side (sensor left)<br>S30 : Reverse motor side (sensor left) | D1: 100 V<br>D2: 200 V | No symbol: None<br>F3 : Standard 3 m<br>F5 : Standard 5 m<br>FA : Standard 10 m<br>H3 : High flex 3 m<br>H5 : High flex 5 m<br>HA : High flex 10 m |
|---|---|---|---|---|---|---|---|---|---|

## Basic Specifications

| Control device type | | | THC | |
|---|---|---|---|---|
| Motor rated output [W] | | | 100 | |
| Ball screw lead [mm] | | | 10 | 20 |
| Rated speed *1 [mm/s] | | | 500 | 1,000 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount 0.5G | 20 | – |
| | | Horizontal mount 1.0G | 15 | 7 |
| | | Horizontal mount 2.0G | – | 5 |
| | | Vertical mount 0.5G | 13 | – |
| | | Vertical mount 1.0G | 8 | 6 |
| | | Vertical mount 2.0G | – | 3 |
| Rated thrust *3 [N] | | | 180 | 90 |
| Maximum thrust *4 [N] | | | 537 | 269 |
| Electromagnetic brake retention [N] | | | 180 | 90 |
| Running life *5 [km] | | | 10,000 | 20,000 |
| Positioning repeatability [mm] | | | ±0.010 | |
| Lost motion [mm] | | | 0.1 | |
| Static permissible moment *6 [N·m] | | | MA: 147 MB: 147 MC: 149 | |

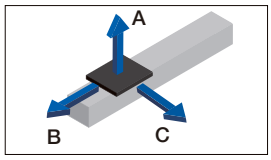
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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

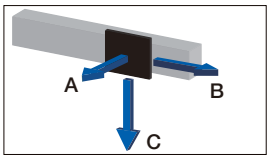



## Permissible Overhang Length *7

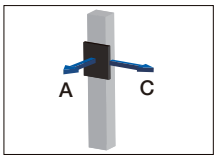
Horizontal use




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 | 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

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 | 1.25 | 500 | 500 | 500 |
| | 2.5 | 440 | 340 | 380 |
| | 5 | 200 | 160 | 190 |

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 | 1.25 | 500 | 500 | 500 |
| | 2.5 | 330 | 320 | 430 |
| | 5 | 150 | 140 | 190 |

Vertical mount [mm]

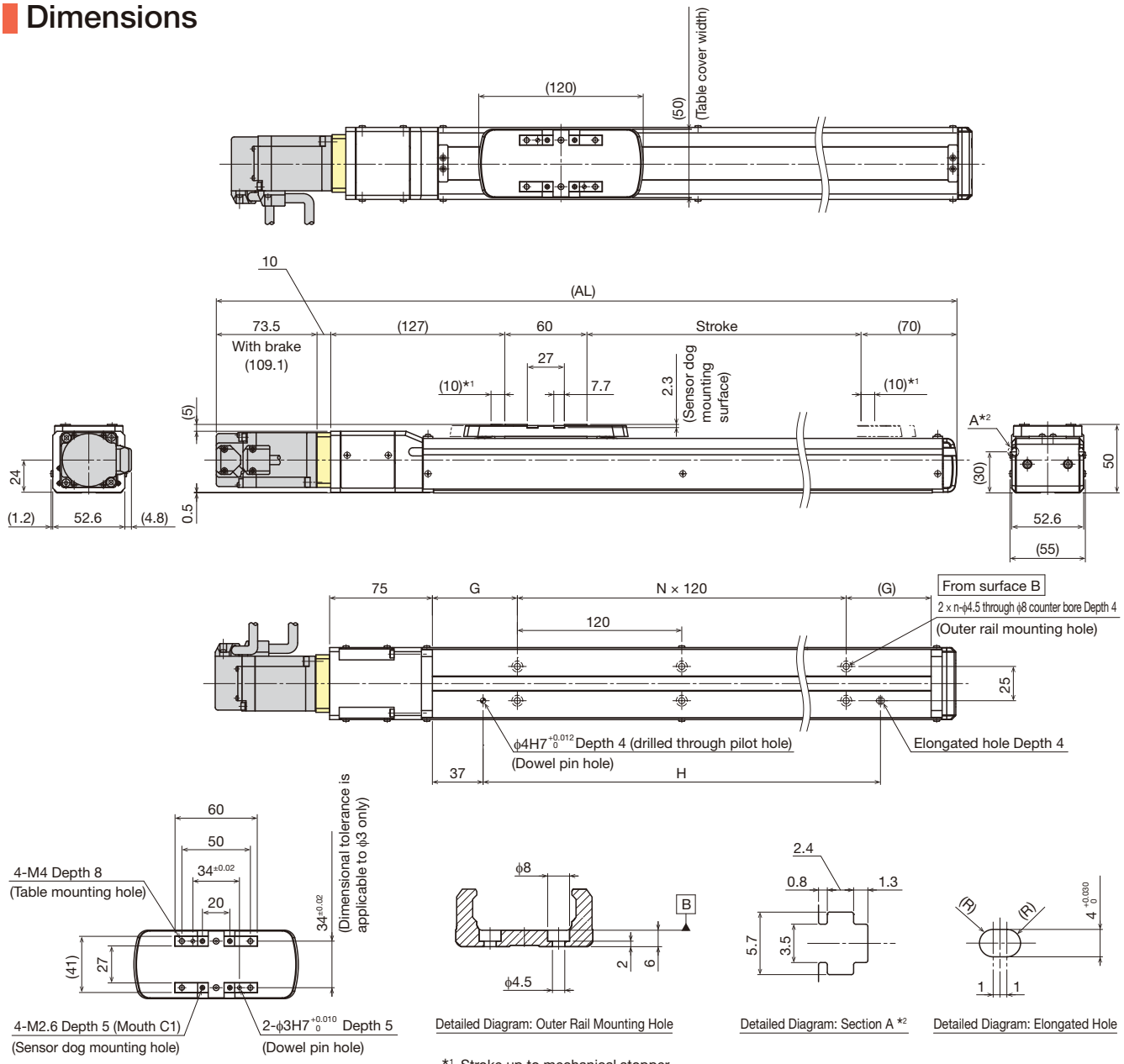
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 10 | 2 | 500 | 500 |
| | 4 | 230 | 230 |
| | 8 | 100 | 100 |
| 20 | 0.75 | 500 | 500 |
| | 1.5 | 410 | 410 |
| | 3 | 190 | 190 |

*7 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.

# KSF5 + THC

Motor rated output
**100W**

## 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.

| 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 *3 [mm/s] | Ball screw lead: 10 mm | 500 | | | | | | | | |
| | Ball screw lead: 20 mm | 1000 | | | | | | | | |
| Dimensions *4 [mm] | AL | 390.5 (426.1) | 440.5 (476.1) | 490.5 (526.1) | 540.5 (576.1) | 590.5 (626.1) | 640.5 (676.1) | 690.5 (726.1) | 740.5 (776.1) | 790.5 (826.1) |
| | 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 *4 [kg] | | 2.8 (3.0) | 3.1 (3.3) | 3.4 (3.6) | 3.7 (3.9) | 3.9 (4.1) | 4.2 (4.4) | 4.5 (4.7) | 4.8 (5.0) | 5.1 (5.3) |
| 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 *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 *4 [mm] | AL | 840.5 (876.1) | 890.5 (926.1) | 940.5 (976.1) | 990.5 (1026.1) | 1040.5 (1076.1) | 1090.5 (1126.1) | 1140.5 (1176.1) | 1190.5 (1226.1) | 1240.5 (1276.1) |
| | 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 *4 [kg] | | 5.3 (5.5) | 5.6 (5.8) | 5.9 (6.1) | 6.2 (6.4) | 6.5 (6.7) | 6.7 (6.9) | 7.0 (7.2) | 7.3 (7.5) | 7.6 (7.8) |

*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 Values when brake is installed are shown in parentheses.

# KSF5R THC Specifications

## Model Configuration

| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF5R - | 10 - | 0050 - | TH - | ML-GR-6 / | M10 | R | S02 | D1 | F3 |

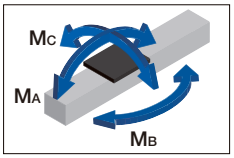
| KSF5R | 10: 10 mm<br>20: 20 mm | 0050: 50 mm<br>to<br>0900: 900 mm | TH: THC | MR : Motor right wrap<br>ML : Motor left wrap<br>MD : Motor down wrap<br>T : Back tap<br>GR : Change the cover color to gray<br>6 : Photo sensor<br>J : Proximity sensor | M10 : 100 W<br>M10B: 100 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00 : Motor side<br>R00 : Reverse motor side<br>S02 : Motor side (sensor right)<br>S03 : Reverse motor side (sensor right)<br>S20 : Motor side (sensor left)<br>S30 : Reverse motor side (sensor left) | D1: 100 V<br>D2: 200 V | No symbol: None<br>F3 : Standard 3 m<br>F5 : Standard 5 m<br>FA : Standard 10 m<br>H3 : High flex 3 m<br>H5 : High flex 5 m<br>HA : High flex 10 m |
|---|---|---|---|---|---|---|---|---|---|

## Basic Specifications

| Control device type | | | THC | |
|---|---|---|---|---|
| Motor rated output [W] | | | 100 | |
| Ball screw lead [mm] | | | 10 | 20 |
| Rated speed *1 [mm/s] | | | 500 | 1,000 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount 0.5G | 20 | – |
| | | Horizontal mount 1.0G | 15 | 7 |
| | | Horizontal mount 2.0G | – | 4 |
| | | Vertical mount 0.5G | 11 | – |
| | | Vertical mount 1.0G | 8 | 5 |
| | | Vertical mount 2.0G | – | 2.5 |
| Rated thrust *3 [N] | | | 160 | 80 |
| Maximum thrust *4 [N] | | | 478 | 239 |
| Electromagnetic brake retention [N] | | | 160 | 80 |
| Running life *5 [km] | | | 10,000 | 20,000 |
| Positioning repeatability [mm] | | | ±0.010 | |
| Lost motion [mm] | | | 0.1 | |
| Static permissible moment *6 [N·m] | | | MA: 147 MB: 147 MC: 149 | |

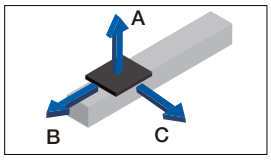
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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

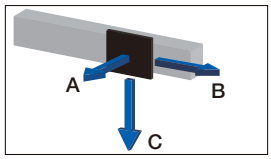



## Permissible Overhang Length *7

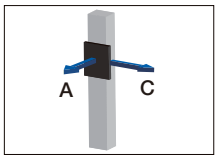
Horizontal use




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]

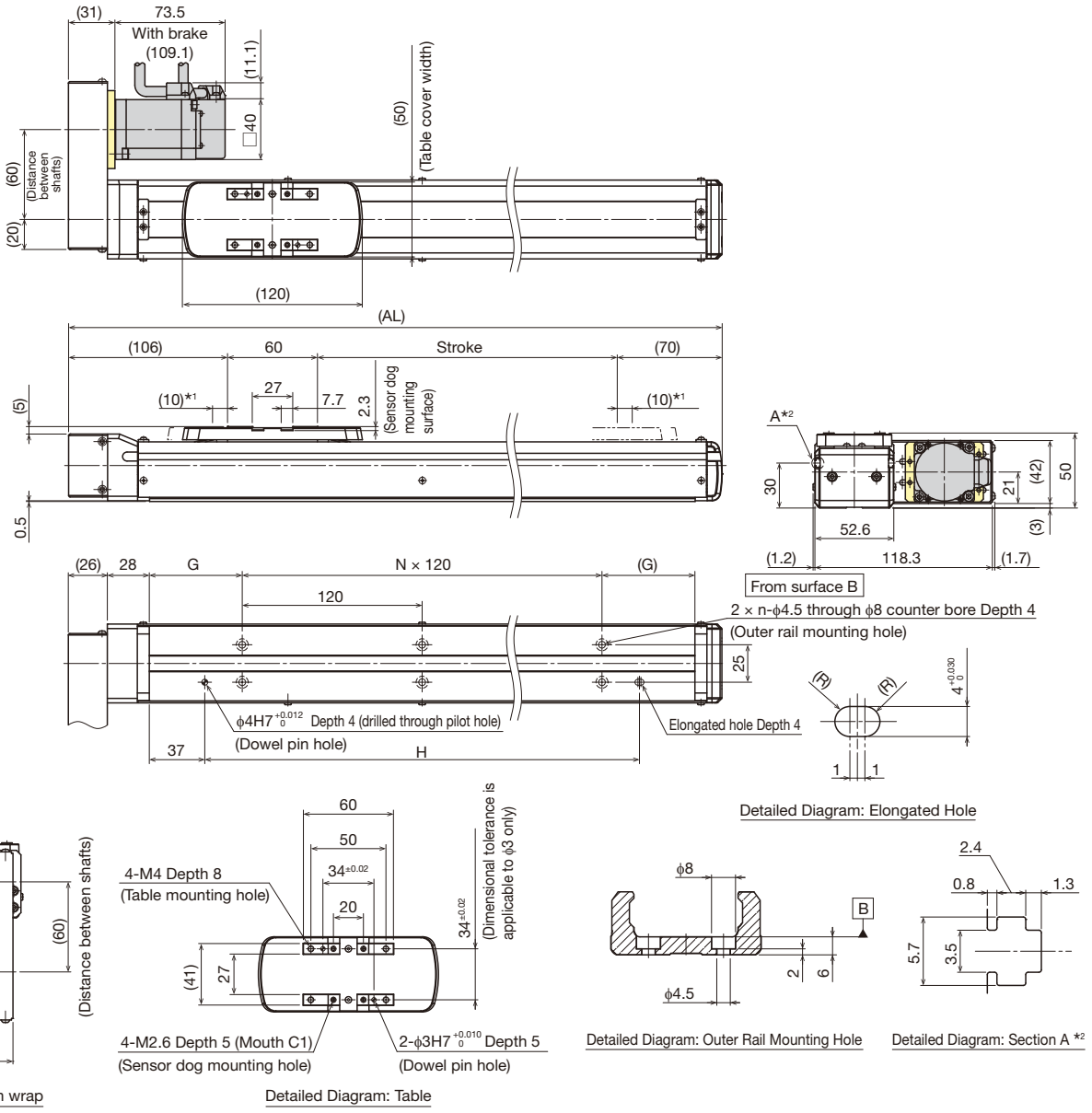
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 10 | 2 | 500 | 500 |
| | 4 | 230 | 230 |
| | 8 | 100 | 100 |
| 20 | 0.63 | 500 | 500 |
| | 1.25 | 500 | 500 |
| | 2.5 | 240 | 240 |

*7 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.

# KSF5R + THC

Motor rated output
**100W**

## 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.

| 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 *3 [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 *4 [kg] | | 2.9 (3.1) | 3.2 (3.4) | 3.5 (3.7) | 3.8 (4.0) | 4.0 (4.2) | 4.3 (4.5) | 4.6 (4.8) | 4.9 (5.1) | 5.2 (5.4) |
| 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 *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 | 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 *4 [kg] | | 5.4 (5.6) | 5.7 (5.9) | 6.0 (6.2) | 6.3 (6.5) | 6.5 (6.7) | 6.8 (7.0) | 7.1 (7.3) | 7.4 (7.6) | 7.7 (7.9) |

*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.

*4 Values when brake is installed are shown in parentheses.

# KSF6 THC Specifications

## Model Configuration

| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable type and length |
|---|---|---|---|---|---|---|---|---|---|
| KSF6 - | 20 - | 0650 - | TH - | GR-6 / | M20 | L | S02 | D1 | F3 |

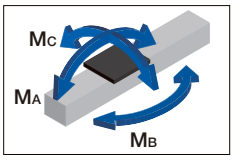
| KSF6 | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable type and length |
|---|---|---|---|---|---|---|---|---|---|
| | 20: 20 mm | 0050: 50 mm | TH: THC | No symbol: None | M20 : 200 W | R : Right | D00 : Motor side | D1: 100 V | No symbol: None |
| | 30: 30 mm | to | | T : Back tap | M20B: 200 W with brake | L : Left | R00 : Reverse motor side | D2: 200 V | F3 : Standard 3 m |
| | | 1300: 1300 mm | | GR : Change the cover color to gray | | U : Up | S02 : Motor side (sensor right) | | F5 : Standard 5 m |
| | | | | 6 : Photo sensor | | D : Down | S03 : Reverse motor side (sensor right) | | FA : Standard 10 m |
| | | | | J : Proximity sensor | | | S20 : Motor side (sensor left) | | H3 : High flex 3 m |
| | | | | | | | S30 : Reverse motor side (sensor left) | | H5 : High flex 5 m |
| | | | | | | | | | HA: High flex 10 m |

## Basic Specifications

| Control device type | | | | THC | |
|---|---|---|---|---|---|
| Motor rated output [W] | | | | 200 | |
| Ball screw lead [mm] | | | | 20 | 30 |
| Rated speed *1 [mm/s] | | | | 1,000 | 1,500 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal/ Wall mount | 1.0G | 22 | 14 |
| | | | 2.0G | 5 | 6 |
| | | Vertical mount | 1.0G | 10 | 6 |
| | | | 2.0G | 3 | 4 |
| Rated thrust *3 [N] | | | | 181 | 121 |
| Maximum thrust *4 [N] | | | | 540 | 360 |
| Electromagnetic brake retention [N] | | | | 359 | 239 |
| Running life *5 [km] | | | | 20,000 | |
| Positioning repeatability [mm] | | | | ±0.010 | |
| Lost motion [mm] | | | | 0.1 | |
| Static permissible moment *6 [N·m] | | | | MA: 330 | MB: 216 MC: 188 |

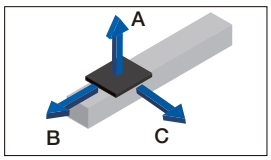
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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

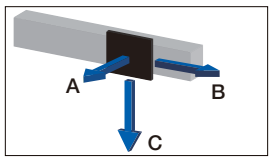



## Permissible Overhang Length *7

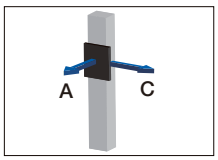
Horizontal use




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 | 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 |

Wall mount [mm]

| Ball screw lead [mm] | Load mass [kg] | 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 |

Vertical mount [mm]

| Ball screw lead [mm] | Load mass [kg] | 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

Horizontal mount [mm]

| Ball screw lead [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 | 230 | 240 | 220 |

Wall mount [mm]

| Ball screw lead [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 | 380 | 470 | 480 |
| | 6 | 170 | 210 | 210 |

Vertical mount [mm]

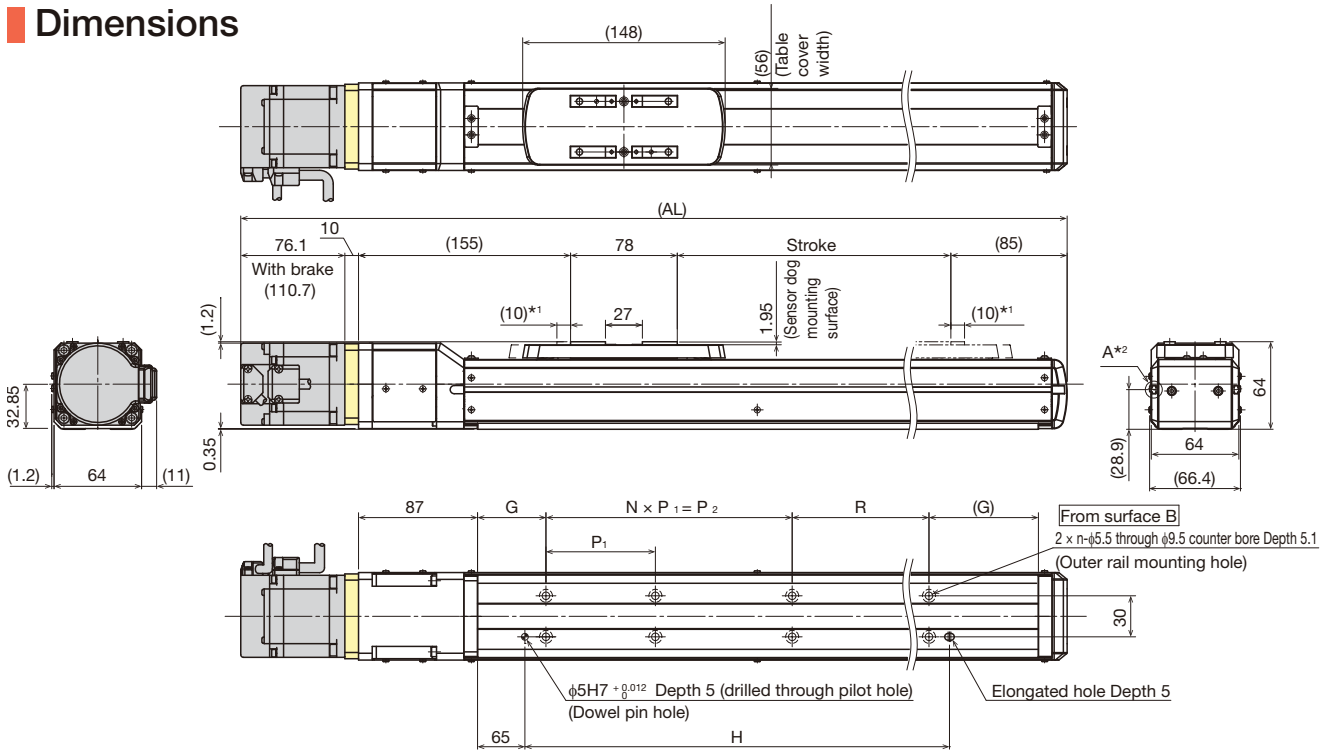
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 20 | 0.75 | 600 | 600 |
| | 1.5 | 600 | 600 |
| | 3 | 460 | 460 |
| 30 | 1 | 600 | 600 |
| | 2 | 460 | 460 |
| | 4 | 210 | 210 |

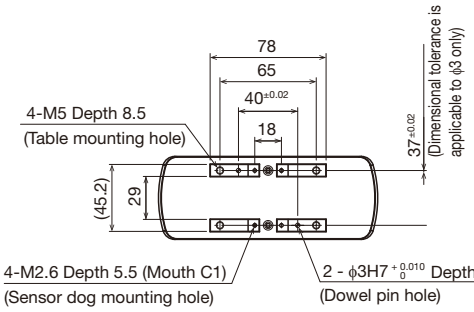
*7 This value is the overhang length whose running life is 20,000 km for each direction.
A permissible value of the applied load in each direction.

# KSF6 + THC

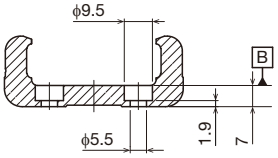
Motor rated output
200W

## Dimensions

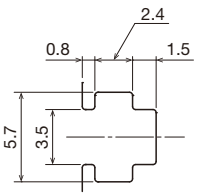


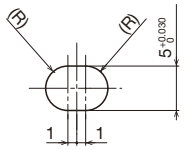

Detailed Diagram: Table




Detailed Diagram: Outer Rail Mounting Hole




Detailed Diagram: Section A *2




Detailed Diagram: Elongated Hole

*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.

| 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 | 20mm | 1000 | | | | | | | | | | | | |
| | | 30mm | 1500 | | | | | | | | | | | | |
| Dimensions *4 [mm] | AL | | 454.1 (488.7) | 504.1 (538.7) | 554.1 (588.7) | 604.1 (638.7) | 654.1 (688.7) | 704.1 (738.7) | 754.1 (788.7) | 804.1 (838.7) | 854.1 (888.7) | 904.1 (938.7) | 954.1 (988.7) | 1004.1 (1038.7) | 1054.1 (1088.7) |
| | 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 |
| 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 *4 [kg] | | | 4.9 (5.4) | 5.3 (5.8) | 5.7 (6.2) | 6.0 (6.5) | 6.4 (6.9) | 6.8 (7.3) | 7.2 (7.7) | 7.6 (8.1) | 8.0 (8.5) | 8.4 (8.9) | 8.8 (9.3) | 9.1 (9.6) | 9.5 (10.0) |
| 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 | 20mm | 980 | 870 | 770 | 690 | 630 | 570 | 520 | 470 | 430 | 400 | 370 | 340 | 320 |
| | | 30mm | 1470 | 1300 | 1160 | 1040 | 940 | 850 | 780 | 710 | 650 | 600 | 550 | 510 | 480 |
| Dimensions *4 [mm] | AL | | 1104.1 (1138.7) | 1154.1 (1188.7) | 1204.1 (1238.7) | 1254.1 (1288.7) | 1304.1 (1338.7) | 1354.1 (1388.7) | 1404.1 (1438.7) | 1454.1 (1488.7) | 1504.1 (1538.7) | 1554.1 (1588.7) | 1604.1 (1638.7) | 1654.1 (1688.7) | 1704.1 (1738.7) |
| | 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 *4 [kg] | | | 9.9 (10.4) | 10.3 (10.8) | 10.7 (11.2) | 11.1 (11.6) | 11.5 (12.0) | 11.9 (12.4) | 12.2 (12.7) | 12.6 (13.1) | 13.0 (13.5) | 13.4 (13.9) | 13.8 (14.3) | 14.2 (14.7) | 14.6 (15.1) |

*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 Values when brake is installed are shown in parentheses.

# KSF6R THC Specifications

## Model Configuration

| Model | Ball screw lead | Stroke | Control device | Option | | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|---|
| KSF6R - | 20 - | 0050 - | TH - | ML-GR-6 | / | M20 | R | S02 | D1 | F3 |

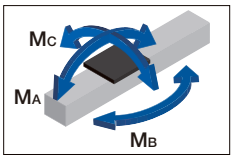
| KSF6R | 20: 20 mm<br>30: 30 mm | 0050: 50 mm<br>to<br>1300: 1300 mm | TH: THC | MR : Motor right wrap<br>ML : Motor left wrap<br>MD : Motor down wrap<br>T : Back tap<br>GR : Change the cover color to gray<br>6 : Photo sensor<br>J : Proximity sensor | M20 : 200 W<br>M20B: 200 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00 : Motor side<br>R00 : Reverse motor side<br>S02 : Motor side (sensor right)<br>S03 : Reverse motor side (sensor right)<br>S20 : Motor side (sensor left)<br>S30 : Reverse motor side (sensor left) | D1: 100 V<br>D2: 200 V | No symbol: None<br>F3 : Standard 3 m<br>F5 : Standard 5 m<br>FA : Standard 10 m<br>H3 : High flex 3 m<br>H5 : High flex 5 m<br>HA : High flex 10 m |
|---|---|---|---|---|---|---|---|---|---|---|

## Basic Specifications

| Control device type | | | | THC | |
|---|---|---|---|---|---|
| Motor rated output [W] | | | | 200 | |
| Ball screw lead [mm] | | | | 20 | 30 |
| Rated speed *1 [mm/s] | | | | 1,000 | 1,500 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount | 1.0G | 19 | 11 |
| | | | 2.0G | 4 | 4 |
| | | Vertical mount | 1.0G | 9 | 5 |
| | | | 2.0G | 2.5 | 2.5 |
| Rated thrust *3 [N] | | | | 161 | 107 |
| Maximum thrust *4 [N] | | | | 480 | 320 |
| Electromagnetic brake retention [N] | | | | 319 | 213 |
| Running life *5 [km] | | | | 20,000 | |
| Positioning repeatability [mm] | | | | ±0.010 | |
| Lost motion [mm] | | | | 0.1 | |
| Static permissible moment *6 [N·m] | | | | MA: 330 | MB: 216 MC: 188 |

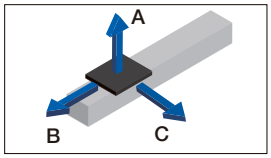
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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

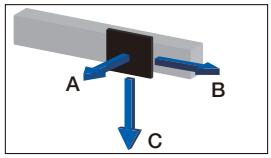



## Permissible Overhang Length *7

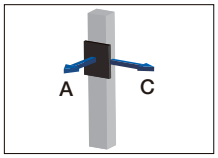
Horizontal use




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 | 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]

| 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]

| 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]

| 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]

| 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]

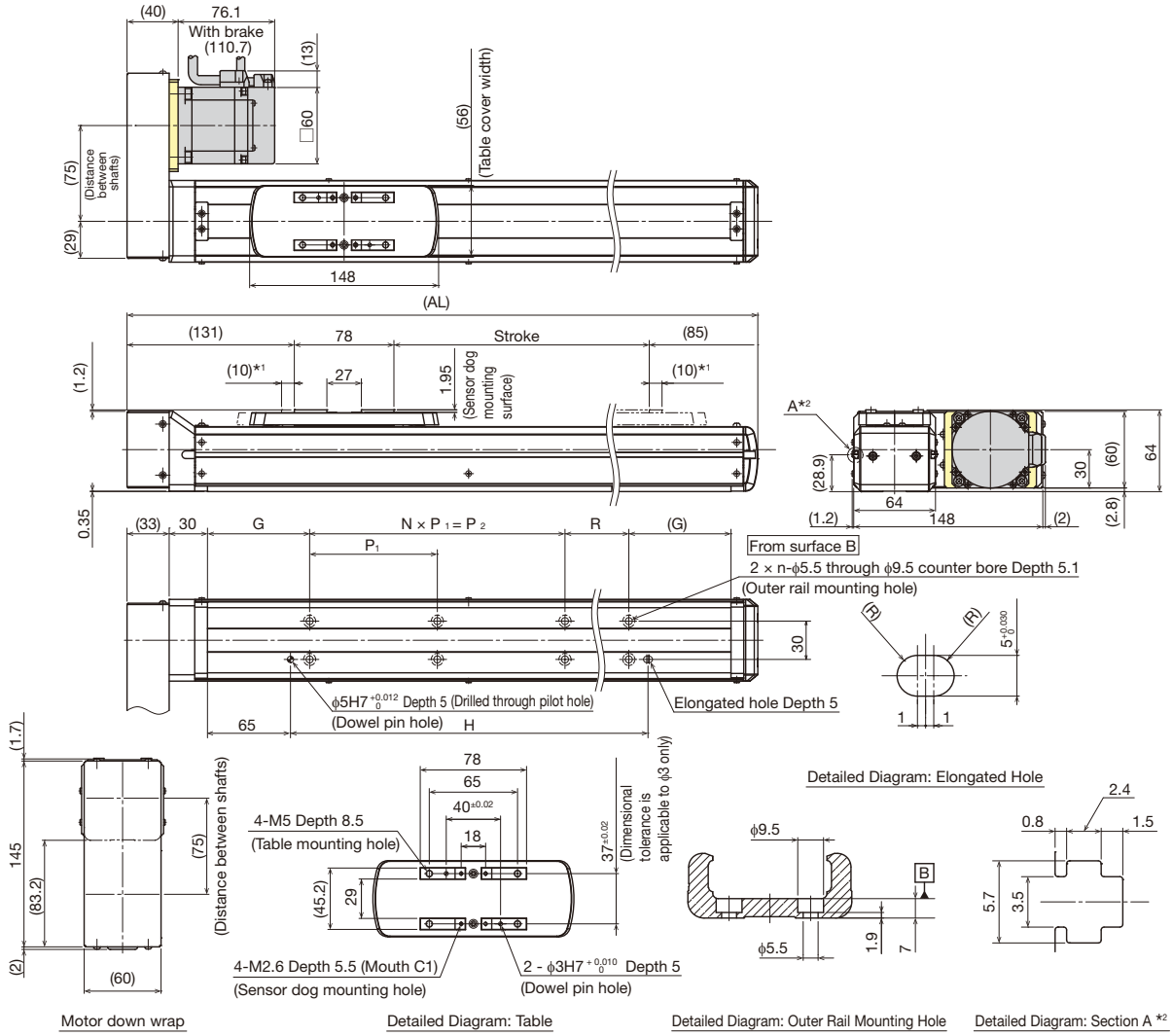
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 20 | 0.63 | 600 | 600 |
| | 1.25 | 600 | 600 |
| | 2.5 | 550 | 550 |
| 30 | 0.625 | 600 | 600 |
| | 1.25 | 600 | 600 |
| | 2.5 | 360 | 360 |

*7 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.

# KSF6R + THC

Motor rated output
200W

## 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.

| 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 | 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 | 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 *4 [kg] | | 5.4 (5.9) | 5.8 (6.3) | 6.2 (6.7) | 6.5 (7.0) | 6.9 (7.4) | 7.3 (7.8) | 7.7 (8.2) | 8.1 (8.6) | 8.5 (9.0) | 8.9 (9.4) | 9.3 (9.8) | 9.6 (10.1) | 10.0 (10.5) |
| 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 | 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 *4 [kg] | | 10.4 (10.9) | 10.8 (11.3) | 11.2 (11.7) | 11.6 (12.1) | 12.0 (12.5) | 12.4 (12.9) | 12.7 (13.2) | 13.1 (13.6) | 13.5 (14.0) | 13.9 (14.4) | 14.3 (14.8) | 14.7 (15.2) | 15.1 (15.6) |

*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 Values when brake is installed are shown in parentheses.

# KSF8 THC Specifications

## Model Configuration

| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF8 - | 20 - | 0700 - | TH - | GR-6 / | M40 | L | S02 | D1 | F3 |

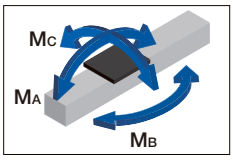
| KSF8 | 20: 20 mm<br>40: 40 mm | 0100: 100 mm<br>to<br>1500: 1500 mm | TH: THC | No symbol: None<br>T : Back tap<br>GR : Change the cover color to gray<br>6 : Photo sensor<br>J : Proximity sensor | M40 : 400 W<br>M40B: 400 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00: Motor side<br>R00: Reverse motor side<br>S02 : Motor side (sensor right)<br>S03 : Reverse motor side (sensor right)<br>S20 : Motor side (sensor left)<br>S30 : Reverse motor side (sensor left) | D1: 100 V<br>D2: 200 V | No symbol: None<br>F3 : Standard 3 m<br>F5 : Standard 5 m<br>FA : Standard 10 m<br>H3 : High flex 3 m<br>H5 : High flex 5 m<br>HA : High flex 10 m |
|---|---|---|---|---|---|---|---|---|---|

## Basic Specifications

| Control device type | | | | THC | |
|---|---|---|---|---|---|
| Motor rated output [W] | | | | 400 | |
| Ball screw lead [mm] | | | | 20 | 40 |
| Rated speed *1 [mm/s] | | | | 1,000 | 2,000 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount | 1.0G | 43 | 16 |
| | | | 2.0G | 6 | 7 |
| | | Vertical mount | 1.0G | 20 | 8 |
| | | | 2.0G | 3 | 5 |
| Rated thrust *3 [N] | | | | 359 | 180 |
| Maximum thrust *4 [N] | | | | 1080 | 540 |
| Electromagnetic brake retention [N] | | | | 359 | 180 |
| Running life *5 [km] | | | | 20,000 | |
| Positioning repeatability [mm] | | | | ±0.010 | |
| Lost motion [mm] | | | | 0.1 | |
| Static permissible moment *6 [N·m] | | | | MA: 730 | MB: 437 MC: 387 |

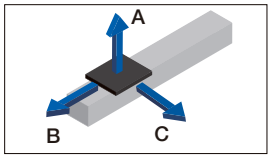
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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

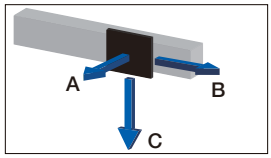



## Permissible Overhang Length *7

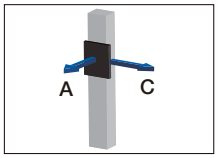
Horizontal use




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]

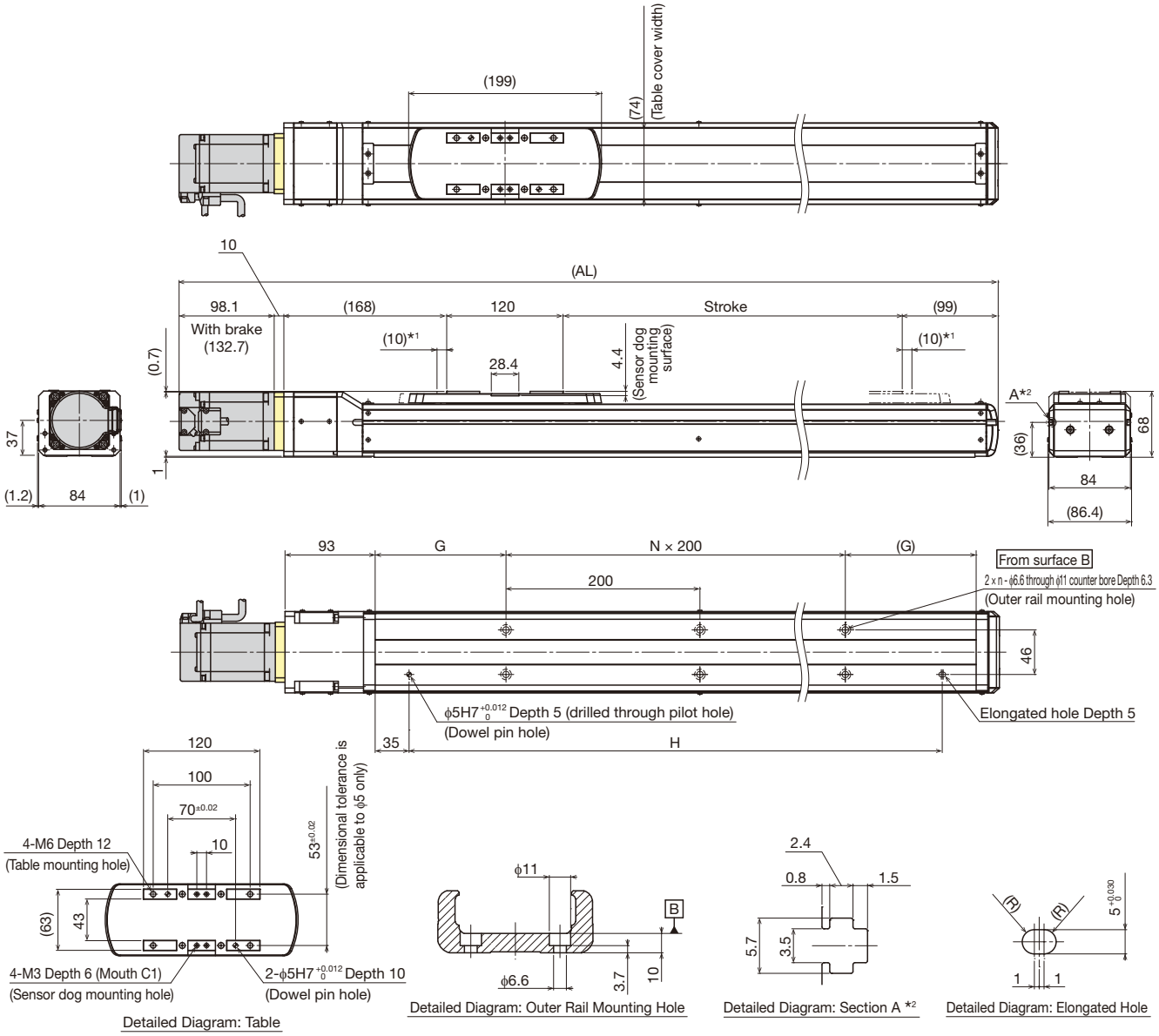
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 20 | 0.75 | 800 | 800 |
| | 1.5 | 800 | 800 |
| | 3 | 740 | 740 |
| 40 | 1.25 | 800 | 800 |
| | 2.5 | 680 | 680 |
| | 5 | 320 | 320 |

*7 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.

# KSF8 + THC

Motor rated output
400W

## 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.

| 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 | 595.1 (629.7) | 695.1 (729.7) | 795.1 (829.7) | 895.1 (929.7) | 995.1 (1029.7) | 1095.1 (1129.7) | 1195.1 (1229.7) | 1295.1 (1329.7) | 1395.1 (1429.7) | 1495.1 (1529.7) | 1595.1 (1629.7) | 1695.1 (1729.7) | 1795.1 (1829.7) | 1895.1 (1929.7) | 1995.1 (2029.7) |
| | 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 *4 [kg] | | 9.5 (10.0) | 10.8 (11.3) | 12.1 (12.6) | 13.4 (13.9) | 14.7 (15.2) | 16.0 (16.5) | 17.3 (17.8) | 18.6 (19.1) | 19.9 (20.4) | 21.2 (21.7) | 22.5 (23.0) | 23.8 (24.3) | 25.1 (25.6) | 26.4 (26.9) | 27.7 (28.2) |

*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.
*4 Values when brake is installed are shown in parentheses.

# KSF8R THC Specifications

## Model Configuration

| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF8R - | 20 - | 0700 - | TH - | ML-GR-6 / | M40 | R | S02 | D1 | F3 |

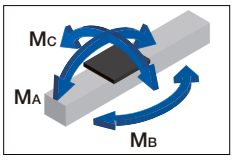
| KSF8R | 20: 20 mm<br>40: 40 mm | 0100: 100 mm<br>to<br>1500: 1500 mm | TH: THC | MR : Motor right wrap<br>ML : Motor left wrap<br>MD : Motor down wrap<br>T : Back tap<br>GR : Change the cover color to gray<br>6 : Photo sensor<br>J : Proximity sensor | M40 : 400 W<br>M40B: 400 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00 : Motor side<br>R00 : Reverse motor side<br>S02 : Motor side (sensor right)<br>S03 : Reverse motor side (sensor right)<br>S20 : Motor side (sensor left)<br>S30 : Reverse motor side (sensor left) | D1: 100 V<br>D2: 200 V | No symbol: None<br>F3 : Standard 3 m<br>F5 : Standard 5 m<br>FA : Standard 10 m<br>H3 : High flex 3 m<br>H5 : High flex 5 m<br>HA : High flex 10 m |
|---|---|---|---|---|---|---|---|---|---|

## Basic Specifications

| Control device type | | | | THC | |
|---|---|---|---|---|---|
| Motor rated output [W] | | | | 400 | |
| Ball screw lead [mm] | | | | 20 | 40 |
| Rated speed *1 [mm/s] | | | | 1,000 | 2,000 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount | 1.0G | 41 | 16 |
| | | | 2.0G | 6 | 7 |
| | | Vertical mount | 1.0G | 20 | 8 |
| | | | 2.0G | 3 | 5 |
| Rated thrust *3 [N] | | | | 319 | 160 |
| Maximum thrust *4 [N] | | | | 960 | 480 |
| Electromagnetic brake retention [N] | | | | 319 | 160 |
| Running life *5 [km] | | | | 20,000 | |
| Positioning repeatability [mm] | | | | ±0.010 | |
| Lost motion [mm] | | | | 0.1 | |
| Static permissible moment *6 [N·m] | | | | MA: 730 | MB: 437 MC: 387 |

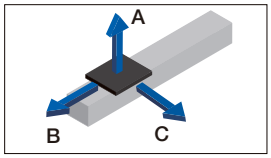
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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

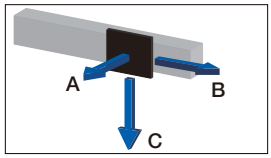



## Permissible Overhang Length *7

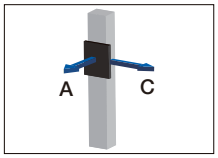
Horizontal use




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 | 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]

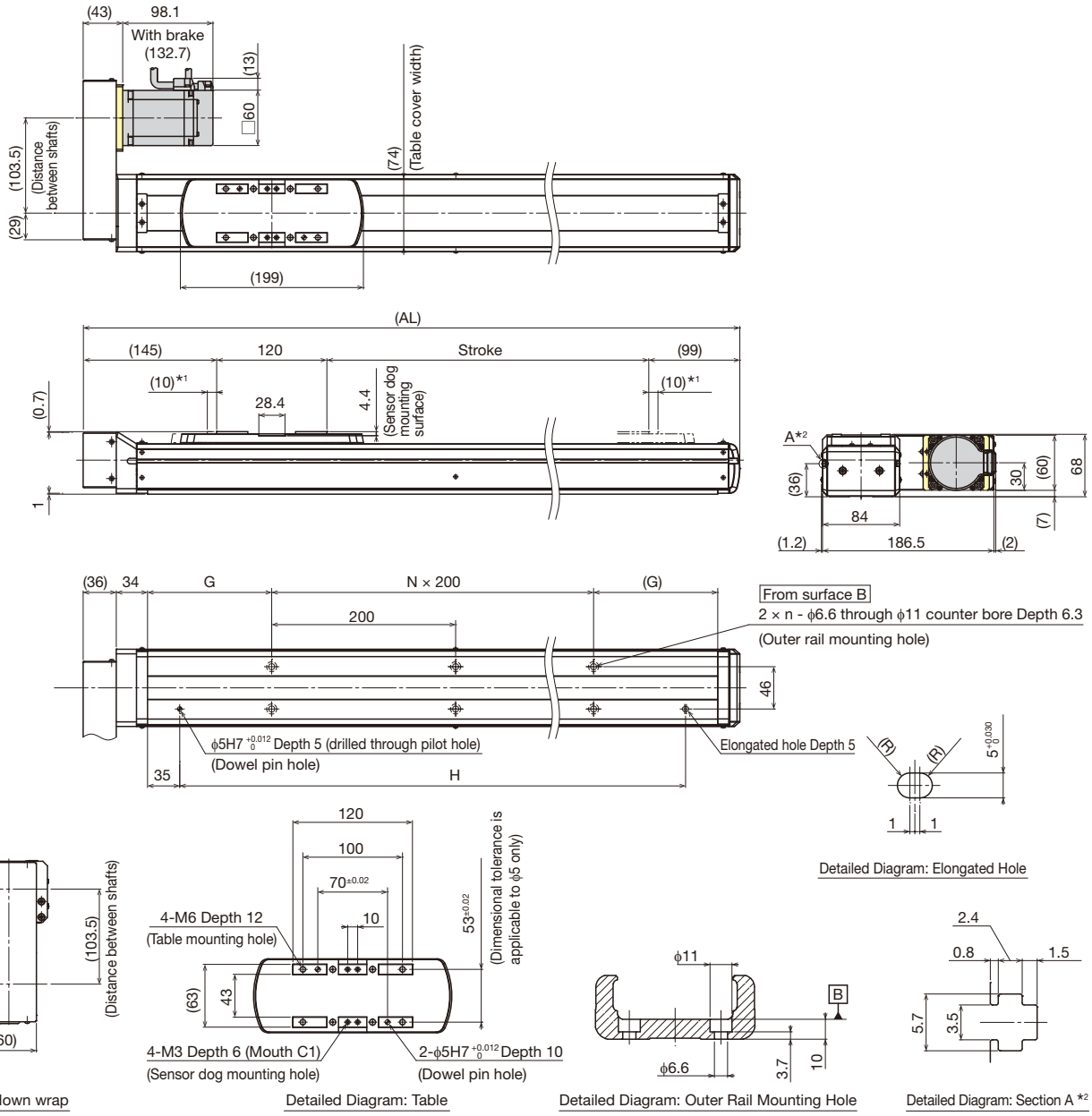
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 20 | 0.75 | 800 | 800 |
| | 1.5 | 800 | 800 |
| | 3 | 740 | 740 |
| 40 | 1.25 | 800 | 800 |
| | 2.5 | 680 | 680 |
| | 5 | 320 | 320 |

*7 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.

# KSF8R + THC

Motor rated output
400W

## 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.

| 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 | | | | | | | 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 *4 [kg] | | 10.0 (10.5) | 11.3 (11.8) | 12.6 (13.1) | 13.9 (14.4) | 15.2 (15.7) | 16.5 (17.0) | 17.8 (18.3) | 19.1 (19.6) | 20.4 (20.9) | 21.7 (22.2) | 23.0 (23.5) | 24.3 (24.8) | 25.6 (26.1) | 26.9 (27.4) | 28.2 (28.7) |

*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 Values when brake is installed are shown in parentheses.

# KSF10 THC Specifications

## Model Configuration

| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF10 - | 25 - | 0700 - | TH - | GR-6 / | M75 | L | S02 | D2 | F3 |

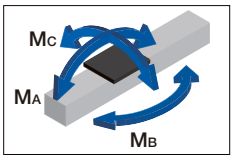
| KSF10 | 25: 25 mm<br>50: 50 mm | 0100: 100 mm<br>to<br>1500: 1500 mm | TH: THC | No symbol: None<br>T: Back tap<br>GR: Change the cover color to gray<br>6: Photo sensor<br>J: Proximity sensor | M75 : 750 W<br>M75B: 750 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00: Motor side<br>R00: Reverse motor side<br>S02: Motor side (sensor right)<br>S03: Reverse motor side (sensor right)<br>S20: Motor side (sensor left)<br>S30: Reverse motor side (sensor left) | D2: 200 V | No symbol: None<br>F3: Standard 3 m<br>F5: Standard 5 m<br>FA: Standard 10 m<br>H3: High flex 3 m<br>H5: High flex 5 m<br>HA: High flex 10 m |
|---|---|---|---|---|---|---|---|---|---|

## Basic Specifications

| | | | | | |
|---|---|---|---|---|---|
| Control device type | | | | THC | |
| Motor rated output [W] | | | | 750 | |
| Ball screw lead [mm] | | | | 25 | 50 |
| Rated speed *1 [mm/s] | | | | 1,250 | 2,500 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount | 1.0G | 60 | 17 |
| | | | 1.5G | 26 | 8 |
| | | Vertical mount | 1.0G | 25 | 9 |
| | | | 1.5G | 13 | 5 |
| Rated thrust *3 [N] | | | | 541 | 270 |
| Maximum thrust *4 [N] | | | | 1,620 | 810 |
| Electromagnetic brake retention [N] | | | | 541 | 270 |
| Running life *5 [km] | | | | 20,000 | |
| Positioning repeatability [mm] | | | | ±0.010 | |
| Lost motion [mm] | | | | 0.1 | |
| Static permissible moment *6 [N·m] | | | | MA: 1,049 MB: 712 MC: 671 | |

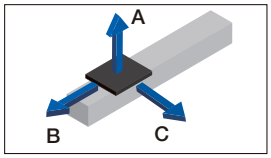
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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

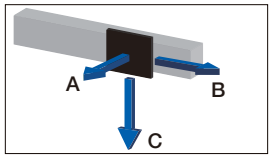



## Permissible Overhang Length *7

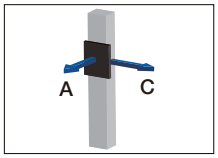
Horizontal use




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 | 660 | 370 | 450 |
| | 60 | 300 | 170 | 220 |
| 50 | 4.25 | 1000 | 1000 | 1000 |
| | 8.5 | 1000 | 1000 | 850 |
| | 17 | 580 | 530 | 430 |

Wall mount [mm]

| Ball screw lead [mm] | Load mass [kg] | A | B | C |
|---|---|---|---|---|
| 25 | 15 | 840 | 730 | 1000 |
| | 30 | 390 | 330 | 630 |
| | 60 | 160 | 140 | 270 |
| 50 | 4.25 | 1000 | 1000 | 1000 |
| | 8.5 | 790 | 1000 | 1000 |
| | 17 | 360 | 490 | 550 |

Vertical mount [mm]

| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 25 | 6.25 | 1000 | 1000 |
| | 12.5 | 710 | 710 |
| | 25 | 330 | 330 |
| 50 | 2.25 | 1000 | 1000 |
| | 4.5 | 1000 | 1000 |
| | 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 | 1000 | 1000 | 1000 |
| | 10.5 | 1000 | 1000 | 1000 |
| | 21 | 600 | 540 | 520 |
| 50 | 1.75 | 1000 | 1000 | 1000 |
| | 3.5 | 1000 | 1000 | 1000 |
| | 7 | 930 | 1000 | 800 |

Wall mount [mm]

| Ball screw lead [mm] | Load mass [kg] | A | B | C |
|---|---|---|---|---|
| 25 | 5.25 | 1000 | 1000 | 1000 |
| | 10.5 | 1000 | 1000 | 1000 |
| | 21 | 600 | 540 | 520 |
| 50 | 1.75 | 1000 | 1000 | 1000 |
| | 3.5 | 1000 | 1000 | 1000 |
| | 7 | 720 | 1000 | 910 |

Vertical mount [mm]

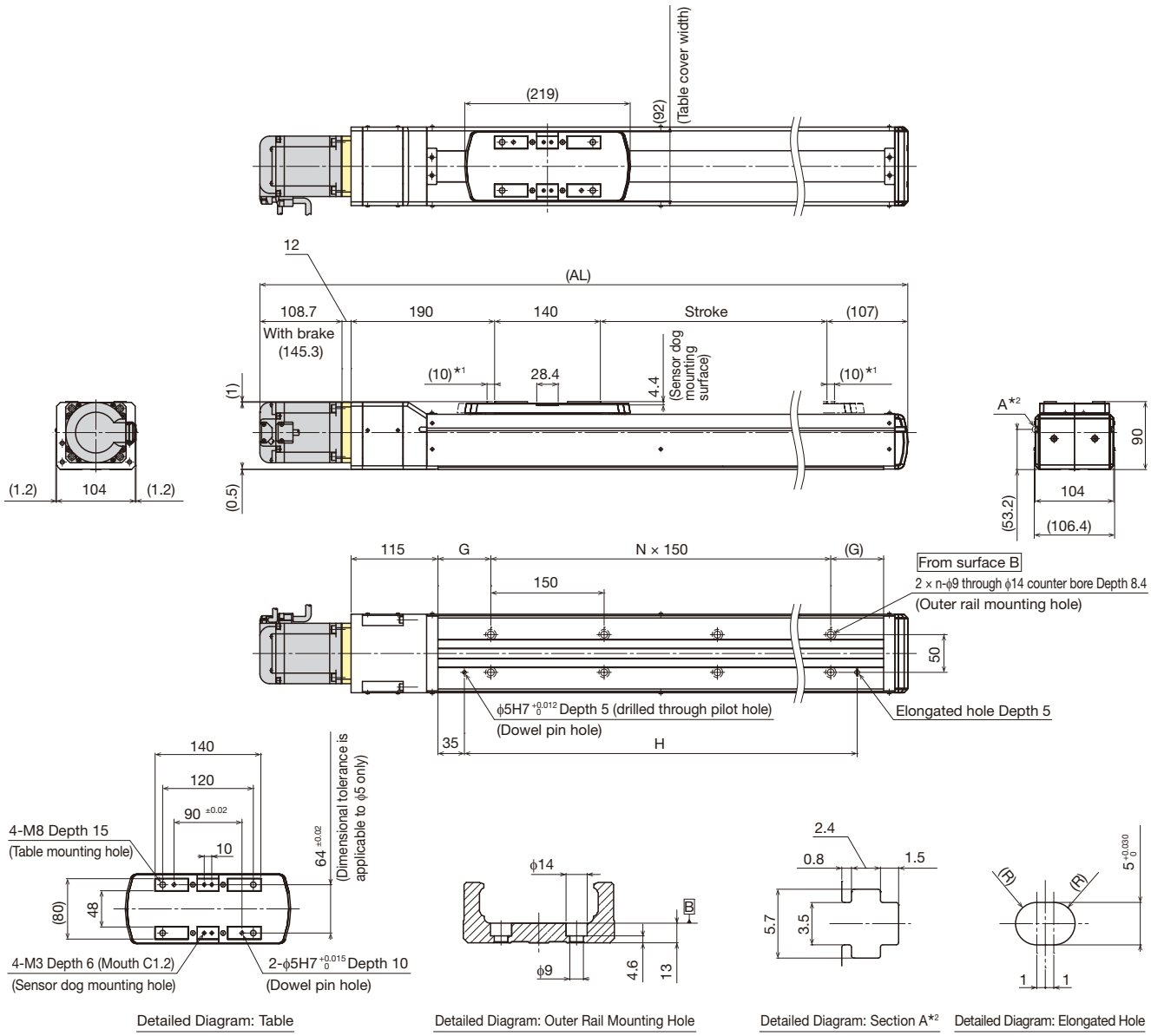
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 25 | 2.75 | 1000 | 1000 |
| | 5.5 | 1000 | 1000 |
| | 11 | 700 | 700 |
| 50 | 1 | 1000 | 1000 |
| | 2 | 1000 | 1000 |
| | 4 | 1000 | 1000 |

*7 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.

# KSF10 + THC

Motor rated output
750W

## Dimensions




Detailed Diagram: Table | Detailed Diagram: Outer Rail Mounting Hole | Detailed Diagram: Section A*2 | Detailed Diagram: Elongated Hole

*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.

| 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 *4 [mm] | AL | 657.7 (694.3) | 757.7 (794.3) | 857.7 (894.3) | 957.7 (994.3) | 1057.7 (1094.3) | 1157.7 (1194.3) | 1257.7 (1294.3) | 1357.7 (1394.3) | 1457.7 (1494.3) | 1557.7 (1594.3) | 1657.7 (1694.3) | 1757.7 (1794.3) | 1857.7 (1894.3) | 1957.7 (1994.3) | 2057.7 (2094.3) |
| | 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 *4 [kg] | | 15.3 (16.2) | 17.4 (18.3) | 19.4 (20.3) | 21.5 (22.4) | 23.5 (24.4) | 25.6 (26.5) | 27.7 (28.6) | 29.7 (30.6) | 31.8 (32.7) | 33.8 (34.7) | 35.9 (36.8) | 38.0 (38.9) | 40.0 (40.9) | 42.1 (43.0) | 44.1 (45.0) |

*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 Values when brake is installed are shown in parentheses.

# KSF10R THC Specifications

## Model Configuration

| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF10R - | 25 - | 0700 - | TH - | ML-GR-6 / | M75 | R | S02 | D2 | F3 |

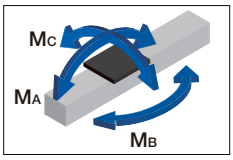
| KSF10R | 25: 25 mm<br>50: 50 mm | 0100: 100 mm<br>to<br>1500: 1500 mm | TH: THC | MR: Motor right wrap<br>ML: Motor left wrap<br>MD: Motor down wrap<br>T: Back tap<br>GR: Change the cover color to gray<br>6: Photo sensor<br>J: Proximity sensor | M75 : 750 W<br>M75B: 750 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00: Motor side<br>R00: Reverse motor side<br>S02: Motor side (sensor right)<br>S03: Reverse motor side (sensor right)<br>S20: Motor side (sensor left)<br>S30: Reverse motor side (sensor left) | D2: 200 V | No symbol: None<br>F3: Standard 3 m<br>F5: Standard 5 m<br>FA: Standard 10 m<br>H3: High flex 3 m<br>H5: High flex 5 m<br>HA: High flex 10 m |
|---|---|---|---|---|---|---|---|---|---|

## Basic Specifications

| Control device type | | | | THC | |
|---|---|---|---|---|---|
| Motor rated output [W] | | | | 750 | |
| Ball screw lead [mm] | | | | 25 | 50 |
| Rated speed *1 [mm/s] | | | | 1,250 | 2,500 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount | 1.0G | 38 | 12 |
| | | | 1.5G | 8 | 4 |
| | | Vertical mount | 1.0G | 19 | 7 |
| | | | 1.5G | 3 | 3 |
| Rated thrust *3 [N] | | | | 481 | 240 |
| Maximum thrust *4 [N] | | | | 1,440 | 720 |
| Electromagnetic brake retention [N] | | | | 481 | 240 |
| Running life *5 [km] | | | | 20,000 | |
| Positioning repeatability [mm] | | | | ±0.010 | |
| Lost motion [mm] | | | | 0.1 | |
| Static permissible moment *6 [N·m] | | | | MA: 1,049 MB: 712 MC: 671 | |

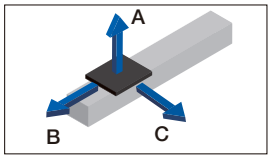
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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

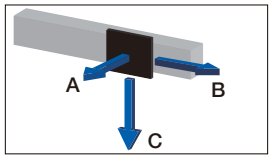



## Permissible Overhang Length *7

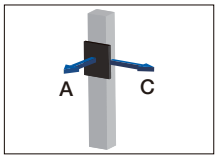
Horizontal use




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]

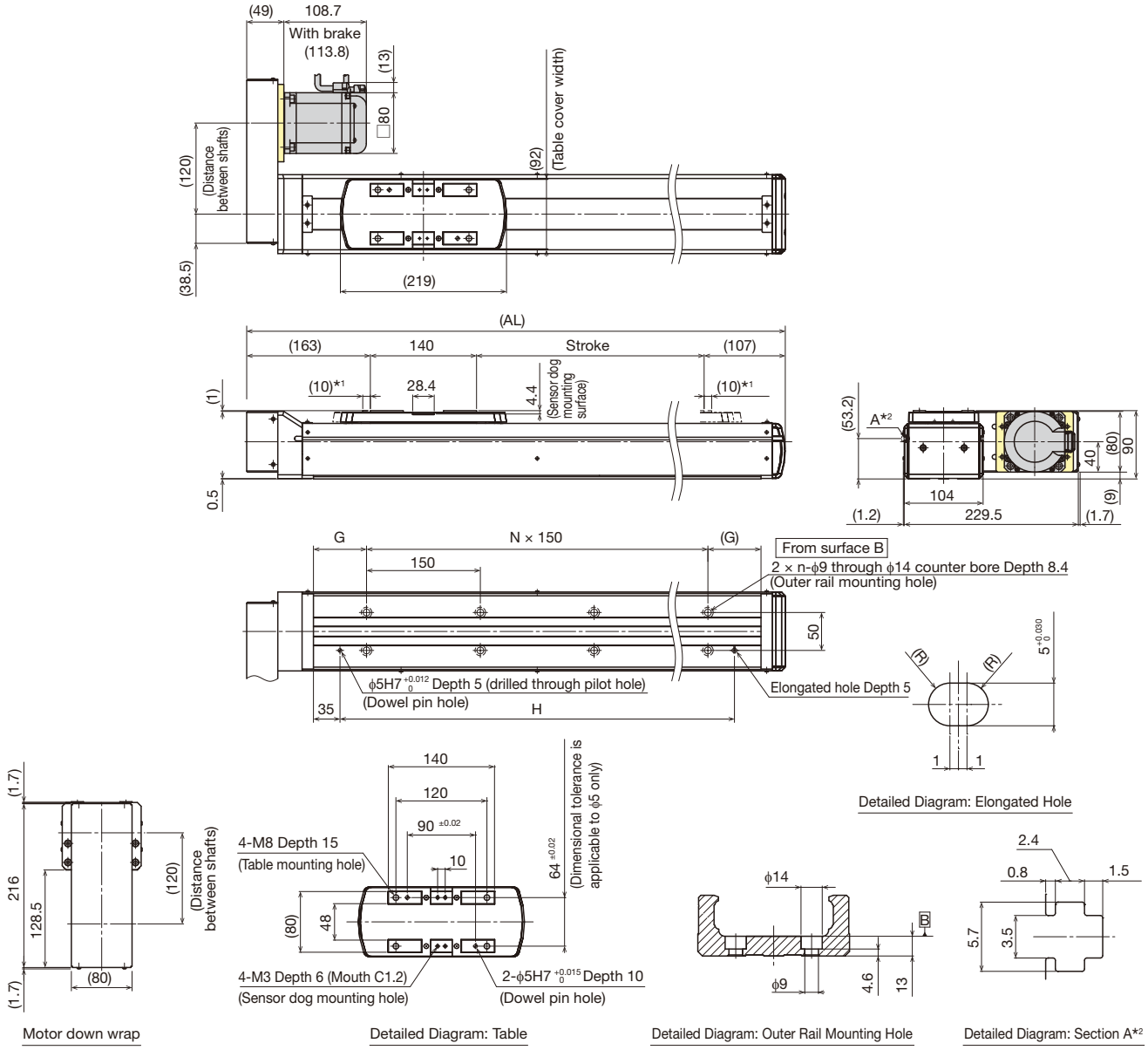
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 25 | 0.75 | 1000 | 1000 |
| | 1.5 | 1000 | 1000 |
| | 3 | 1000 | 1000 |
| 50 | 0.75 | 1000 | 1000 |
| | 1.5 | 1000 | 1000 |
| | 3 | 1000 | 1000 |

*7 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.

# KSF10R + THC

Motor rated output
750W

## 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.

| 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 *4 [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 *3 [kg] | | 16.7 (17.6) | 18.8 (19.7) | 20.8 (21.7) | 22.9 (23.8) | 25 (25.9) | 27 (27.9) | 29.1 (30) | 31.1 (32) | 33.2 (34.1) | 35.2 (36.1) | 37.3 (38.2) | 39.4 (40.3) | 41.4 (42.3) | 43.5 (44.4) | 45.5 (46.4) |

*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 Values when brake is installed are shown in parentheses.

# KSF5T THC Specifications

## Model Configuration

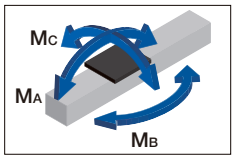
| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF5T - | 10 - | 0050 - | TH - | T-6 / | M10 | L | S02 | D1 | F3 |
| KSF5T | 10: 10 mm<br>20: 20 mm | 0050: 50 mm<br>to<br>0900: 900 mm | TH: THC | No symbol: None<br>T : Back tap<br>1 : Sensor rail only<br>6 : Photo sensor<br>J : Proximity sensor<br>F : Sub-table iron specification | M10 : 100 W<br>M10B: 100 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00 : Motor side (pressing)<br>D01 : Motor side (pressing)<br>D10 : Motor side (pressing)<br>D11 : Motor side (pressing)<br>R00 : Reverse motor side (pressing)<br>R01 : Reverse motor side (pressing)<br>R10 : Reverse motor side (pressing)<br>R11 : Reverse motor side (pressing)<br>S02 : Motor side (sensor right)<br>S12 : Motor side (sensor right)<br>S20 : Motor side (sensor left)<br>S21 : Motor side (sensor left)<br>S03 : Reverse motor side (sensor right)<br>S13 : Reverse motor side (sensor right)<br>S30 : Reverse motor side (sensor left)<br>S31 : Reverse motor side (sensor left) | D1: 100 V<br>D2: 200 V | No symbol: None<br>F3 : Standard 3 m<br>F5 : Standard 5 m<br>FA : Standard 10 m<br>H3 : High flex 3 m<br>H5 : High flex 5 m<br>HA : High flex 10 m |

## Basic Specifications

| Control device type | | | THC | |
|---|---|---|---|---|
| Motor rated output [W] | | | 100 | |
| Ball screw lead [mm] | | | 10 | 20 |
| Rated speed *1 [mm/s] | | | 500 | 1,000 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount 0.5G | 20 | – |
| | | Horizontal mount 1.0G | 15 | 7 |
| | | Horizontal mount 2.0G | – | 5 |
| | | Vertical mount 0.5G | 13 | – |
| | | Vertical mount 1.0G | 8 | 6 |
| | | Vertical mount 2.0G | – | 3 |
| Rated thrust *3 [N] | | | 180 | 90 |
| Maximum thrust *4 [N] | | | 537 | 269 |
| Electromagnetic brake retention [N] | | | 180 | 90 |
| Running life *5 [km] | | | 10,000 | 20,000 |
| Positioning repeatability [mm] | | | ±0.010 | |
| Lost motion [mm] | | | 0.1 | |
| Static permissible moment *6 *7 [N·m] | | | MA: 103 (147) MB: 61 (137) MC: 80 (149) | |

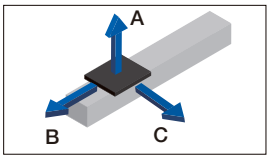
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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.
*7 ( ) shows the value for sub-table iron specifications.

Static Permissible Moment

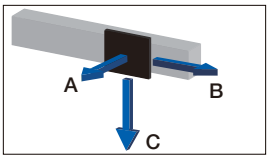



## Permissible Overhang Length *8

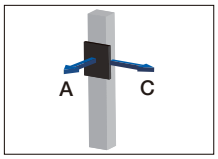
Horizontal use




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 | 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**

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 | 1.25 | 500 | 500 | 500 |
| | 2.5 | 440 | 340 | 380 |
| | 5 | 200 | 160 | 190 |

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 | 1.25 | 500 | 500 | 500 |
| | 2.5 | 330 | 320 | 430 |
| | 5 | 150 | 140 | 190 |

Vertical mount [mm]

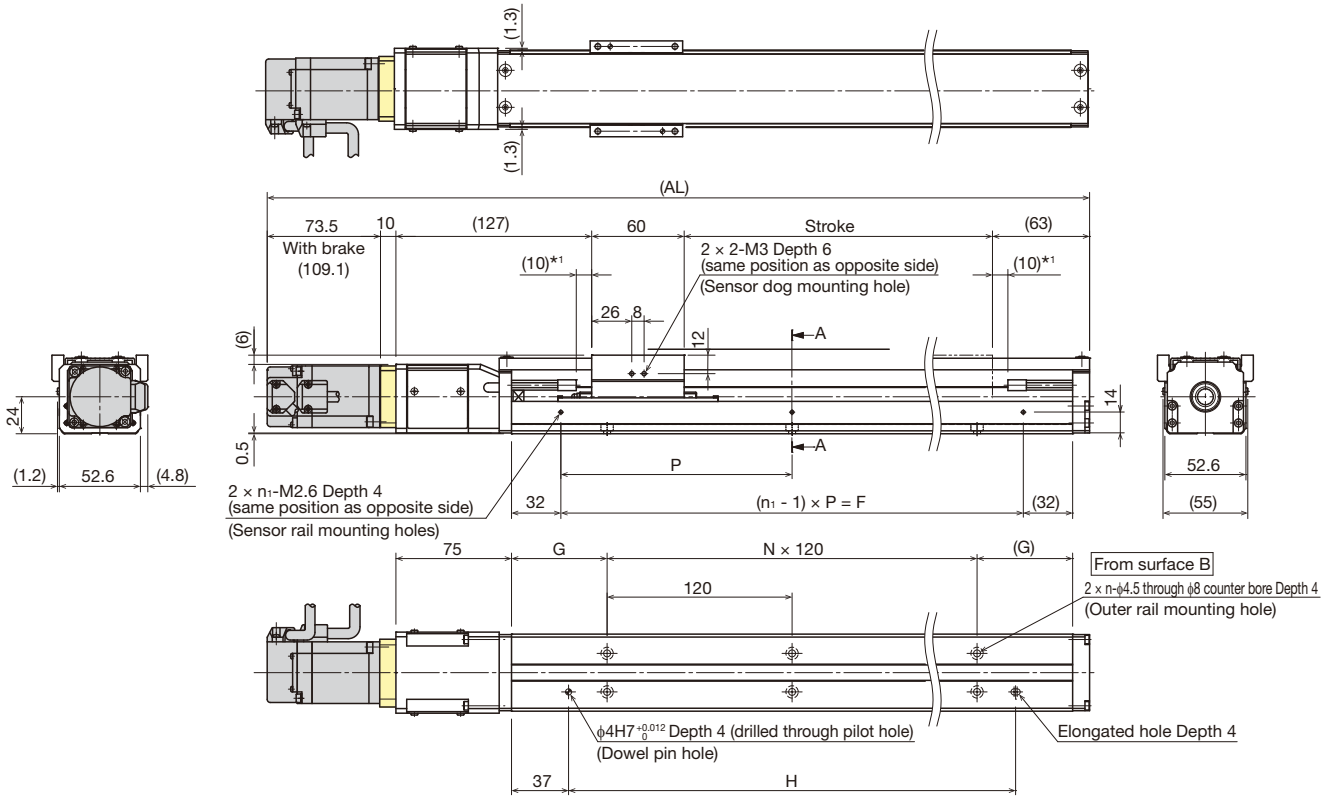
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 10 | 2 | 500 | 500 |
| | 4 | 230 | 230 |
| | 8 | 100 | 100 |
| 20 | 0.75 | 500 | 500 |
| | 1.5 | 410 | 410 |
| | 3 | 190 | 190 |

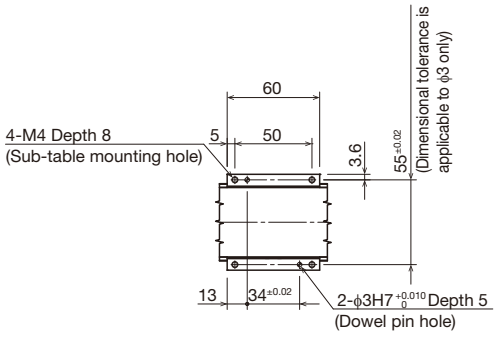
*8 This value is the overhang length whose running life is 10,000 km (20,000 km for lead 20 mm) for each direction.
A permissible value of the applied load in each direction.

# KSF5T + THC

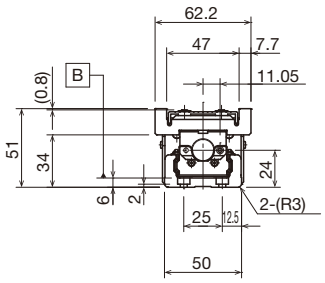
Motor rated output
**100W**

## Dimensions

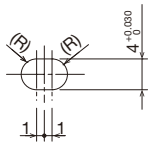



Detailed Diagram: Sub-table




A-A cross section




Detailed Diagram: Elongated Hole

*1 Stroke up to mechanical stopper.

| 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 *2 [mm/s] | Ball screw lead: 10 mm | 500 | | | | | | | | |
| | Ball screw lead: 20 mm | 1000 | | | | | | | | |
| Dimensions *3 [mm] | AL | 383.5 (419.1) | 433.5 (469.1) | 483.5 (519.1) | 533.5 (569.1) | 583.5 (619.1) | 633.5 (669.1) | 683.5 (719.1) | 733.5 (769.1) | 783.5 (819.1) |
| | 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 *3 *4 [kg] | | 2.7 (2.9) | 2.9 (3.1) | 3.2 (3.4) | 3.4 (3.6) | 3.7 (3.9) | 3.9 (4.1) | 4.2 (4.4) | 4.5 (4.7) | 4.7 (4.9) |
| 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 *2 [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 *3 [mm] | AL | 833.5 (869.1) | 883.5 (919.1) | 933.5 (969.1) | 983.5 (1019.1) | 1033.5 (1069.1) | 1083.5 (1119.1) | 1133.5 (1169.1) | 1183.5 (1219.1) | 1233.5 (1269.1) |
| | 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 *3 *4 [kg] | | 5.0 (5.2) | 5.2 (5.4) | 5.5 (5.7) | 5.7 (5.9) | 6.0 (6.2) | 6.3 (6.5) | 6.5 (6.7) | 6.8 (7.0) | 7.0 (7.2) |

*2 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.
*3 Values when brake is installed are shown in parentheses.
*4 Weight of 0.1kg should be added for sub-table iron specifications.

# KSF5RT THC Specifications

## Model Configuration

| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF5RT - | 10 - | 0050 - | TH - | ML-6 / | M10 | R | S02 | D1 | F3 |

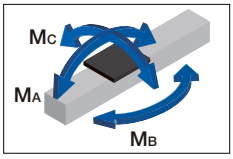
| KSF5RT | 10: 10 mm<br>20: 20 mm | 0050: 50 mm<br>to<br>0900: 900 mm | TH: THC | MR : Motor right wrap<br>ML : Motor left wrap<br>MD : Motor down wrap<br>T : Back tap<br>1 : Sensor rail only<br>6 : Photo sensor<br>J : Proximity sensor<br>F : Sub-table iron specification | M10 : 100 W<br>M10B: 100 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00 : Motor side (pressing)<br>D01 : Motor side (pressing)<br>D10 : Motor side (pressing)<br>D11 : Motor side (pressing)<br>R00 : Reverse motor side (pressing)<br>R01 : Reverse motor side (pressing)<br>R10 : Reverse motor side (pressing)<br>R11 : Reverse motor side (pressing)<br>S02 : Motor side (sensor right)<br>S12 : Motor side (sensor right)<br>S20 : Motor side (sensor left)<br>S21 : Motor side (sensor left)<br>S03 : Reverse motor side (sensor right)<br>S13 : Reverse motor side (sensor right)<br>S30 : Reverse motor side (sensor left)<br>S31 : Reverse motor side (sensor left) | D1: 100 V<br>D2: 200 V | No symbol: None<br>F3 : Standard 3 m<br>F5 : Standard 5 m<br>FA : Standard 10 m<br>H3 : High flex 3 m<br>H5 : High flex 5 m<br>HA : High flex 10 m |
|---|---|---|---|---|---|---|---|---|---|

## Basic Specifications

| Control device type | | | | THC | |
|---|---|---|---|---|---|
| Motor rated output [W] | | | | 100 | |
| Ball screw lead [mm] | | | | 10 | 20 |
| Rated speed *1 [mm/s] | | | | 500 | 1,000 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount | 0.5G | 20 | – |
| | | | 1.0G | 15 | 7 |
| | | | 2.0G | – | 4 |
| | | Vertical mount | 0.5G | 11 | – |
| | | | 1.0G | 8 | 5 |
| | | | 2.0G | – | 2.5 |
| Rated thrust *3 [N] | | | | 160 | 80 |
| Maximum thrust *4 [N] | | | | 478 | 239 |
| Electromagnetic brake retention [N] | | | | 160 | 80 |
| Running life *5 [km] | | | | 10,000 | 20,000 |
| Positioning repeatability [mm] | | | | ±0.010 | |
| Lost motion [mm] | | | | 0.1 | |
| Static permissible moment *6 *7 [N·m] | | | | MA: 103 (147) MB: 61 (137) MC: 80 (149) | |

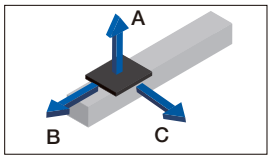
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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.
*7 ( ) shows the value for sub-table iron specifications.

Static Permissible Moment

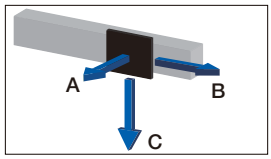



## Permissible Overhang Length *8

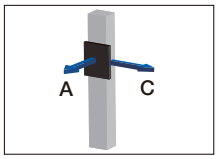
Horizontal use




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 | 60 | 40 | 190 |
| 20 | 1 | 500 | 500 | 500 |
| | 2 | 430 | 410 | 500 |
| | 4 | 190 | 190 | 250 |

Vertical mount [mm]

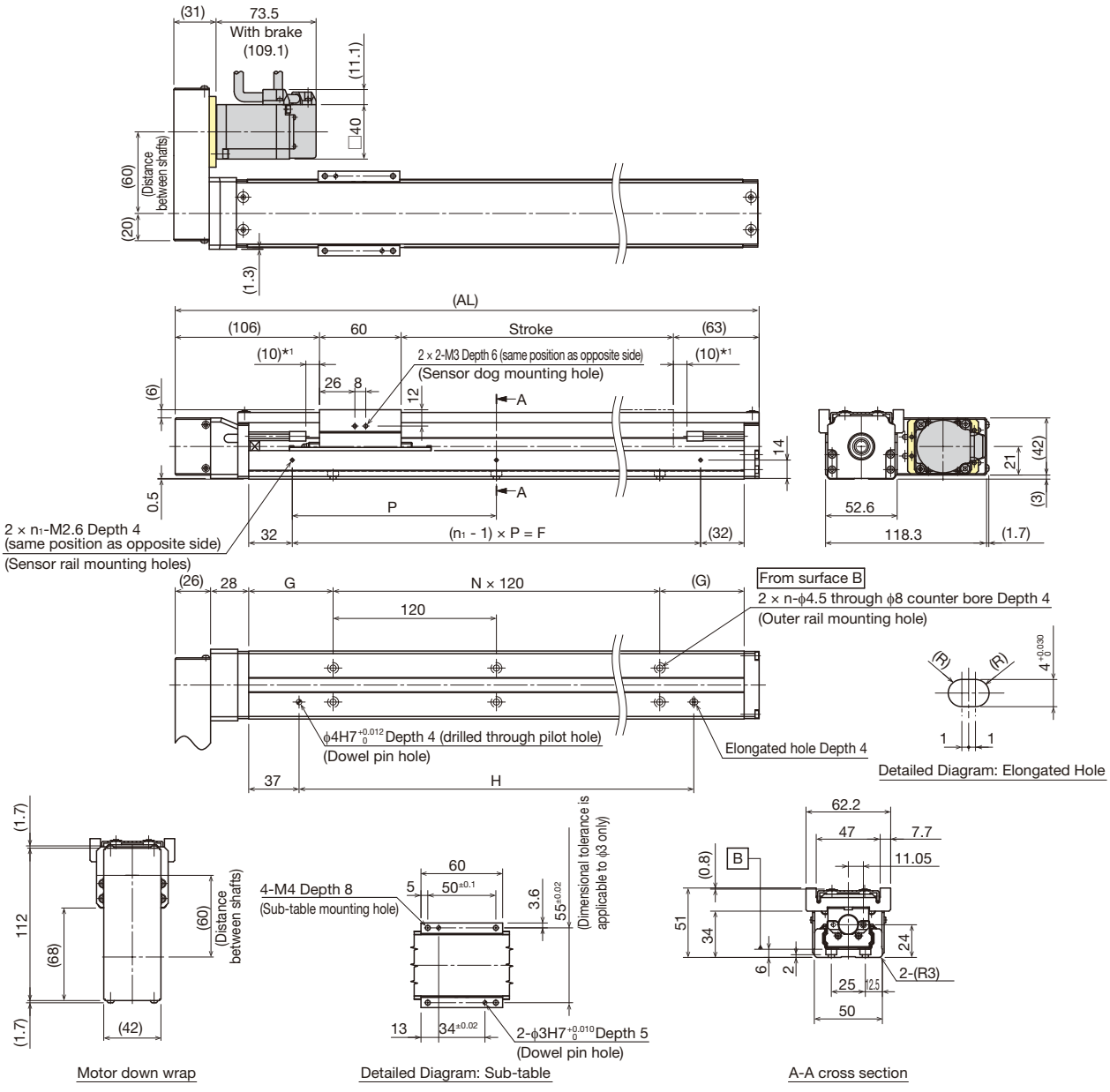
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 10 | 2 | 500 | 500 |
| | 4 | 230 | 230 |
| | 8 | 100 | 100 |
| 20 | 0.625 | 500 | 500 |
| | 1.25 | 500 | 500 |
| | 2.5 | 240 | 240 |

*8 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.

# KSF5RT + THC

Motor rated output
**100W**

## Dimensions




*1 Stroke up to mechanical stopper.

| 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 *2 [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 *3 *4 [kg] | | 2.8 (3.0) | 3.0 (3.2) | 3.3 (3.5) | 3.5 (3.7) | 3.8 (4.0) | 4.1 (4.3) | 4.3 (4.5) | 4.6 (4.8) | 4.8 (5.0) |
| 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 *2 [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 | 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 *3 *4 [kg] | | 5.1 (5.3) | 5.3 (5.5) | 5.6 (5.8) | 5.9 (6.1) | 6.1 (6.3) | 6.4 (6.6) | 6.6 (6.8) | 6.9 (7.1) | 7.2 (7.4) |

*2 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.
*3 Values when brake is installed are shown in parentheses.
*4 Weight of 0.1kg should be added for sub-table iron specifications.

# KSF6T THC Specifications

## Model Configuration

| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF6T - | 10 - | 0050 - | TH - | T-6 / | M20 | L | S02 | D1 | F3 |

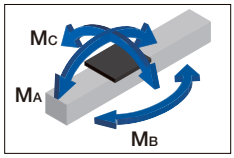
| KSF6T | 20: 20 mm<br>30: 30 mm | 0050: 50 mm<br>to<br>1300: 1300 mm | TH: THC | No symbol: None<br>T: Back tap<br>1: Sensor rail only<br>6: Photo sensor<br>J: Proximity sensor<br>F: Sub-table iron specification | M20 : 200 W<br>M20B: 200 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00: Motor side (pressing)<br>D01: Motor side (pressing)<br>D10: Motor side (pressing)<br>D11: Motor side (pressing)<br>R00: Reverse motor side (pressing)<br>R01: Reverse motor side (pressing)<br>R10: Reverse motor side (pressing)<br>R11: Reverse motor side (pressing)<br>S02: Motor side (sensor right)<br>S12: Motor side (sensor right)<br>S20: Motor side (sensor left)<br>S21: Motor side (sensor left)<br>S03: Reverse motor side (sensor right)<br>S13: Reverse motor side (sensor right)<br>S30: Reverse motor side (sensor left)<br>S31: Reverse motor side (sensor left) | D1: 100 V<br>D2: 200 V | No symbol: None<br>F3: Standard 3 m<br>F5: Standard 5 m<br>FA: Standard 10 m<br>H3: High flex 3 m<br>H5: High flex 5 m<br>HA: High flex 10 m |
|---|---|---|---|---|---|---|---|---|---|

## Basic Specifications

| Control device type | | | | THC | |
|---|---|---|---|---|---|
| Motor rated output [W] | | | | 200 | |
| Ball screw lead [mm] | | | | 20 | 30 |
| Rated speed *1 [mm/s] | | | | 1,000 | 1,500 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount | 1.0G | 22 | 14 |
| | | | 2.0G | 5 | 6 |
| | | Vertical mount | 1.0G | 10 | 6 |
| | | | 2.0G | 3 | 4 |
| Rated thrust *3 [N] | | | | 181 | 121 |
| Maximum thrust *4 [N] | | | | 540 | 360 |
| Electromagnetic brake retention [N] | | | | 359 | 239 |
| Running life *5 [km] | | | | 20,000 | |
| Positioning repeatability [mm] | | | | ±0.010 | |
| Lost motion [mm] | | | | 0.1 | |
| Static permissible moment *6 *7 [N·m] | | | | MA: 150 (266) | MB: 124 (252) MC: 139 (253) |

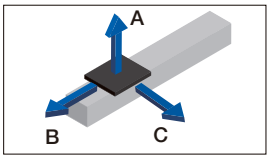
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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.
*7 ( ) shows the value for sub-table iron specifications.

Static Permissible Moment

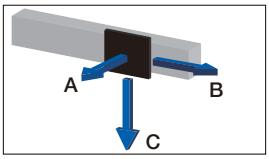



## Permissible Overhang Length *8

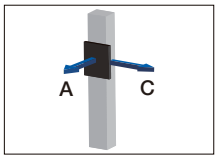
Horizontal use




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 | 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]

| Ball screw lead [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]

| Ball screw lead [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]

| Ball screw lead [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]

| Ball screw lead [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]

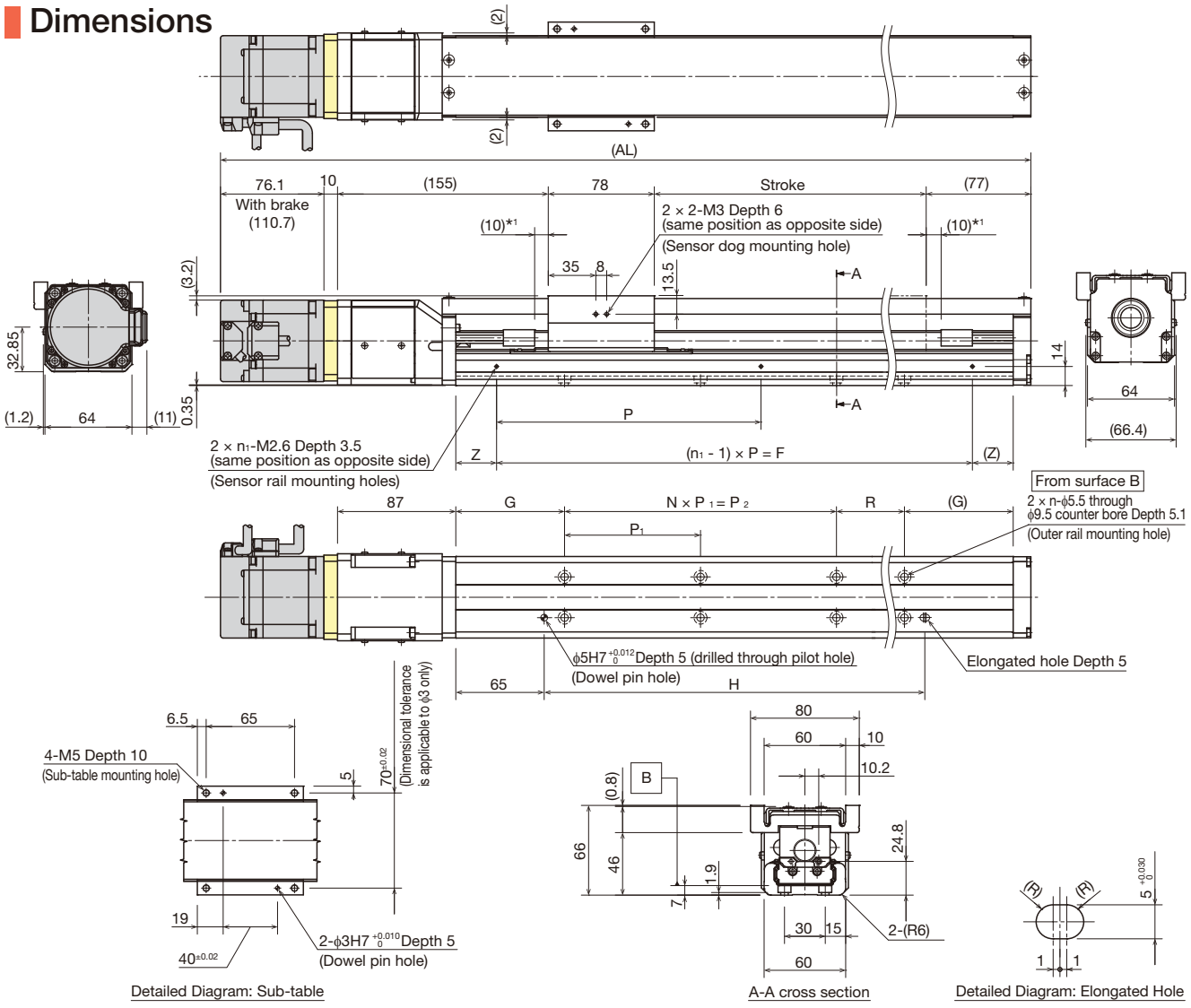
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 20 | 0.75 | 600 | 600 |
| | 1.5 | 600 | 600 |
| | 3 | 450 | 450 |
| 30 | 1 | 600 | 600 |
| | 2 | 460 | 460 |
| | 4 | 210 | 210 |

*8 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.

# KSF6T + THC

Motor rated output
**200W**

## Dimensions




Detailed Diagram: Sub-table

A-A cross section

Detailed Diagram: Elongated Hole

*1 Stroke up to mechanical stopper.

| 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 *2 [mm/s] | Ball screw lead: 20 mm | 1000 | | | | | | | | | | | | |
| | Ball screw lead: 30 mm | 1500 | | | | | | | | | | | | |
| Dimensions *3 [mm] | AL | 446.1 (480.7) | 496.1 (530.7) | 546.1 (580.7) | 596.1 (630.7) | 646.1 (680.7) | 696.1 (730.7) | 746.1 (780.7) | 796.1 (830.7) | 846.1 (880.7) | 896.1 (930.7) | 946.1 (980.7) | 996.1 (1030.7) | 1046.1 (1080.7) |
| | 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 | 3 | 4 | 4 | 4 | 4 | 5 |
| | $n_1$ | 2 | 2 | 4 | 3 | 3 | 3 | 6 | 4 | 4 | 4 | 8 | 5 | 5 |
| Weight *3 *4 [kg] | | 4.9 (5.4) | 5.2 (5.7) | 5.6 (6.1) | 5.9 (6.4) | 6.3 (6.8) | 6.6 (7.1) | 6.9 (7.4) | 7.3 (7.8) | 7.6 (8.1) | 8.0 (8.5) | 8.3 (8.8) | 8.7 (9.2) | 9.0 (9.5) |

| 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 *2 [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 *3 [mm] | AL | 1096.1 (1130.7) | 1146.1 (1180.7) | 1196.1 (1230.7) | 1246.1 (1280.7) | 1296.1 (1330.7) | 1346.1 (1380.7) | 1396.1 (1430.7) | 1446.1 (1480.7) | 1496.1 (1530.7) | 1546.1 (1580.7) | 1596.1 (1630.7) | 1646.1 (1680.7) | 1696.1 (1730.7) |
| | 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 | 6 |
| Mounting hole count | n | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 8 | 8 |
| | $n_1$ | 5 | 10 | 6 | 6 | 6 | 12 | 7 | 7 | 7 | 14 | 8 | 8 | 8 |
| Weight *3 *4 [kg] | | 9.4 (9.9) | 9.7 (10.2) | 10.1 (10.6) | 10.4 (10.9) | 10.8 (11.3) | 11.1 (11.6) | 11.5 (12.0) | 11.8 (12.3) | 12.2 (12.7) | 12.5 (13.0) | 12.9 (13.4) | 13.2 (13.7) | 13.6 (14.1) |

*2 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.
*3 Values when brake is installed are shown in parentheses.
*4 Weight of 0.4kg should be added for sub-table iron specifications.

# KSF6RT THC Specifications

## Model Configuration

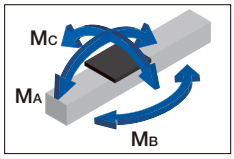
| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF6RT - | 20 - | 0050 - | TH - | ML-6 / | M20 | R | S02 | D1 | F3 |
| KSF6RT | 20: 20 mm<br>30: 30 mm | 0050: 50 mm<br>to<br>1300: 1300 mm | TH: THC | MR : Motor right wrap<br>ML : Motor left wrap<br>MD : Motor down wrap<br>T : Back tap<br>1 : Sensor rail only<br>6 : Photo sensor<br>J : Proximity sensor<br>F : Sub-table iron specification | M20 : 200 W<br>M20B: 200 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00 : Motor side (pressing)<br>D01 : Motor side (pressing)<br>D10 : Motor side (pressing)<br>D11 : Motor side (pressing)<br>R00 : Reverse motor side (pressing)<br>R01 : Reverse motor side (pressing)<br>R10 : Reverse motor side (pressing)<br>R11 : Reverse motor side (pressing)<br>S02 : Motor side (sensor right)<br>S12 : Motor side (sensor right)<br>S20 : Motor side (sensor left)<br>S21 : Motor side (sensor left)<br>S03 : Reverse motor side (sensor right)<br>S13 : Reverse motor side (sensor right)<br>S30 : Reverse motor side (sensor left)<br>S31 : Reverse motor side (sensor left) | D1: 100 V<br>D2: 200 V | No symbol: None<br>F3 : Standard 3 m<br>F5 : Standard 5 m<br>FA : Standard 10 m<br>H3 : High flex 3 m<br>H5 : High flex 5 m<br>HA : High flex 10 m |

## Basic Specifications

| Control device type | | | | THC | |
|---|---|---|---|---|---|
| Motor rated output [W] | | | | 200 | |
| Ball screw lead [mm] | | | | 20 | 30 |
| Rated speed *1 [mm/s] | | | | 1,000 | 1,500 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount | 1.0G | 19 | 11 |
| | | | 2.0G | 4 | 4 |
| | | Vertical mount | 1.0G | 9 | 5 |
| | | | 2.0G | 2.5 | 2.5 |
| Rated thrust *3 [N] | | | | 161 | 107 |
| Maximum thrust *4 [N] | | | | 480 | 320 |
| Electromagnetic brake retention [N] | | | | 319 | 213 |
| Running life *5 [km] | | | | 20,000 | |
| Positioning repeatability [mm] | | | | ±0.010 | |
| Lost motion [mm] | | | | 0.1 | |
| Static permissible moment *6 *7 [N·m] | | | | MA: 150 (266) | MB: 124 (252) MC: 139 (253) |

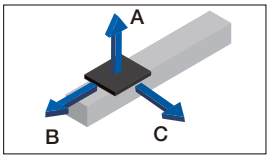
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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.
*7 ( ) shows the value for sub-table iron specifications.

Static Permissible Moment

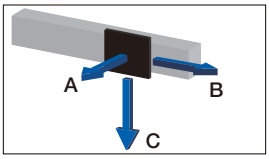



## Permissible Overhang Length *8

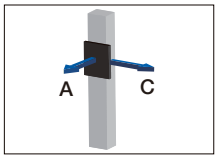
Horizontal use




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 | 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]

| 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 |

Vertical mount [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]

| 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]

| 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 |

Vertical mount [mm]

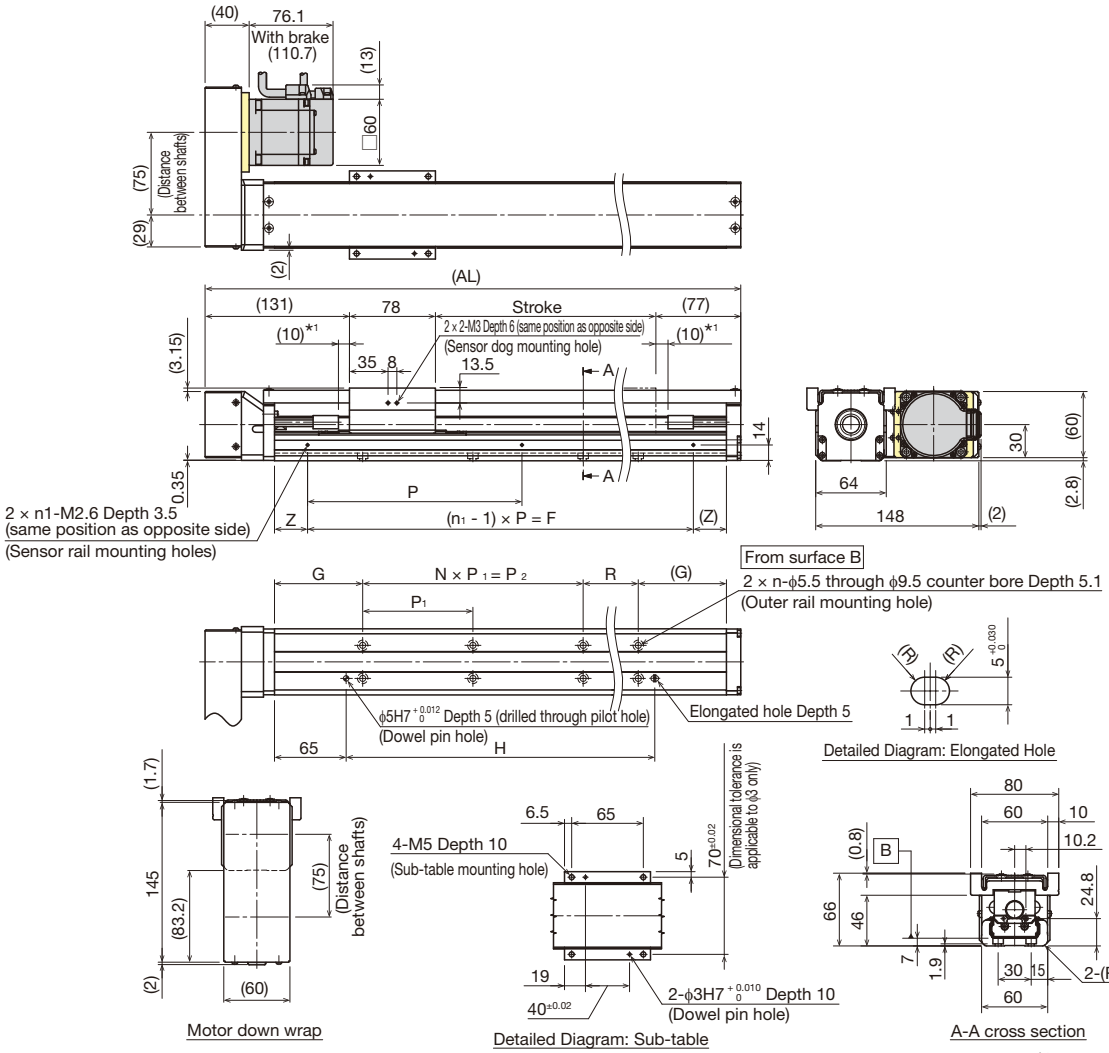
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 20 | 0.625 | 600 | 600 |
| | 1.25 | 600 | 600 |
| | 2.5 | 550 | 550 |
| 30 | 0.625 | 600 | 600 |
| | 1.25 | 600 | 600 |
| | 2.5 | 360 | 360 |

*8 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.

# KSF6RT + THC

Motor rated output
**200W**

## Dimensions




*1 Stroke up to mechanical stopper.

| 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 *2 [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 | 3 | 4 | 4 | 4 | 4 | 5 |
| | $n_1$ | 2 | 2 | 4 | 3 | 3 | 3 | 6 | 4 | 4 | 4 | 8 | 5 | 5 |
| Weight *3 *4 [kg] | | 5.3 (5.8) | 5.7 (6.2) | 6.0 (6.5) | 6.4 (6.9) | 6.7 (7.2) | 7.1 (7.6) | 7.4 (7.9) | 7.8 (8.3) | 8.1 (8.6) | 8.5 (9.0) | 8.8 (9.3) | 9.2 (9.7) | 9.5 (10.0) |
| 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 *2 [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 | 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 | 5 | 6 | 6 | 6 | 6 |
| Mounting hole count | n | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 8 | 8 |
| | $n_1$ | 5 | 10 | 6 | 6 | 6 | 12 | 7 | 7 | 7 | 14 | 8 | 8 | 8 |
| Weight *3 *4 [kg] | | 9.8 (10.3) | 10.2 (10.7) | 10.5 (11.0) | 10.9 (11.4) | 11.2 (11.7) | 11.6 (12.1) | 11.9 (12.4) | 12.3 (12.8) | 12.6 (13.1) | 13.0 (13.5) | 13.3 (13.8) | 13.7 (14.2) | 14.0 (14.5) |

*2 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.
*3 Values when brake is installed are shown in parentheses.
*4 Weight of 0.4kg should be added for sub-table iron specifications.

# KSF8T THC Specifications

## Model Configuration

| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF8T - | 20 - | 0700 - | TH - | T-6 / | M40 | L | S02 | D1 | F3 |

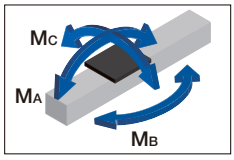
| KSF8T | 20: 20 mm<br>40: 40 mm | 0100: 100 mm<br>to<br>1500: 1500 mm | TH: THC | No symbol: None<br>T : Back tap<br>1 : Sensor rail only<br>6 : Photo sensor<br>J : Proximity sensor<br>F : Sub-table iron specification | M40 : 400 W<br>M40B: 400 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00 : Motor side (pressing)<br>D01 : Motor side (pressing)<br>D10 : Motor side (pressing)<br>D11 : Motor side (pressing)<br>R00 : Reverse motor side (pressing)<br>R01 : Reverse motor side (pressing)<br>R10 : Reverse motor side (pressing)<br>R11 : Reverse motor side (pressing)<br>S02 : Motor side (sensor right)<br>S12 : Motor side (sensor right)<br>S20 : Motor side (sensor left)<br>S21 : Motor side (sensor left)<br>S03 : Reverse motor side (sensor right)<br>S13 : Reverse motor side (sensor right)<br>S30 : Reverse motor side (sensor left)<br>S31 : Reverse motor side (sensor left) | D1: 100 V<br>D2: 200 V | No symbol: None<br>F3 : Standard 3 m<br>F5 : Standard 5 m<br>FA : Standard 10 m<br>H3 : High flex 3 m<br>H5 : High flex 5 m<br>HA : High flex 10 m |
|---|---|---|---|---|---|---|---|---|---|

## Basic Specifications

| Control device type | | | | THC | |
|---|---|---|---|---|---|
| Motor rated output [W] | | | | 400 | |
| Ball screw lead [mm] | | | | 20 | 40 |
| Rated speed *1 [mm/s] | | | | 1,000 | 2,000 |
| Maximum load capacity *2 *3 [kg] | Acceleration and deceleration rate | Horizontal mount | 1.0G | 43 (42) | 16 (15) |
| | | | 2.0G | 6 | 7 |
| | | Vertical mount | 1.0G | 20 (19) | 8 (7) |
| | | | 2.0G | 3 | 5 |
| Rated thrust *4 [N] | | | | 359 | 180 |
| Maximum thrust *5 [N] | | | | 1,080 | 540 |
| Electromagnetic brake retention [N] | | | | 359 | 180 |
| Running life *6 [km] | | | | 20,000 | |
| Positioning repeatability [mm] | | | | ±0.010 | |
| Lost motion [mm] | | | | 0.1 | |
| Static permissible moment *3 *7 [N·m] | | | | MA: 324 (730) | MB: 253 (425) MC: 265 (503) |

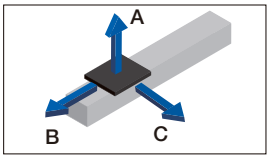
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 ( ) shows the value for sub-table iron specifications.
*4 At rated motor torque.
*5 The maximum thrust is a value at the maximum peak torque of the motor.
*6 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*7 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

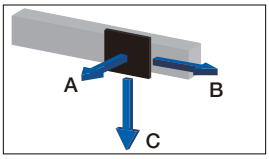



## Permissible Overhang Length *8

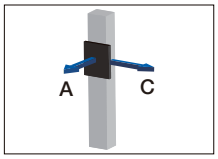
Horizontal use




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 | 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]

| 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]

| 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]

| 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]

| 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]

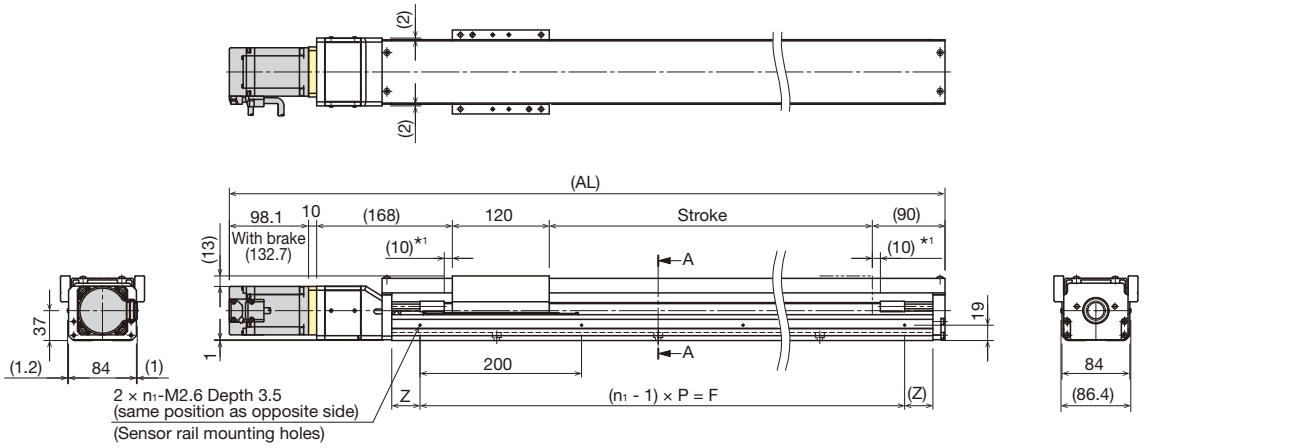
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 20 | 0.75 | 800 | 800 |
| | 1.5 | 800 | 800 |
| | 3 | 800 | 800 |
| 40 | 1.25 | 800 | 800 |
| | 2.5 | 800 | 800 |
| | 5 | 440 | 440 |

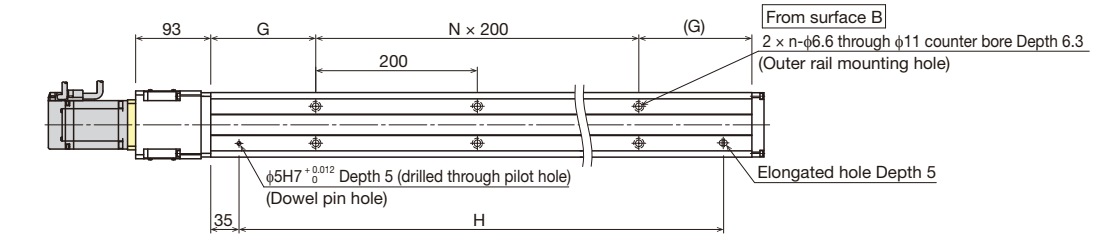
*8 This value is the overhang length whose running life is 20,000 km for each direction.
A permissible value of the applied load in each direction.

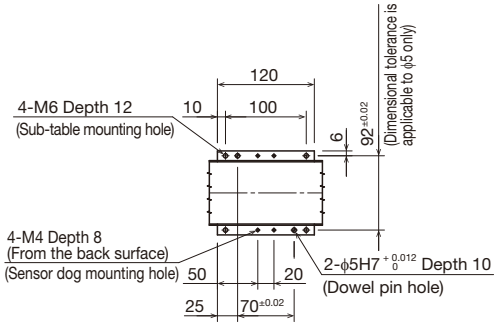
# KSF8T + THC

Motor rated output
**400W**

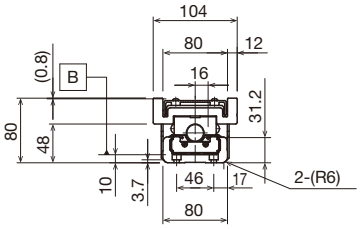
## Dimensions



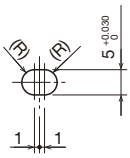




Detailed Diagram: Sub-table




A-A cross section




Detailed Diagram: Elongated Hole

*1 Stroke up to mechanical stopper.

| 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 *2 [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 *3 [mm] | AL | 586.1 (620.7) | 686.1 (720.7) | 786.1 (820.7) | 886.1 (920.7) | 986.1 (1020.7) | 1086.1 (1120.7) | 1186.1 (1220.7) | 1286.1 (1320.7) | 1386.1 (1420.7) | 1486.1 (1520.7) | 1586.1 (1620.7) | 1686.1 (1720.7) | 1786.1 (1820.7) | 1886.1 (1920.7) | 1986.1 (2020.7) |
| | 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 *3 *4 [kg] | | 9.8 (10.3) | 11.0 (11.5) | 12.3 (12.8) | 13.5 (14.0) | 14.8 (15.3) | 16.0 (16.5) | 17.3 (17.8) | 18.5 (19.0) | 19.8 (20.3) | 21.1 (21.6) | 22.3 (22.8) | 23.6 (24.1) | 24.8 (25.3) | 26.1 (26.6) | 27.3 (27.8) |

*2 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.
*3 Values when brake is installed are shown in parentheses.
*4 Weight of 1.1kg should be added for sub-table iron specifications.

# KSF8RT THC Specifications

## Model Configuration

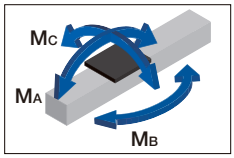
| Model | Ball screw lead | Stroke | Control device | Option | | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|---|
| KSF8RT - | 20 - | 0700 - | TH - | ML-6 | / | M40 | R | S02 | D1 | F3 |
| KSF8RT | 20: 20 mm<br>40: 40 mm | 0100: 100 mm<br>to<br>1500: 1500 mm | TH: THC | MR : Motor right wrap<br>ML : Motor left wrap<br>MD : Motor down wrap<br>T : Back tap<br>1 : Sensor rail only<br>6 : Photo sensor<br>J : Proximity sensor<br>F : Sub-table iron specification | | M40 : 400 W<br>M40B: 400 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00 : Motor side (pressing)<br>D01 : Motor side (pressing)<br>D10 : Motor side (pressing)<br>D11 : Motor side (pressing)<br>R00 : Reverse motor side (pressing)<br>R01 : Reverse motor side (pressing)<br>R10 : Reverse motor side (pressing)<br>R11 : Reverse motor side (pressing)<br>S02 : Motor side (sensor right)<br>S12 : Motor side (sensor right)<br>S20 : Motor side (sensor left)<br>S21 : Motor side (sensor left)<br>S03 : Reverse motor side (sensor right)<br>S13 : Reverse motor side (sensor right)<br>S30 : Reverse motor side (sensor left)<br>S31 : Reverse motor side (sensor left) | D1: 100 V<br>D2: 200 V | No symbol: None<br>F3 : Standard 3 m<br>F5 : Standard 5 m<br>FA : Standard 10 m<br>H3 : High flex 3 m<br>H5 : High flex 5 m<br>HA : High flex 10 m |

## Basic Specifications

| Control device type | | | THC | |
|---|---|---|---|---|
| Motor rated output [W] | | | 400 | |
| Ball screw lead [mm] | | | 20 | 40 |
| Rated speed *1 [mm/s] | | | 1,000 | 2,000 |
| Maximum load capacity *2 *3 [kg] | Acceleration and deceleration rate | Horizontal mount 1.0G | 41 (40) | 16 (15) |
| | | Horizontal mount 2.0G | 6 | 7 |
| | | Vertical mount 1.0G | 20 (19) | 8 (7) |
| | | Vertical mount 2.0G | 3 | 5 |
| Rated thrust *4 [N] | | | 319 | 160 |
| Maximum thrust *5 [N] | | | 960 | 480 |
| Electromagnetic brake retention [N] | | | 319 | 160 |
| Running life *6 [km] | | | 20,000 | |
| Positioning repeatability [mm] | | | ±0.010 | |
| Lost motion [mm] | | | 0.1 | |
| Static permissible moment *3 *7 [N·m] | | | MA: 324 (730) | MB: 253 (425) MC: 265 (503) |

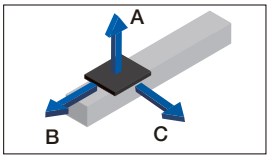
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 ( ) shows the value for sub-table iron specifications.
*4 At rated motor torque.
*5 The maximum thrust is a value at the maximum peak torque of the motor.
*6 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*7 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

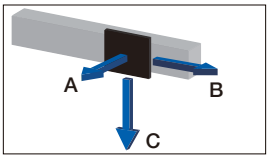



## Permissible Overhang Length *8

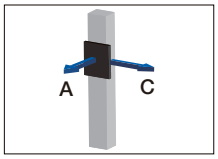
Horizontal use




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 | 520 | 250 | 330 |
| | 41 | 230 | 110 | 160 |
| 40 | 4 | 800 | 800 | 800 |
| | 8 | 690 | 530 | 480 |
| | 16 | 320 | 250 | 240 |

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 | 800 | 800 | 800 |
| | 8 | 420 | 500 | 660 |
| | 16 | 180 | 220 | 290 |

Vertical mount [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]

| 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]

| 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]

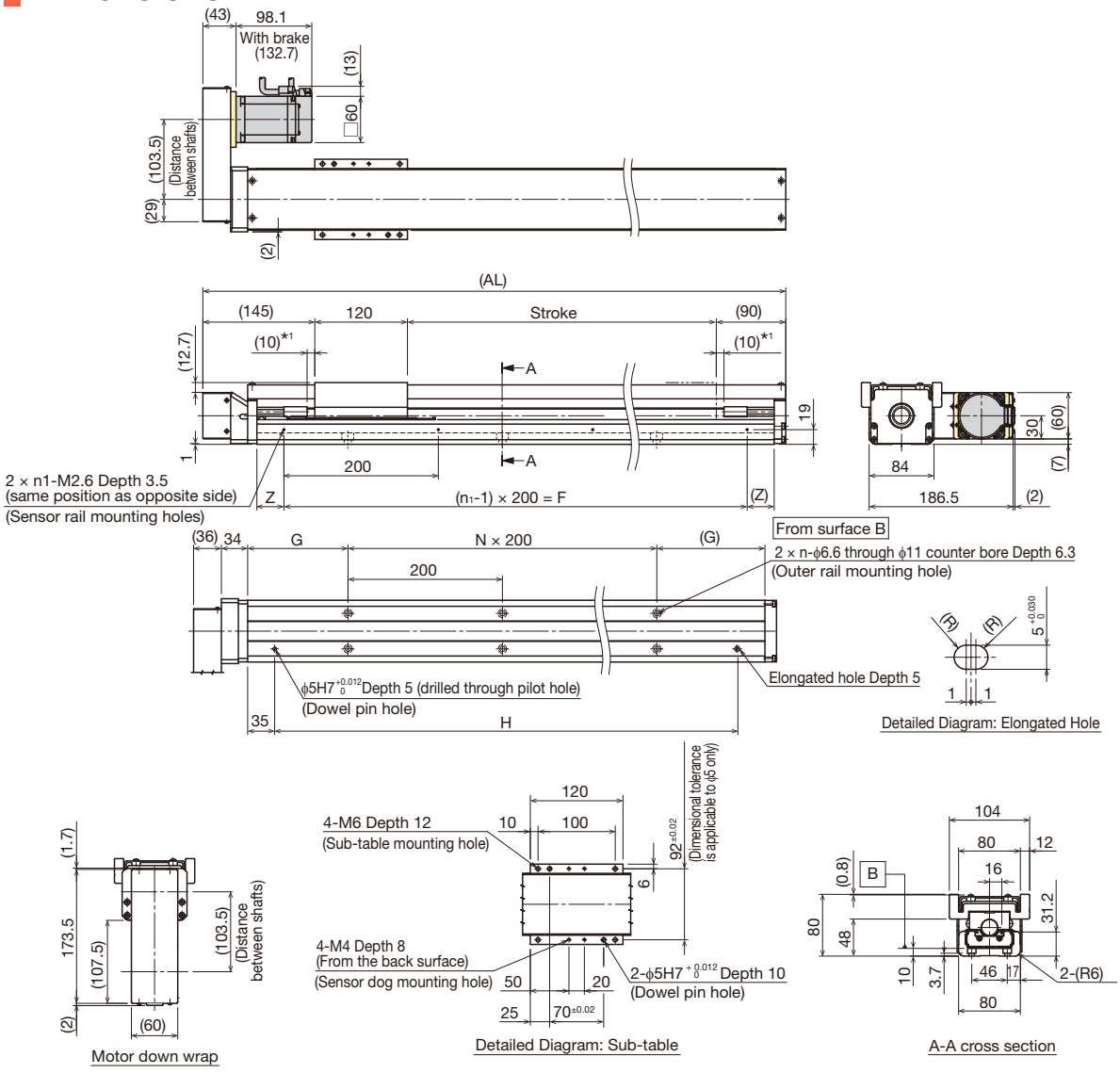
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 20 | 0.75 | 800 | 800 |
| | 1.5 | 800 | 800 |
| | 3 | 800 | 800 |
| 40 | 1.25 | 800 | 800 |
| | 2.5 | 800 | 800 |
| | 5 | 440 | 440 |

*8 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.

# KSF8RT + THC

Motor rated output
**400W**

## Dimensions




*1 Stroke up to mechanical stopper.

| 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 *2 [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 *3 [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 |
| | 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 *3 *4 [kg] | | 10.3 (10.8) | 11.5 (12.0) | 12.8 (13.3) | 14.1 (14.6) | 15.3 (15.8) | 16.6 (17.1) | 17.8 (18.3) | 19.1 (19.6) | 20.3 (20.8) | 21.6 (22.1) | 22.8 (23.3) | 24.1 (24.6) | 25.3 (25.8) | 26.6 (27.1) | 27.9 (28.4) |

*2 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.
*3 Values when brake is installed are shown in parentheses.
*4 Weight of 1.1kg should be added for sub-table iron specifications.

# KSF10T THC Specifications

## Model Configuration

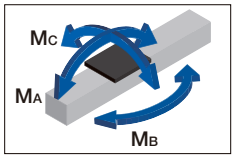
| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF10T - | 25 - | 0700 - | TH - | T-6 / | M75 | L | S02 | D1 | F3 |
| KSF10T | 25: 25 mm<br>50: 50 mm | 0100: 100 mm<br>to<br>1500: 1500 mm | TH: THC | No symbol: None<br>T: Back tap<br>1: Sensor rail only<br>6: Photo sensor<br>J: Proximity sensor | M75 : 750 W<br>M75B: 750 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00: Motor side (pressing)<br>D01: Motor side (pressing)<br>D10: Motor side (pressing)<br>D11: Motor side (pressing)<br>R00: Reverse motor side (pressing)<br>R01: Reverse motor side (pressing)<br>R10: Reverse motor side (pressing)<br>R11: Reverse motor side (pressing)<br>S02: Motor side (sensor right)<br>S12: Motor side (sensor right)<br>S20: Motor side (sensor left)<br>S21: Motor side (sensor left)<br>S03: Reverse motor side (sensor right)<br>S13: Reverse motor side (sensor right)<br>S30: Reverse motor side (sensor left)<br>S31: Reverse motor side (sensor left) | D2: 200 V | No symbol: None<br>F3: Standard 3 m<br>F5: Standard 5 m<br>FA: Standard 10 m<br>H3: High flex 3 m<br>H5: High flex 5 m<br>HA: High flex 10 m |

## Basic Specifications

| Control device type | | | THC | |
|---|---|---|---|---|
| Motor rated output [W] | | | 750 | |
| Ball screw lead [mm] | | | 25 | 50 |
| Rated speed *1 [mm/s] | | | 1,250 | 2,500 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount 1.0G | 58 | 15 |
| | | Horizontal mount 1.5G | 26 | 8 |
| | | Vertical mount 1.0G | 23 | 7 |
| | | Vertical mount 1.5G | 13 | 5 |
| Rated thrust *3 [N] | | | 541 | 270 |
| Maximum thrust *4 [N] | | | 1,620 | 810 |
| Electromagnetic brake retention [N] | | | 541 | 270 |
| Running life *5 [km] | | | 20,000 | |
| Positioning repeatability [mm] | | | ±0.010 | |
| Lost motion [mm] | | | 0.1 | |
| Static permissible moment *6 [N·m] | | | MA: 1,259 | MB: 949 MC: 787 |

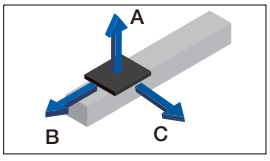
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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

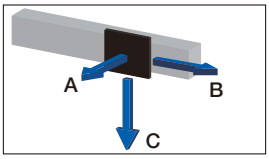



## Permissible Overhang Length *7

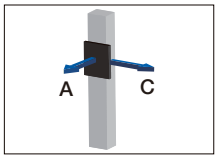
Horizontal use




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 | 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]

| 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]

| 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]

| 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]

| 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]

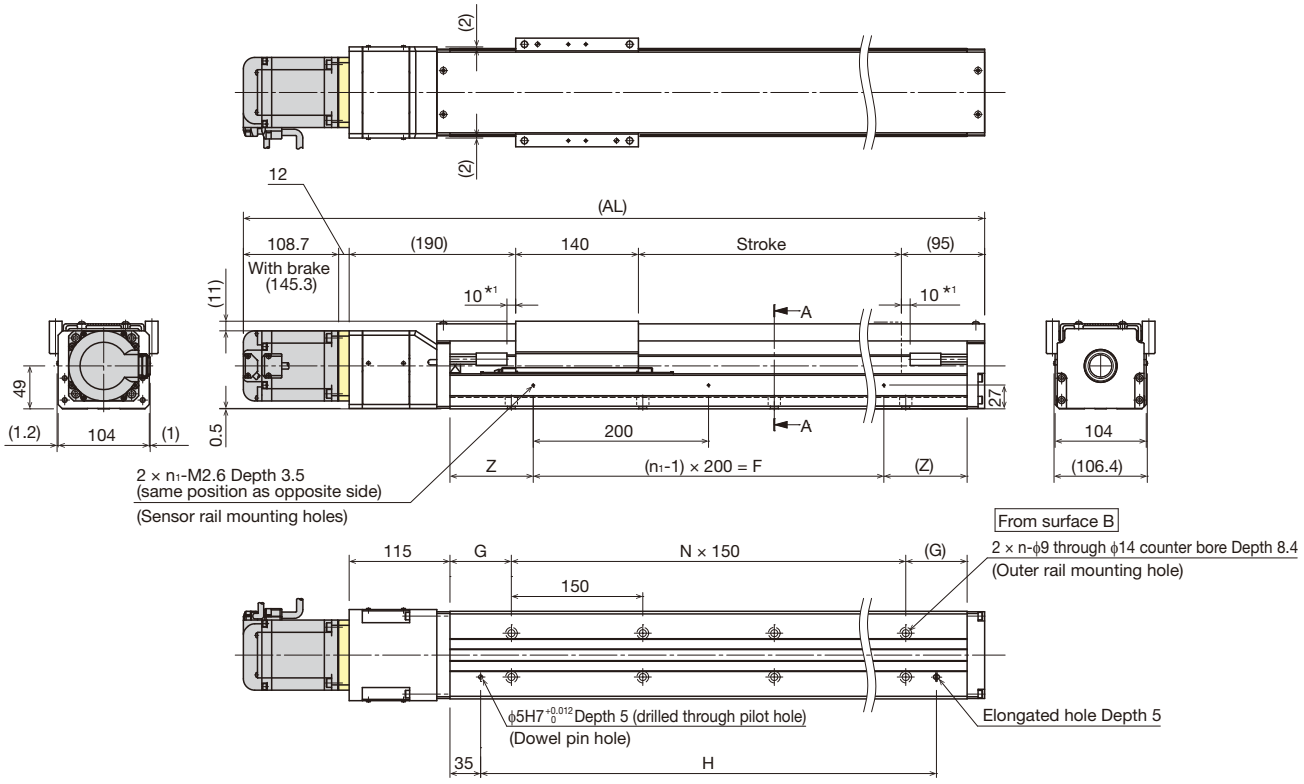
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 25 | 3.25 | 1000 | 1000 |
| | 6.5 | 1000 | 1000 |
| | 13 | 620 | 620 |
| 50 | 1.25 | 1000 | 1000 |
| | 2.5 | 1000 | 1000 |
| | 5 | 940 | 940 |

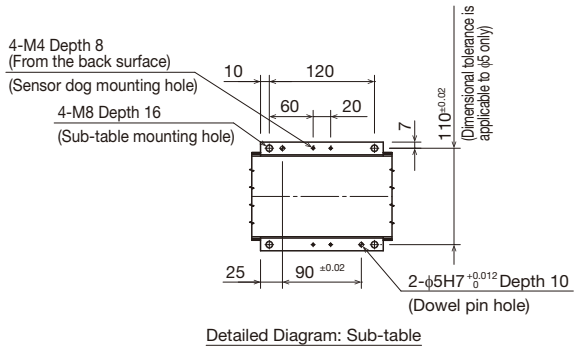
*7 This value is the overhang length whose running life is 20,000 km for each direction.
A permissible value of the applied load in each direction.

# KSF10T + THC

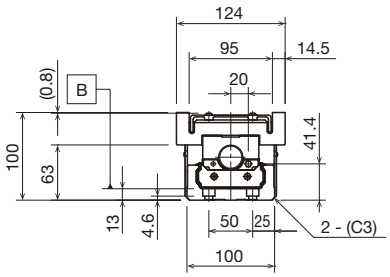
Motor rated output
750W

## Dimensions

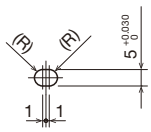



Detailed Diagram: Sub-table




A-A cross section




Detailed Diagram: Elongated Hole

*1 Stroke up to mechanical stopper.

| 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 *2 [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 *3 [mm] | AL | 645.7 (682.3) | 745.7 (782.3) | 845.7 (882.3) | 945.7 (982.3) | 1045.7 (1082.3) | 1145.7 (1182.3) | 1245.7 (1282.3) | 1345.7 (1382.3) | 1445.7 (1482.3) | 1545.7 (1582.3) | 1645.7 (1682.3) | 1745.7 (1782.3) | 1845.7 (1882.3) | 1945.7 (1982.3) | 2045.7 (2082.3) |
| | 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 *3 [kg] | | 19.4 (20.3) | 21.4 (22.3) | 23.4 (24.3) | 25.4 (26.3) | 27.4 (28.3) | 29.3 (30.2) | 31.3 (32.2) | 33.3 (34.2) | 35.3 (36.2) | 37.2 (38.1) | 39.2 (40.1) | 41.2 (42.1) | 43.2 (44.1) | 45.2 (46.1) | 47.1 (48.0) |

*2 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.
*3 Values when brake is installed are shown in parentheses.

# KSF10RT THC Specifications

## Model Configuration

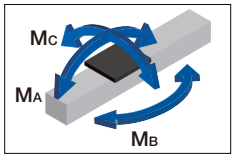
| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF10RT - | 25 - | 0700 - | TH - | ML-6 / | M75 | R | S02 | D2 | F3 |
| KSF10RT | 25: 25 mm<br>50: 50 mm | 0100: 100 mm<br>to<br>1500: 1500 mm | TH: THC | MR : Motor right wrap<br>ML : Motor left wrap<br>MD : Motor down wrap<br>T : Back tap<br>1 : Sensor rail only<br>6 : Photo sensor<br>J : Proximity sensor | M75 : 750 W<br>M75B: 750 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00 : Motor side (pressing)<br>D01 : Motor side (pressing)<br>D10 : Motor side (pressing)<br>D11 : Motor side (pressing)<br>R00 : Reverse motor side (pressing)<br>R01 : Reverse motor side (pressing)<br>R10 : Reverse motor side (pressing)<br>R11 : Reverse motor side (pressing)<br>S02 : Motor side (sensor right)<br>S12 : Motor side (sensor right)<br>S20 : Motor side (sensor left)<br>S21 : Motor side (sensor left)<br>S03 : Reverse motor side (sensor right)<br>S13 : Reverse motor side (sensor right)<br>S30 : Reverse motor side (sensor left)<br>S31 : Reverse motor side (sensor left) | D2: 200 V | No symbol: None<br>F3 : Standard 3 m<br>F5 : Standard 5 m<br>FA : Standard 10 m<br>H3 : High flex 3 m<br>H5 : High flex 5 m<br>HA : High flex 10 m |

## Basic Specifications

| Control device type | | | | THC | |
|---|---|---|---|---|---|
| Motor rated output [W] | | | | 750 | |
| Ball screw lead [mm] | | | | 25 | 50 |
| Rated speed *1 [mm/s] | | | | 1,250 | 2,500 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount | 1.0G | 36 | 10 |
| | | | 1.5G | 8 | 4 |
| | | Vertical mount | 1.0G | 17 | 5 |
| | | | 1.5G | 3 | 3 |
| Rated thrust *3 [N] | | | | 481 | 240 |
| Maximum thrust *4 [N] | | | | 1,440 | 720 |
| Electromagnetic brake retention [N] | | | | 481 | 240 |
| Running life *5 [km] | | | | 20,000 | |
| Positioning repeatability [mm] | | | | ±0.010 | |
| Lost motion [mm] | | | | 0.1 | |
| Static permissible moment *6 [N·m] | | | | MA: 1,259 | MB: 949 MC: 787 |

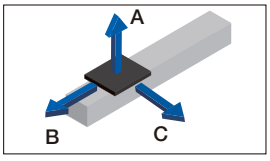
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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

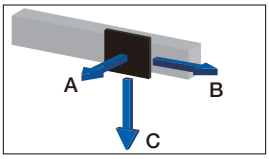



## Permissible Overhang Length *7

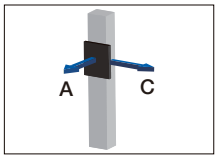
Horizontal use




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]

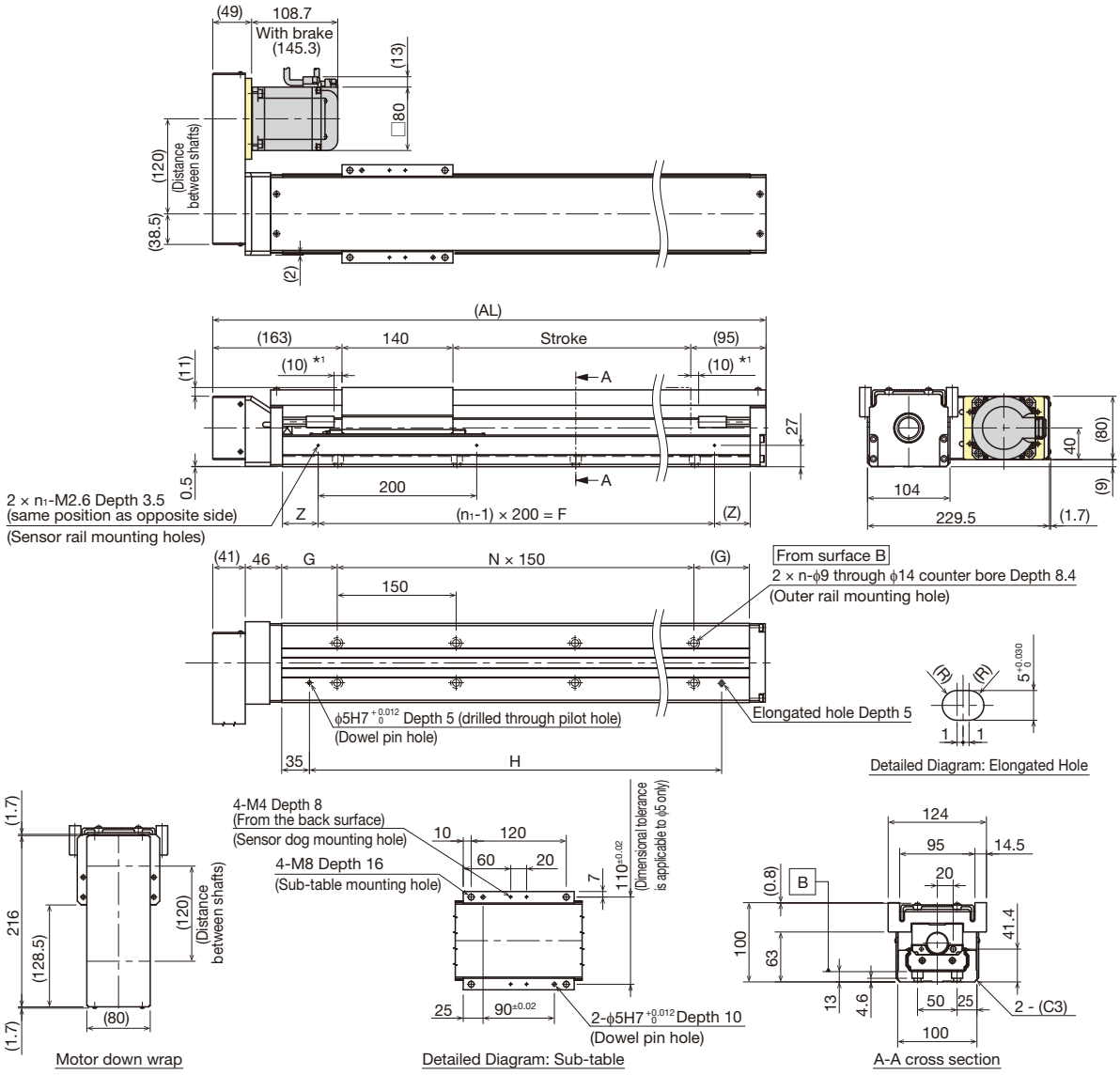
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 25 | 0.75 | 1000 | 1000 |
| | 1.5 | 1000 | 1000 |
| | 3 | 1000 | 1000 |
| 50 | 0.75 | 1000 | 1000 |
| | 1.5 | 1000 | 1000 |
| | 3 | 1000 | 1000 |

*7 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 + THC

Motor rated output
**750W**

## Dimensions




*1 Stroke up to mechanical stopper.

| 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 *2 [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 *3 [kg] | | 20.3 (21.2) | 22.3 (23.2) | 24.3 (25.2) | 26.2 (27.1) | 28.2 (29.1) | 30.2 (31.1) | 32.2 (33.1) | 34.2 (35.1) | 36.1 (37.0) | 38.1 (39.0) | 40.1 (41.0) | 42.1 (43.0) | 44.0 (44.9) | 46.0 (46.9) | 48.0 (48.9) |

*2 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.
*3 Values when brake is installed are shown in parentheses.

# KSF4U THC Specifications

## Model Configuration

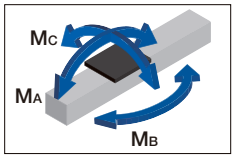
| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF4U - | 10 - | 0050 - | TH - | T-6 / | M10 | L | S02 | D1 | F3 |
| KSF4U | 10: 10 mm<br>16: 16 mm | 0050: 50 mm<br>to<br>0900: 900 mm | TH: THC | No symbol: None<br>T: Back tap<br>1: Sensor rail only<br>6: Photo sensor<br>J: Proximity sensor | M10 : 100 W<br>M10B: 100 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00: Motor side (pressing)<br>D01: Motor side (pressing)<br>D10: Motor side (pressing)<br>D11: Motor side (pressing)<br>R00: Reverse motor side (pressing)<br>R01: Reverse motor side (pressing)<br>R10: Reverse motor side (pressing)<br>R11: Reverse motor side (pressing)<br>S02: Motor side (sensor right)<br>S12: Motor side (sensor right)<br>S20: Motor side (sensor left)<br>S21: Motor side (sensor left)<br>S03: Reverse motor side (sensor right)<br>S13: Reverse motor side (sensor right)<br>S30: Reverse motor side (sensor left)<br>S31: Reverse motor side (sensor left) | D1: 100 V<br>D2: 200 V | No symbol: None<br>F3: Standard 3 m<br>F5: Standard 5 m<br>FA: Standard 10 m<br>H3: High flex 3 m<br>H5: High flex 5 m<br>HA: High flex 10 m |

## Basic Specifications

| Control device type | | | THC | |
|---|---|---|---|---|
| Motor rated output [W] | | | 100 | |
| Ball screw lead [mm] | | | 10 | 16 |
| Rated speed *1 [mm/s] | | | 500 | 800 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount 0.5G | 12 | – |
| | | Horizontal mount 1.0G | 8 | 8 |
| | | Horizontal mount 2.0G | – | 6 |
| | | Vertical mount 0.5G | 8 | – |
| | | Vertical mount 1.0G | 6 | 6 |
| | | Vertical mount 2.0G | – | 4 |
| Rated thrust *3 [N] | | | 180 | 112 |
| Maximum thrust *4 [N] | | | 537 | 336 |
| Electromagnetic brake retention [N] | | | 180 | 112 |
| Running life *5 [km] | | | 10,000 | 20,000 |
| Positioning repeatability [mm] | | | ±0.010 | |
| Lost motion [mm] | | | 0.1 | |
| Static permissible moment *6 [N·m] | | | MA: 103 MB: 95 MC: 58 | |

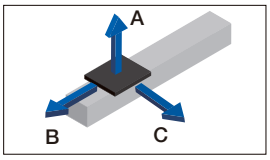
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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

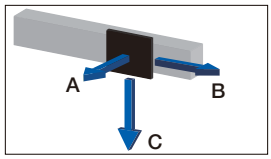



## Permissible Overhang Length *7

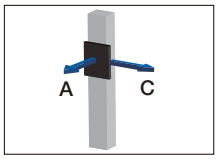
Horizontal use




Wall use




Vertical use




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

Horizontal mount [mm]

| 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 |

Wall mount [mm]

| 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 |

Vertical mount [mm]

| 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**

Horizontal mount [mm]

| 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 |

Wall mount [mm]

| 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 |

Vertical mount [mm]

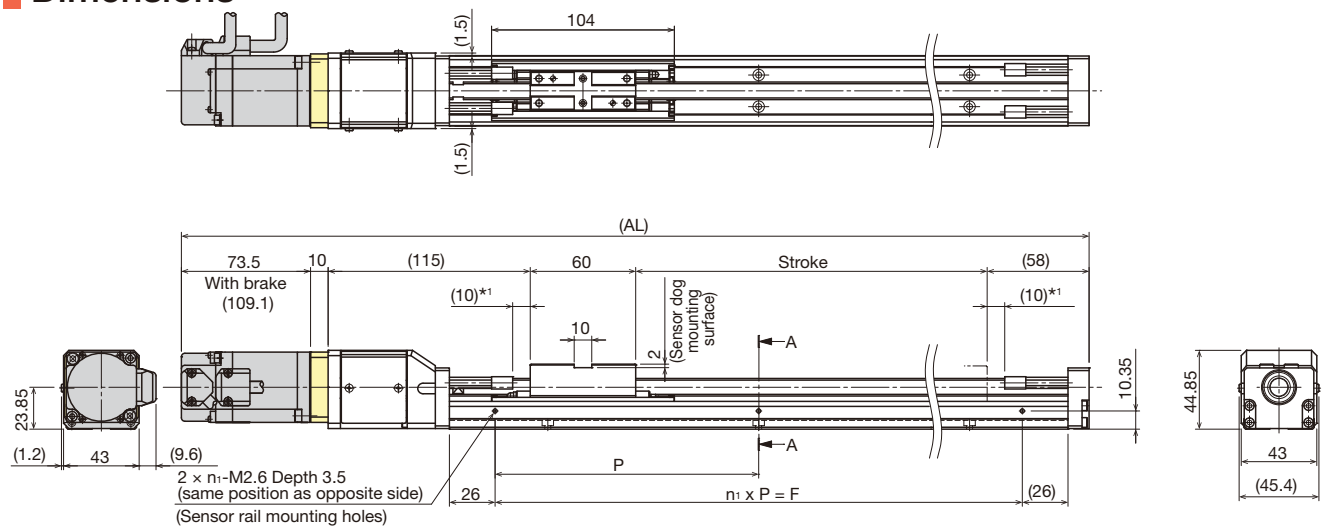
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 10 | 1.5 | 400 | 400 |
| | 3 | 200 | 200 |
| | 6 | 90 | 90 |
| 16 | 1 | 400 | 400 |
| | 2 | 200 | 200 |
| | 4 | 90 | 90 |

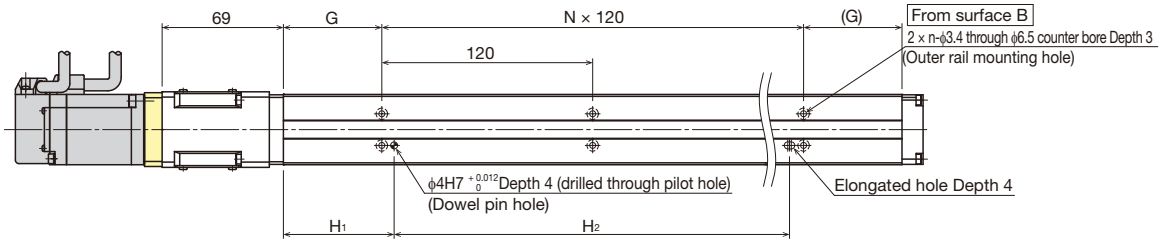
*7 This value is the overhang length whose running life is 10,000 km (20,000 km for lead 16 mm) for each direction.
A permissible value of the applied load in each direction.

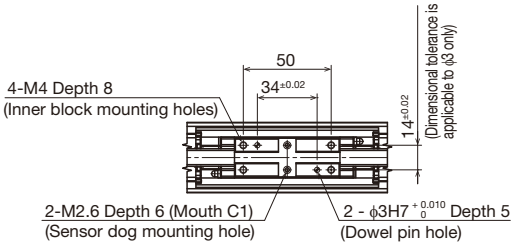
# KSF4U + THC

Motor rated output
**100W**

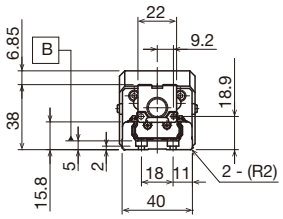
## Dimensions



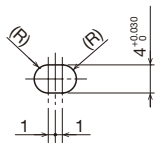




Detailed Diagram: Inner Block




A-A cross section




Detailed Diagram: Elongated Hole

*1 Stroke up to mechanical stopper.

| 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 *2 [mm/s] | Ball screw lead: 10 mm | 500 | | | | | | | | |
| | Ball screw lead: 16 mm | 800 | | | | | | | | |
| Dimensions *3 [mm] | AL | 366.5 (402.1) | 416.5 (452.1) | 466.5 (502.1) | 516.5 (552.1) | 566.5 (602.1) | 616.5 (652.1) | 666.5 (702.1) | 716.5 (752.1) | 766.5 (802.1) |
| | 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 |
| 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 *3 [kg] | | 1.8 (2.0) | 2.0 (2.2) | 2.2 (2.4) | 2.3 (2.5) | 2.5 (2.7) | 2.6 (2.8) | 2.8 (3.0) | 3.0 (3.2) | 3.1 (3.3) |
| 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 *2 [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 *3 [mm] | AL | 816.5 (852.1) | 866.5 (902.1) | 916.5 (952.1) | 966.5 (1002.1) | 1016.5 (1052.1) | 1066.5 (1102.1) | 1116.5 (1152.1) | 1166.5 (1202.1) | 1216.5 (1252.1) |
| | 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 |
| 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 *3 [kg] | | 3.3 (3.5) | 3.5 (3.7) | 3.6 (3.8) | 3.8 (4.0) | 3.9 (4.1) | 4.1 (4.3) | 4.3 (4.5) | 4.4 (4.6) | 4.6 (4.8) |

*2 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.
*3 Values when brake is installed are shown in parentheses.

# KSF4RU THC Specifications

## Model Configuration

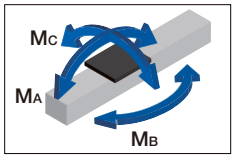
| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF4RU - | 10 - | 0050 - | TH - | ML-6 / | M10 | R | S02 | D1 | F3 |
| KSF4RU | 10: 10 mm<br>16: 16 mm | 0050: 50 mm<br>to<br>0900: 900 mm | TH: THC | MR : Motor right wrap<br>ML : Motor left wrap<br>MD : Motor down wrap<br>T : Back tap<br>1 : Sensor rail only<br>6 : Photo sensor<br>J : Proximity sensor | M10 : 100 W<br>M10B: 100 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00 : Motor side (pressing)<br>D01 : Motor side (pressing)<br>D10 : Motor side (pressing)<br>D11 : Motor side (pressing)<br>R00 : Reverse motor side (pressing)<br>R01 : Reverse motor side (pressing)<br>R10 : Reverse motor side (pressing)<br>R11 : Reverse motor side (pressing)<br>S02 : Motor side (sensor right)<br>S12 : Motor side (sensor right)<br>S20 : Motor side (sensor left)<br>S21 : Motor side (sensor left)<br>S03 : Reverse motor side (sensor right)<br>S13 : Reverse motor side (sensor right)<br>S30 : Reverse motor side (sensor left)<br>S31 : Reverse motor side (sensor left) | D1: 100 V<br>D2: 200 V | No symbol: None<br>F3 : Standard 3 m<br>F5 : Standard 5 m<br>FA : Standard 10 m<br>H3 : High flex 3 m<br>H5 : High flex 5 m<br>HA : High flex 10 m |

## Basic Specifications

| Control device type | | | THC | |
|---|---|---|---|---|
| Motor rated output [W] | | | 100 | |
| Ball screw lead [mm] | | | 10 | 16 |
| Rated speed *1 [mm/s] | | | 500 | 800 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount 0.5G | 12 | – |
| | | Horizontal mount 1.0G | 8 | 8 |
| | | Horizontal mount 2.0G | – | 6 |
| | | Vertical mount 0.5G | 8 | – |
| | | Vertical mount 1.0G | 6 | 6 |
| | | Vertical mount 2.0G | – | 4 |
| Rated thrust *3 [N] | | | 160 | 100 |
| Maximum thrust *4 [N] | | | 478 | 298 |
| Electromagnetic brake retention [N] | | | 160 | 100 |
| Running life *5 [km] | | | 10,000 | 20,000 |
| Positioning repeatability [mm] | | | ±0.010 | |
| Lost motion [mm] | | | 0.1 | |
| Static permissible moment *6 [N·m] | | | MA: 103 MB: 95 MC: 58 | |

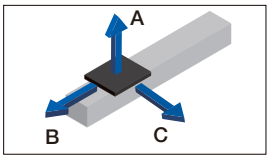
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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

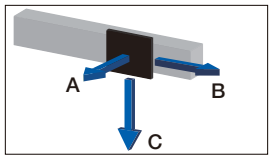



## Permissible Overhang Length *7

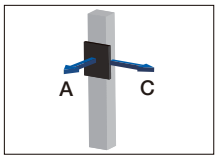
Horizontal use




Wall use




Vertical use




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

Horizontal mount [mm]

| 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 |

Wall mount [mm]

| 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 |

Vertical mount [mm]

| 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**

Horizontal mount [mm]

| 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 |

Wall mount [mm]

| 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 |

Vertical mount [mm]

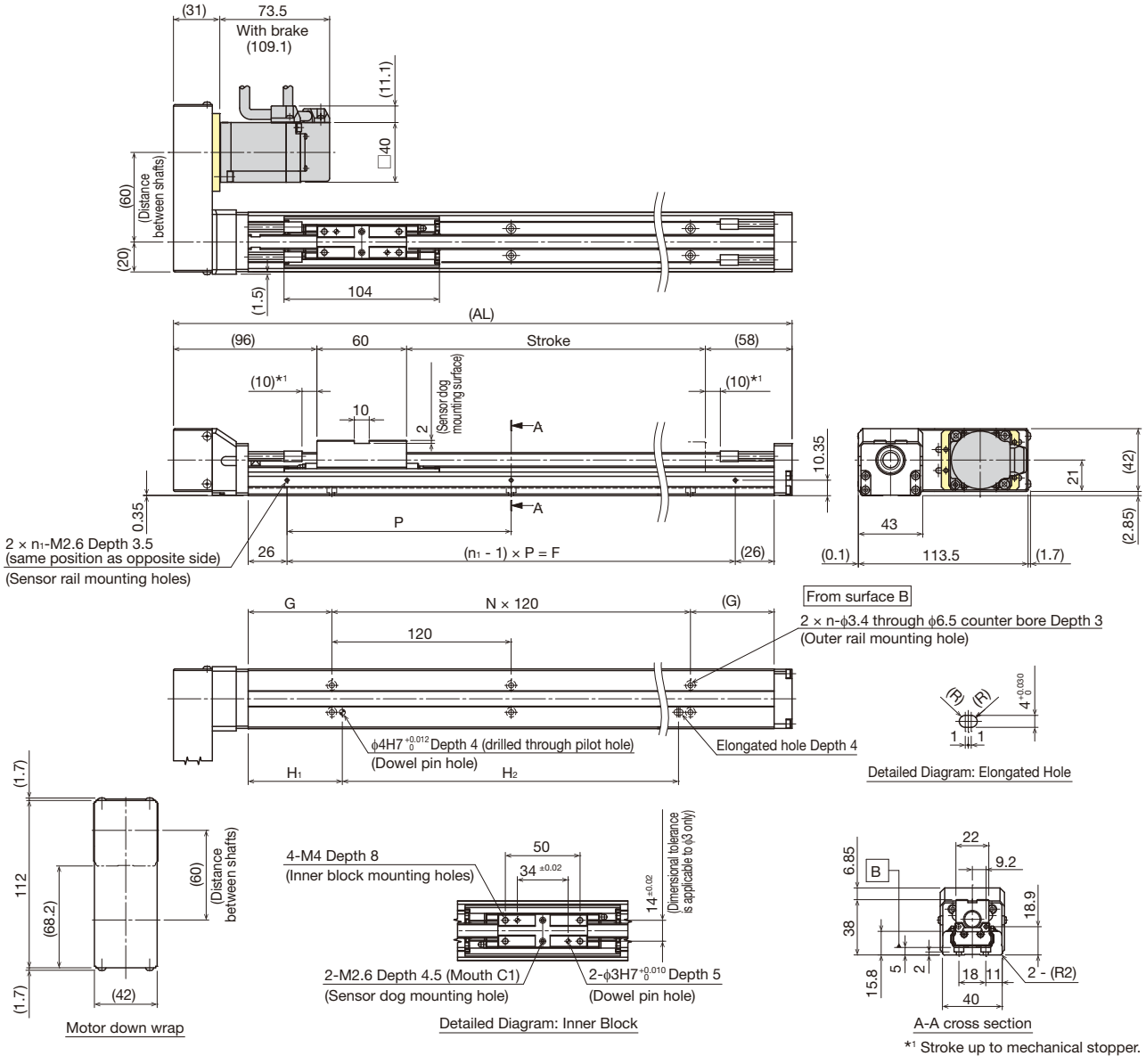
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 10 | 1.5 | 400 | 400 |
| | 3 | 200 | 200 |
| | 6 | 90 | 90 |
| 16 | 1 | 400 | 400 |
| | 2 | 200 | 200 |
| | 4 | 90 | 90 |

*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.

# KSF4RU + THC

Motor rated output
**100W**

## Dimensions




*1 Stroke up to mechanical stopper.

| 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 *2 [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 | 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 *3 [kg] | | 2.0 (2.2) | 2.2 (2.4) | 2.3 (2.5) | 2.5 (2.7) | 2.7 (2.9) | 2.8 (3.0) | 3.0 (3.2) | 3.1 (3.3) | 3.3 (3.5) |

| 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 *2 [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 | 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 | 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 *3 [kg] | | 3.5 (3.7) | 3.6 (3.8) | 3.8 (4.0) | 3.9 (4.1) | 4.1 (4.3) | 4.3 (4.5) | 4.4 (4.6) | 4.6 (4.8) | 4.7 (4.9) |

*2 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.
*3 Values when brake is installed are shown in parentheses.

# KSF5U THC Specifications

## Model Configuration

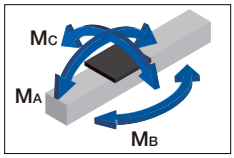
| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF5U - | 10 - | 0050 - | TH - | T-6 / | M10 | L | S02 | D1 | F3 |
| KSF5U | 10: 10 mm<br>20: 20 mm | 0050: 50 mm<br>to<br>0900: 900 mm | TH: THC | No symbol: None<br>T: Back tap<br>1: Sensor rail only<br>6: Photo sensor<br>J: Proximity sensor | M10 : 100 W<br>M10B: 100 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00: Motor side (pressing)<br>D01: Motor side (pressing)<br>D10: Motor side (pressing)<br>D11: Motor side (pressing)<br>R00: Reverse motor side (pressing)<br>R01: Reverse motor side (pressing)<br>R10: Reverse motor side (pressing)<br>R11: Reverse motor side (pressing)<br>S02: Motor side (sensor right)<br>S12: Motor side (sensor right)<br>S20: Motor side (sensor left)<br>S21: Motor side (sensor left)<br>S03: Reverse motor side (sensor right)<br>S13: Reverse motor side (sensor right)<br>S30: Reverse motor side (sensor left)<br>S31: Reverse motor side (sensor left) | D1: 100 V<br>D2: 200 V | No symbol: None<br>F3: Standard 3 m<br>F5: Standard 5 m<br>FA: Standard 10 m<br>H3: High flex 3 m<br>H5: High flex 5 m<br>HA: High flex 10 m |

## Basic Specifications

| Control device type | | | THC | |
|---|---|---|---|---|
| Motor rated output [W] | | | 100 | |
| Ball screw lead [mm] | | | 10 | 20 |
| Rated speed *1 [mm/s] | | | 500 | 1,000 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount 0.5G | 20 | – |
| | | Horizontal mount 1.0G | 15 | 7 |
| | | Horizontal mount 2.0G | – | 5 |
| | | Vertical mount 0.5G | 13 | – |
| | | Vertical mount 1.0G | 8 | 6 |
| | | Vertical mount 2.0G | – | 3 |
| Rated thrust *3 [N] | | | 180 | 90 |
| Maximum thrust *4 [N] | | | 537 | 269 |
| Electromagnetic brake retention [N] | | | 180 | 90 |
| Running life *5 [km] | | | 10,000 | 20,000 |
| Positioning repeatability [mm] | | | ±0.010 | |
| Lost motion [mm] | | | 0.1 | |
| Static permissible moment *6 [N·m] | | | MA: 147 | MB: 107 MC: 89 |

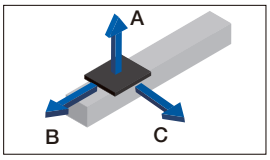
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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

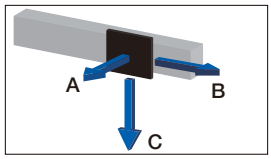



## Permissible Overhang Length *7

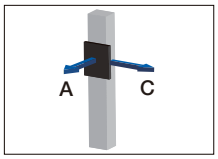
Horizontal use




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]

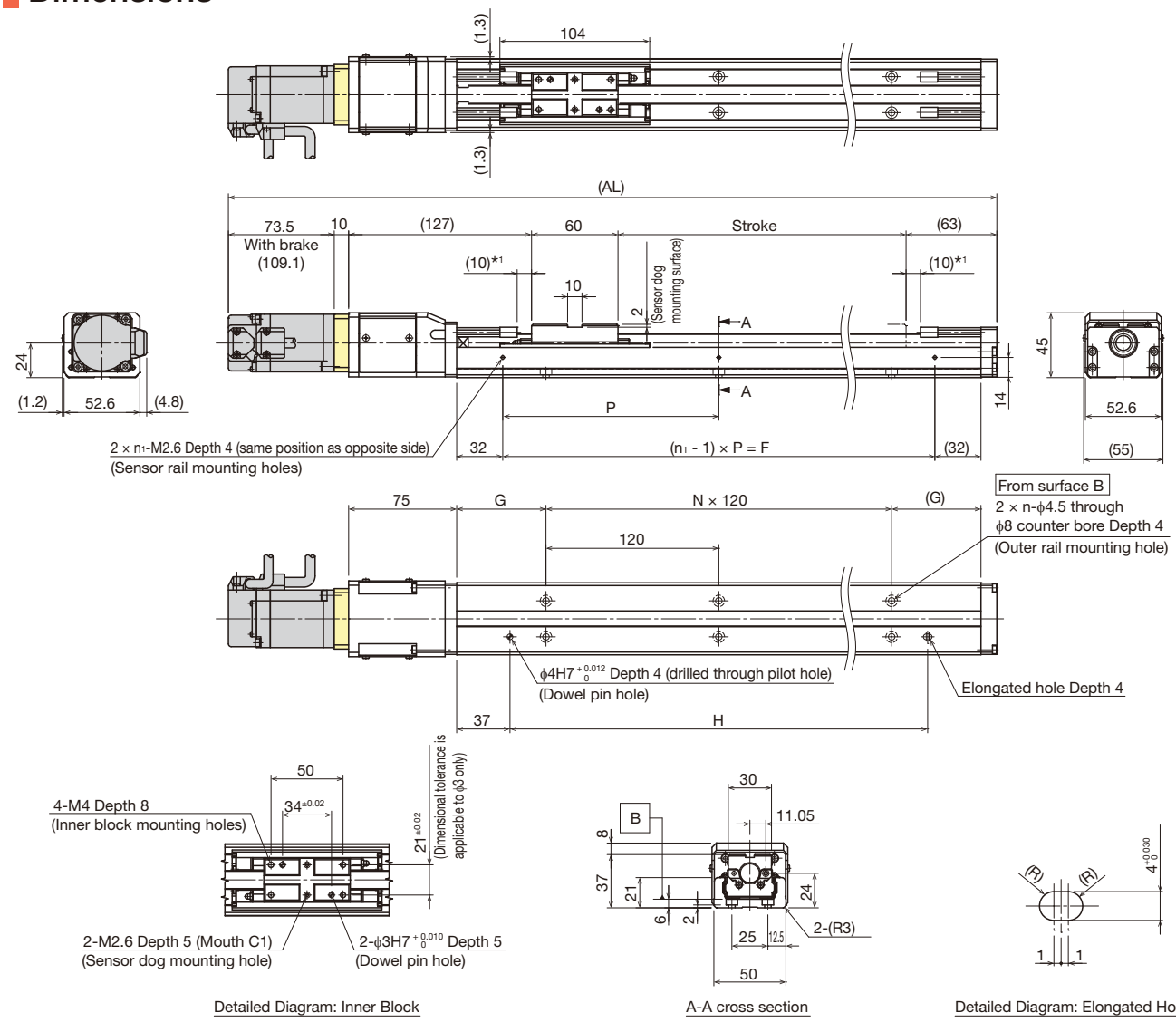
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 10 | 2 | 500 | 500 |
| | 4 | 250 | 250 |
| | 8 | 110 | 110 |
| 20 | 0.75 | 500 | 500 |
| | 1.5 | 430 | 430 |
| | 3 | 210 | 210 |

*7 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.

# KSF5U + THC

Motor rated output
**100W**

## Dimensions




Detailed Diagram: Inner Block

A-A cross section

Detailed Diagram: Elongated Hole

*1 Stroke up to mechanical stopper.

| 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 *2 [mm/s] | Ball screw lead: 10 mm | 500 | | | | | | | | |
| | Ball screw lead: 20 mm | 1000 | | | | | | | | |
| Dimensions *3 [mm] | AL | 383.5 (419.1) | 433.5 (469.1) | 483.5 (519.1) | 533.5 (569.1) | 583.5 (619.1) | 633.5 (669.1) | 683.5 (719.1) | 733.5 (769.1) | 783.5 (819.1) |
| | 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 *3 [kg] | | 2.5 (2.7) | 2.7 (2.9) | 2.9 (3.1) | 3.2 (3.4) | 3.4 (3.6) | 3.7 (3.9) | 3.9 (4.1) | 4.2 (4.4) | 4.4 (4.6) |
| 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 *2 [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 *3 [mm] | AL | 833.5 (869.1) | 883.5 (919.1) | 933.5 (969.1) | 983.5 (1019.1) | 1033.5 (1069.1) | 1083.5 (1119.1) | 1133.5 (1169.1) | 1183.5 (1219.1) | 1233.5 (1269.1) |
| | 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 *3 [kg] | | 4.7 (4.9) | 4.9 (5.1) | 5.1 (5.3) | 5.4 (5.6) | 5.6 (5.8) | 5.9 (6.1) | 6.1 (6.3) | 6.4 (6.6) | 6.6 (6.8) |

*2 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.
*3 Values when brake is installed are shown in parentheses.

# KSF5RU THC Specifications

## Model Configuration

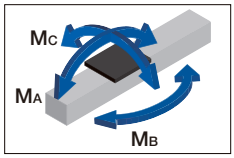
| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF5RU - | 10 - | 0050 - | TH - | ML-6 / | M10 | R | S02 | D1 | F3 |
| KSF5RU | 10: 10 mm<br>20: 20 mm | 0050: 50 mm<br>to<br>0900: 900 mm | TH: THC | MR : Motor right wrap<br>ML : Motor left wrap<br>MD : Motor down wrap<br>T : Back tap<br>1 : Sensor rail only<br>6 : Photo sensor<br>J : Proximity sensor | M10 : 100 W<br>M10B: 100 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00 : Motor side (pressing)<br>D01 : Motor side (pressing)<br>D10 : Motor side (pressing)<br>D11 : Motor side (pressing)<br>R00 : Reverse motor side (pressing)<br>R01 : Reverse motor side (pressing)<br>R10 : Reverse motor side (pressing)<br>R11 : Reverse motor side (pressing)<br>S02 : Motor side (sensor right)<br>S12 : Motor side (sensor right)<br>S20 : Motor side (sensor left)<br>S21 : Motor side (sensor left)<br>S03 : Reverse motor side (sensor right)<br>S13 : Reverse motor side (sensor right)<br>S30 : Reverse motor side (sensor left)<br>S31 : Reverse motor side (sensor left) | D1: 100 V<br>D2: 200 V | No symbol: None<br>F3 : Standard 3 m<br>F5 : Standard 5 m<br>FA : Standard 10 m<br>H3 : High flex 3 m<br>H5 : High flex 5 m<br>HA : High flex 10 m |

## Basic Specifications

| Control device type | | | THC | |
|---|---|---|---|---|
| Motor rated output [W] | | | 100 | |
| Ball screw lead [mm] | | | 10 | 20 |
| Rated speed *1 [mm/s] | | | 500 | 1,000 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount 0.5G | 20 | – |
| | | Horizontal mount 1.0G | 15 | 7 |
| | | Horizontal mount 2.0G | – | 4 |
| | | Vertical mount 0.5G | 11 | – |
| | | Vertical mount 1.0G | 8 | 5 |
| | | Vertical mount 2.0G | – | 2.5 |
| Rated thrust *3 [N] | | | 160 | 80 |
| Maximum thrust *4 [N] | | | 478 | 239 |
| Electromagnetic brake retention [N] | | | 160 | 80 |
| Running life *5 [km] | | | 10,000 | 20,000 |
| Positioning repeatability [mm] | | | ±0.010 | |
| Lost motion [mm] | | | 0.1 | |
| Static permissible moment *6 [N·m] | | | MA: 147 | MB: 107 MC: 89 |

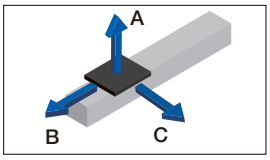
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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

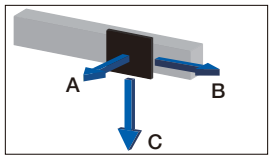



## Permissible Overhang Length *7

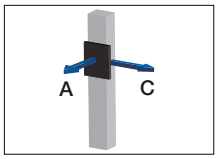
Horizontal use




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 | 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]

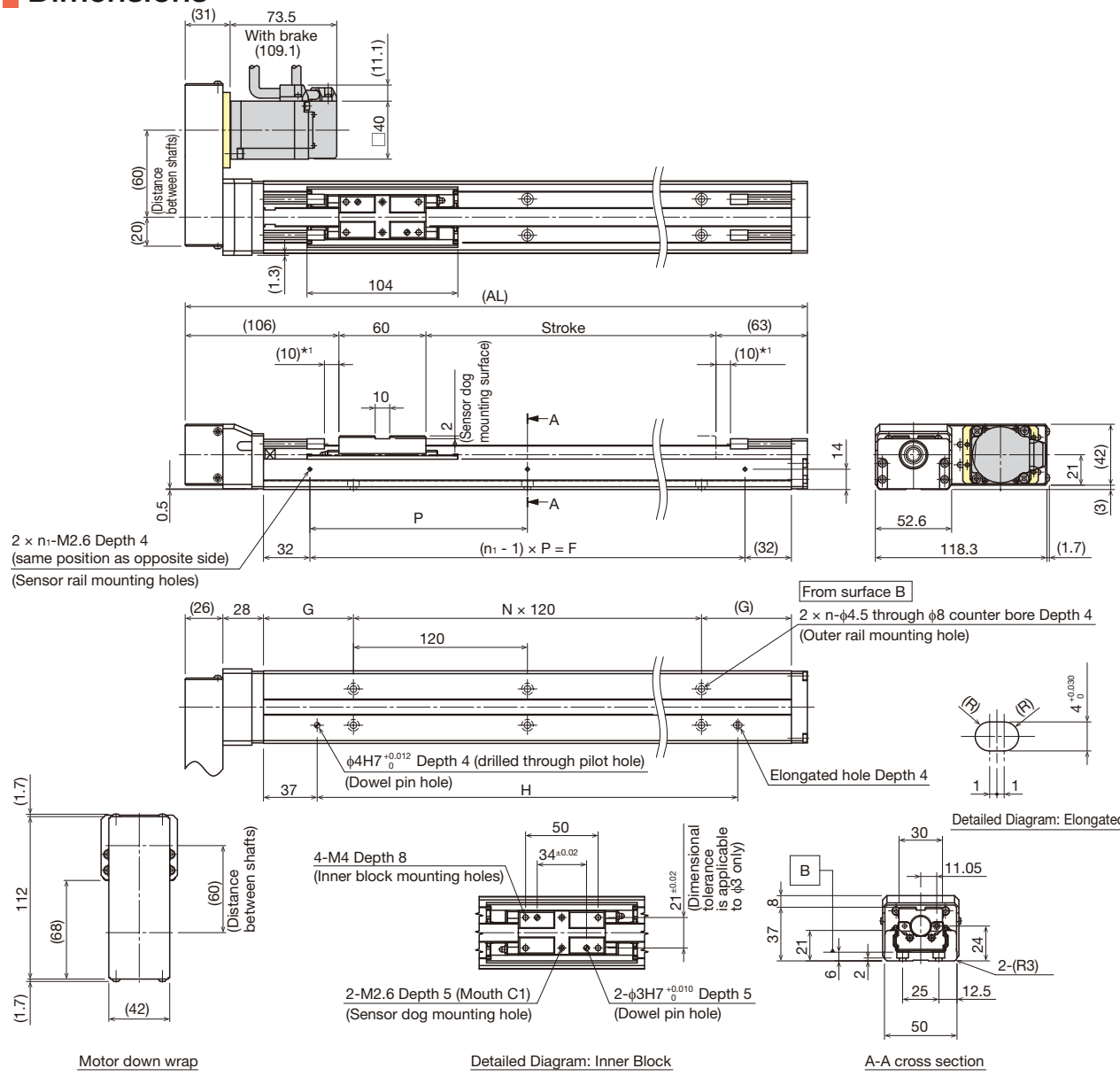
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 10 | 2 | 500 | 500 |
| | 4 | 250 | 250 |
| | 8 | 110 | 110 |
| 20 | 0.625 | 500 | 500 |
| | 1.25 | 500 | 500 |
| | 2.5 | 250 | 250 |

*7 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.

# KSF5RU + THC

Motor rated output
**100W**

## Dimensions




*1 Stroke up to mechanical stopper.

| 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 *2 [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 *3 [kg] | | 2.6 (2.8) | 2.8 (3.0) | 3.1 (3.3) | 3.3 (3.5) | 3.5 (3.7) | 3.8 (4.0) | 4.0 (4.2) | 4.3 (4.5) | 4.5 (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 *2 [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 | 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 *3 [kg] | | 4.8 (5.0) | 5.0 (5.2) | 5.3 (5.5) | 5.5 (5.7) | 5.7 (5.9) | 6.0 (6.2) | 6.2 (6.4) | 6.5 (6.7) | 6.7 (6.9) |

*2 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.
*3 Values when brake is installed are shown in parentheses.

# KSF6U THC Specifications

## Model Configuration

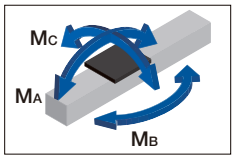
| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF6U - | 10 - | 0050 - | TH - | T-6 / | M20 | L | S02 | D1 | F3 |
| KSF6U | 20: 20 mm<br>30: 30 mm | 0050: 50 mm<br>to<br>1300: 1300 mm | TH: THC | No symbol: None<br>T : Back tap<br>1 : Sensor rail only<br>6 : Photo sensor<br>J : Proximity sensor | M20 : 200 W<br>M20B: 200 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00 : Motor side (pressing)<br>D01 : Motor side (pressing)<br>D10 : Motor side (pressing)<br>D11 : Motor side (pressing)<br>R00 : Reverse motor side (pressing)<br>R01 : Reverse motor side (pressing)<br>R10 : Reverse motor side (pressing)<br>R11 : Reverse motor side (pressing)<br>S02 : Motor side (sensor right)<br>S12 : Motor side (sensor right)<br>S20 : Motor side (sensor left)<br>S21 : Motor side (sensor left)<br>S03 : Reverse motor side (sensor right)<br>S13 : Reverse motor side (sensor right)<br>S30 : Reverse motor side (sensor left)<br>S31 : Reverse motor side (sensor left) | D1: 100 V<br>D2: 200 V | No symbol: None<br>F3 : Standard 3 m<br>F5 : Standard 5 m<br>FA : Standard 10 m<br>H3 : High flex 3 m<br>H5 : High flex 5 m<br>HA : High flex 10 m |

## Basic Specifications

| Control device type | | | THC | |
|---|---|---|---|---|
| Motor rated output [W] | | | 200 | |
| Ball screw lead [mm] | | | 20 | 30 |
| Rated speed *1 [mm/s] | | | 1,000 | 1,500 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount 1.0G | 22 | 14 |
| | | Horizontal mount 2.0G | 5 | 6 |
| | | Vertical mount 1.0G | 10 | 6 |
| | | Vertical mount 2.0G | 3 | 4 |
| Rated thrust *3 [N] | | | 181 | 121 |
| Maximum thrust *4 [N] | | | 540 | 360 |
| Electromagnetic brake retention [N] | | | 359 | 239 |
| Running life *5 [km] | | | 20,000 | |
| Positioning repeatability [mm] | | | ±0.010 | |
| Lost motion [mm] | | | 0.1 | |
| Static permissible moment *6 [N·m] | | | MA: 355 | MB: 203 MC: 152 |

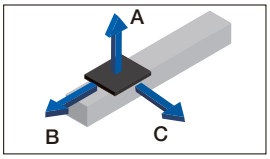
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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

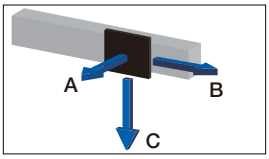



## Permissible Overhang Length *7

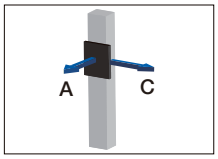
Horizontal use




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 | 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 |

Wall mount [mm]

| 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 |

Vertical mount [mm]

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

### Acceleration and deceleration rate 2.0 G

Horizontal mount [mm]

| 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 |

Wall mount [mm]

| 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 |

Vertical mount [mm]

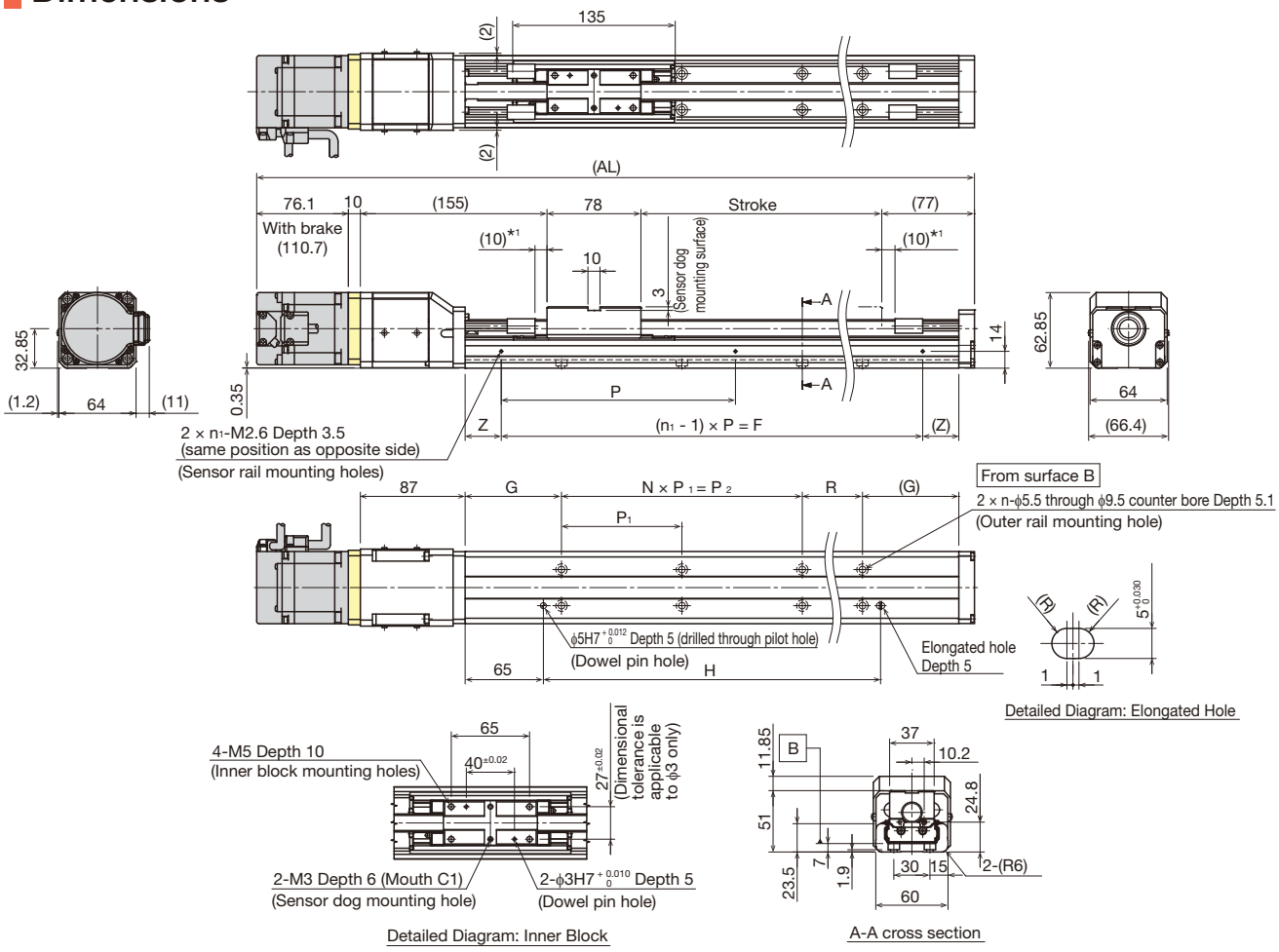
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 20 | 0.75 | 600 | 600 |
| | 1.5 | 600 | 600 |
| | 3 | 470 | 470 |
| 30 | 1 | 600 | 600 |
| | 2 | 470 | 470 |
| | 4 | 220 | 220 |

*7 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.

# KSF6U + THC

Motor rated output
200W

## Dimensions




*1 Stroke up to mechanical stopper.

| 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 *2 [mm/s] | Ball screw lead: 20 mm | 1000 | | | | | | | | | | | | |
| | Ball screw lead: 30 mm | 1500 | | | | | | | | | | | | |
| Dimensions *3 [mm] | AL | 446.1 (480.7) | 496.1 (530.7) | 546.1 (580.7) | 596.1 (630.7) | 646.1 (680.7) | 696.1 (730.7) | 746.1 (780.7) | 796.1 (830.7) | 846.1 (880.7) | 896.1 (930.7) | 946.1 (980.7) | 996.1 (1030.7) | 1046.1 (1080.7) |
| | 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 | 3 | 4 | 4 | 4 | 4 | 5 |
| | $n_1$ | 2 | 2 | 4 | 3 | 3 | 3 | 6 | 4 | 4 | 4 | 8 | 5 | 5 |
| Weight *3 [kg] | | 4.4 (4.9) | 4.8 (5.3) | 5.1 (5.6) | 5.4 (5.9) | 5.8 (6.3) | 6.1 (6.6) | 6.4 (6.9) | 6.7 (7.2) | 7.1 (7.6) | 7.4 (7.9) | 7.7 (8.2) | 8.1 (8.6) | 8.4 (8.9) |
| 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 *2 [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 *3 [mm] | AL | 1096.1 (1130.7) | 1146.1 (1180.7) | 1196.1 (1230.7) | 1246.1 (1280.7) | 1296.1 (1330.7) | 1346.1 (1380.7) | 1396.1 (1430.7) | 1446.1 (1480.7) | 1496.1 (1530.7) | 1546.1 (1580.7) | 1596.1 (1630.7) | 1646.1 (1680.7) | 1696.1 (1730.7) |
| | 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 | 6 |
| Mounting hole count | n | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 8 | 8 |
| | $n_1$ | 5 | 10 | 6 | 6 | 6 | 12 | 7 | 7 | 7 | 14 | 8 | 8 | 8 |
| Weight *3 [kg] | | 8.7 (9.2) | 9.0 (9.5) | 9.4 (9.9) | 9.7 (10.2) | 10.0 (10.5) | 10.4 (10.9) | 10.7 (11.2) | 11.0 (11.5) | 11.3 (11.8) | 11.7 (12.2) | 12.0 (12.5) | 12.3 (12.8) | 12.7 (13.2) |

*2 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.
*3 Values when brake is installed are shown in parentheses.

# KSF6RU THC Specifications

## Model Configuration

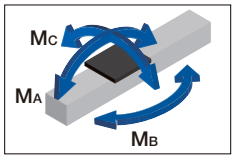
| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF6RU - | 20 - | 0050 - | TH - | ML-6 / | M20 | R | S02 | D1 | F3 |
| KSF6RU | 20: 20 mm<br>30: 30 mm | 0050: 50 mm<br>to<br>1300: 1300 mm | TH: THC | MR : Motor right wrap<br>ML : Motor left wrap<br>MD : Motor down wrap<br>T : Back tap<br>1 : Sensor rail only<br>6 : Photo sensor<br>J : Proximity sensor | M20 : 200 W<br>M20B: 200 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00 : Motor side (pressing)<br>D01 : Motor side (pressing)<br>D10 : Motor side (pressing)<br>D11 : Motor side (pressing)<br>R00 : Reverse motor side (pressing)<br>R01 : Reverse motor side (pressing)<br>R10 : Reverse motor side (pressing)<br>R11 : Reverse motor side (pressing)<br>S02 : Motor side (sensor right)<br>S12 : Motor side (sensor right)<br>S20 : Motor side (sensor left)<br>S21 : Motor side (sensor left)<br>S03 : Reverse motor side (sensor right)<br>S13 : Reverse motor side (sensor right)<br>S30 : Reverse motor side (sensor left)<br>S31 : Reverse motor side (sensor left) | D1: 100 V<br>D2: 200 V | No symbol: None<br>F3 : Standard 3 m<br>F5 : Standard 5 m<br>FA : Standard 10 m<br>H3 : High flex 3 m<br>H5 : High flex 5 m<br>HA : High flex 10 m |

## Basic Specifications

| Control device type | | | THC | |
|---|---|---|---|---|
| Motor rated output [W] | | | 200 | |
| Ball screw lead [mm] | | | 20 | 30 |
| Rated speed *1 [mm/s] | | | 1,000 | 1,500 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount 1.0G | 19 | 11 |
| | | Horizontal mount 2.0G | 4 | 4 |
| | | Vertical mount 1.0G | 9 | 5 |
| | | Vertical mount 2.0G | 2.5 | 2.5 |
| Rated thrust *3 [N] | | | 161 | 107 |
| Maximum thrust *4 [N] | | | 480 | 320 |
| Electromagnetic brake retention [N] | | | 319 | 213 |
| Running life *5 [km] | | | 20,000 | |
| Positioning repeatability [mm] | | | ±0.010 | |
| Lost motion [mm] | | | 0.1 | |
| Static permissible moment *6 [N·m] | | | MA: 355 | MB: 203 MC: 152 |

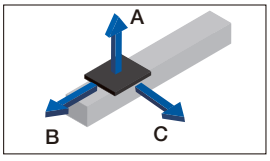
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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

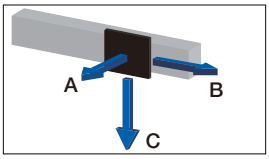



## Permissible Overhang Length *7

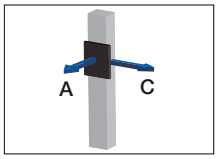
Horizontal use




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]

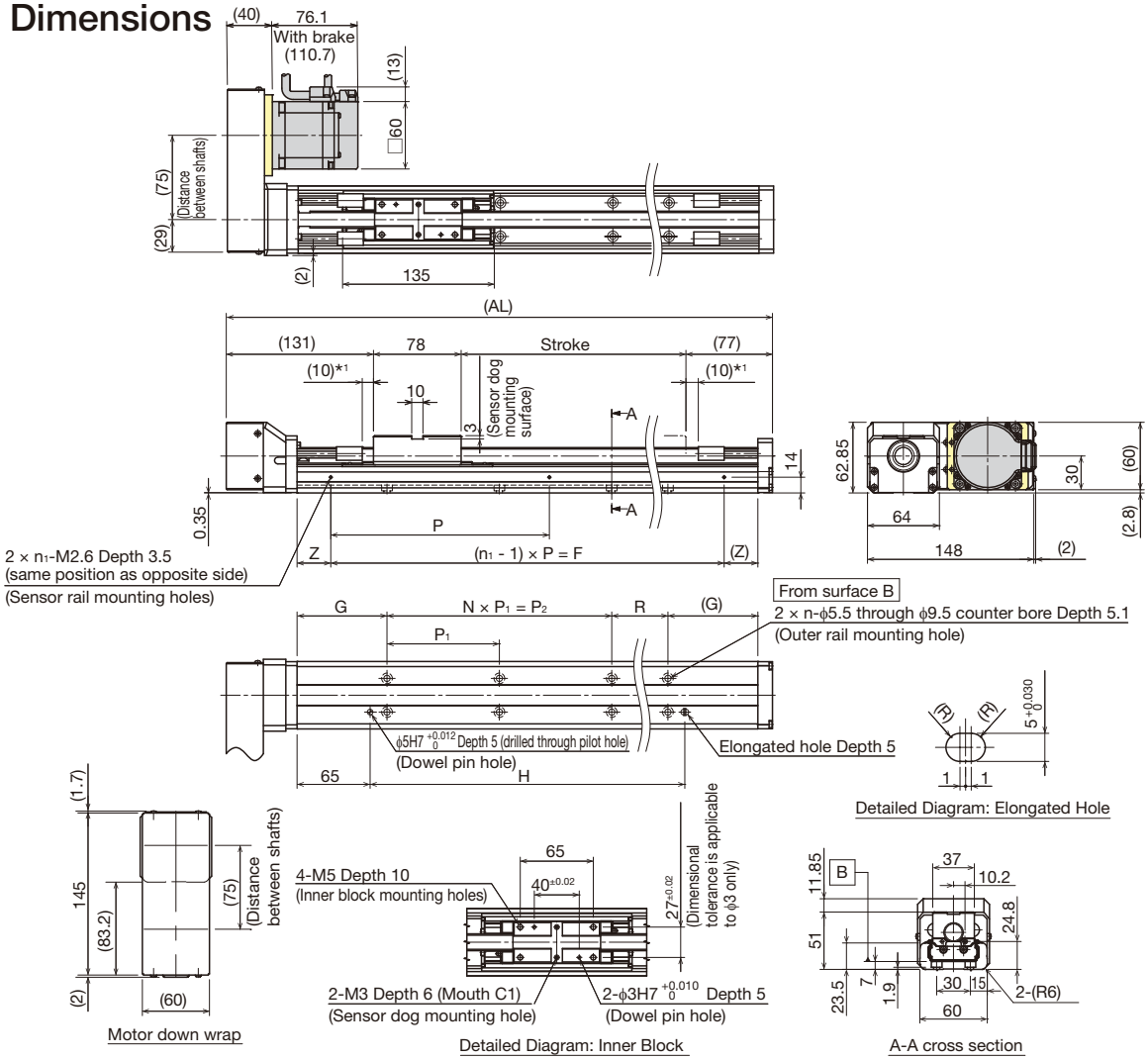
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 20 | 0.625 | 600 | 600 |
| | 1.25 | 600 | 600 |
| | 2.5 | 470 | 470 |
| 30 | 0.625 | 600 | 600 |
| | 1.25 | 470 | 470 |
| | 2.5 | 220 | 220 |

*7 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.

# KSF6RU + THC

Motor rated output
**200W**

## Dimensions




*1 Stroke up to mechanical stopper.

| 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 *2 [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 | 3 | 4 | 4 | 4 | 4 | 5 |
| | $n_1$ | 2 | 2 | 4 | 3 | 3 | 3 | 6 | 4 | 4 | 4 | 8 | 5 | 5 |
| Weight *3 [kg] | | 4.9 (5.4) | 5.2 (5.7) | 5.6 (6.1) | 5.9 (6.4) | 6.2 (6.7) | 6.5 (7.0) | 6.9 (7.4) | 7.2 (7.7) | 7.5 (8.0) | 7.9 (8.4) | 8.2 (8.7) | 8.5 (9.0) | 8.9 (9.4) |
| 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 *2 [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 | 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 | 5 | 6 | 6 | 6 | 6 |
| Mounting hole count | n | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 8 | 8 |
| | $n_1$ | 5 | 10 | 6 | 6 | 6 | 12 | 7 | 7 | 7 | 14 | 8 | 8 | 8 |
| Weight *3 [kg] | | 9.2 (9.7) | 9.5 (10.0) | 9.8 (10.3) | 10.2 (10.7) | 10.5 (11.0) | 10.8 (11.3) | 11.2 (11.7) | 11.5 (12.0) | 11.8 (12.3) | 12.1 (12.6) | 12.5 (13.0) | 12.8 (13.3) | 13.1 (13.6) |

*2 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.
*3 Values when brake is installed are shown in parentheses.

# KSF8U THC Specifications

## Model Configuration

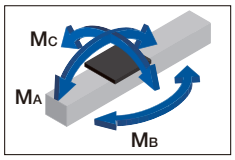
| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF8U - | 20 - | 0700 - | TH - | T-6 / | M40 | L | S02 | D1 | F3 |
| KSF8U | 20: 20 mm<br>40: 40 mm | 0100: 100 mm<br>to<br>1500: 1500 mm | TH: THC | No symbol: None<br>T : Back tap<br>1 : Sensor rail only<br>6 : Photo sensor<br>J : Proximity sensor | M40 : 400 W<br>M40B: 400 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00 : Motor side (pressing)<br>D01 : Motor side (pressing)<br>D10 : Motor side (pressing)<br>D11 : Motor side (pressing)<br>R00 : Reverse motor side (pressing)<br>R01 : Reverse motor side (pressing)<br>R10 : Reverse motor side (pressing)<br>R11 : Reverse motor side (pressing)<br>S02 : Motor side (sensor right)<br>S12 : Motor side (sensor right)<br>S20 : Motor side (sensor left)<br>S21 : Motor side (sensor left)<br>S03 : Reverse motor side (sensor right)<br>S13 : Reverse motor side (sensor right)<br>S30 : Reverse motor side (sensor left)<br>S31 : Reverse motor side (sensor left) | D1: 100 V<br>D2: 200 V | No symbol: None<br>F3 : Standard 3 m<br>F5 : Standard 5 m<br>FA : Standard 10 m<br>H3 : High flex 3 m<br>H5 : High flex 5 m<br>HA : High flex 10 m |

## Basic Specifications

| Control device type | | | THC | |
|---|---|---|---|---|
| Motor rated output [W] | | | 400 | |
| Ball screw lead [mm] | | | 20 | 40 |
| Rated speed *1 [mm/s] | | | 1,000 | 2,000 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount 1.0G | 43 | 16 |
| | | Horizontal mount 2.0G | 6 | 7 |
| | | Vertical mount 1.0G | 20 | 8 |
| | | Vertical mount 2.0G | 3 | 5 |
| Rated thrust *3 [N] | | | 359 | 180 |
| Maximum thrust *4 [N] | | | 1,080 | 540 |
| Electromagnetic brake retention [N] | | | 359 | 180 |
| Running life *5 [km] | | | 20,000 | |
| Positioning repeatability [mm] | | | ±0.010 | |
| Lost motion [mm] | | | 0.1 | |
| Static permissible moment *6 [N·m] | | | MA: 730 | MB: 414 MC: 277 |

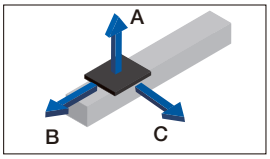
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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

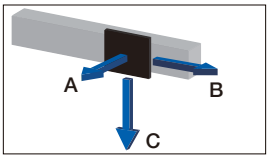



## Permissible Overhang Length *7

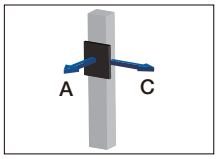
Horizontal use




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 | 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]

| 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]

| 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]

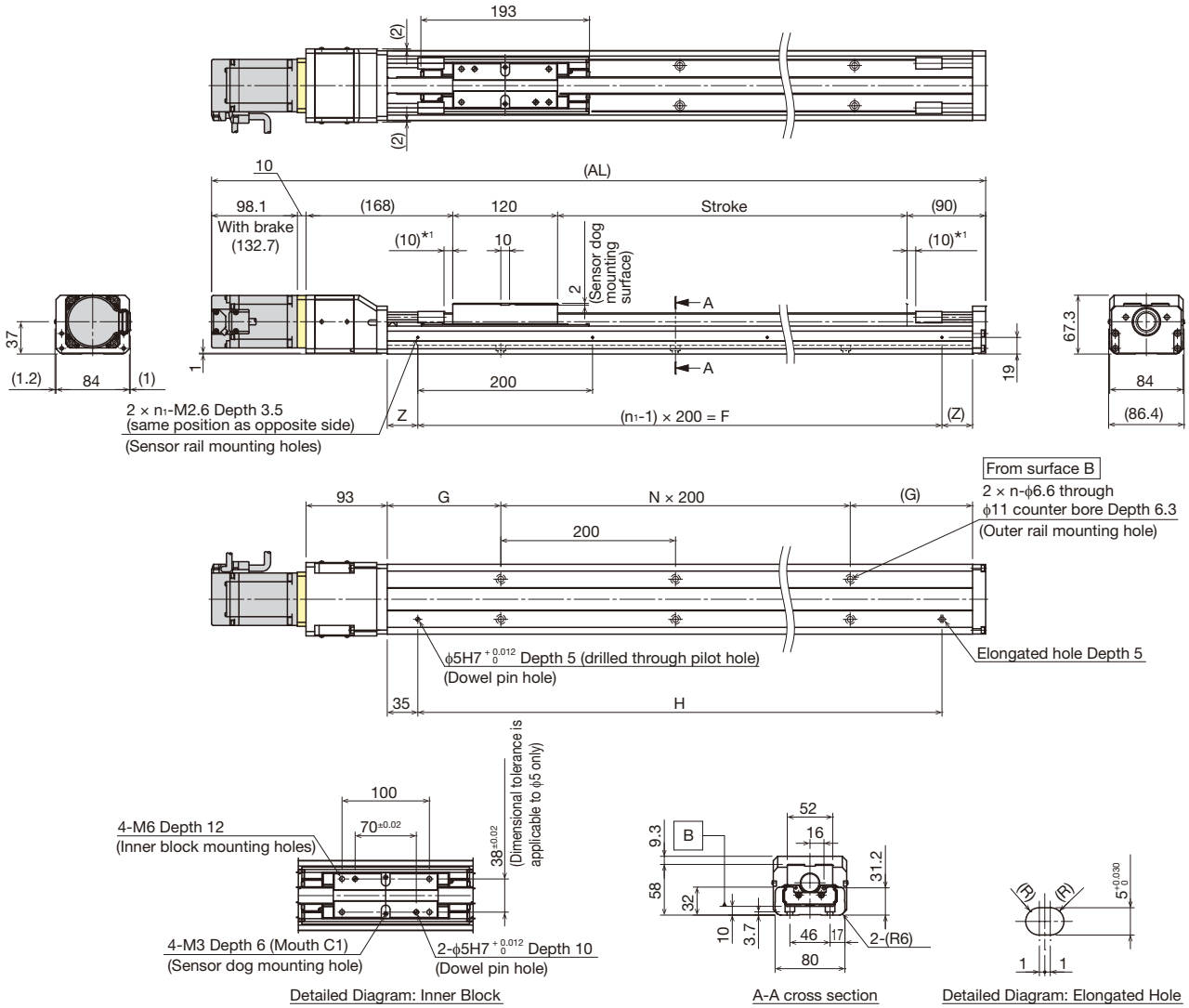
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 20 | 0.75 | 800 | 800 |
| | 1.5 | 800 | 800 |
| | 3 | 800 | 800 |
| 40 | 1.25 | 800 | 800 |
| | 2.5 | 800 | 800 |
| | 5 | 460 | 460 |

*7 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.

# KSF8U + THC

Motor rated output
**400W**

## Dimensions




*1 Stroke up to mechanical stopper.

| 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 *2 [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 *3 [mm] | AL | 586.1 (620.7) | 686.1 (720.7) | 786.1 (820.7) | 886.1 (920.7) | 986.1 (1020.7) | 1086.1 (1120.7) | 1186.1 (1220.7) | 1286.1 (1320.7) | 1386.1 (1420.7) | 1486.1 (1520.7) | 1586.1 (1620.7) | 1686.1 (1720.7) | 1786.1 (1820.7) | 1886.1 (1920.7) | 1986.1 (2020.7) |
| | 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 *3 [kg] | | 8.8 (9.3) | 10.0 (10.5) | 11.1 (11.6) | 12.3 (12.8) | 13.5 (14.0) | 14.7 (15.2) | 15.8 (16.3) | 17.0 (17.5) | 18.2 (18.7) | 19.4 (19.9) | 20.5 (21.0) | 21.7 (22.2) | 22.9 (23.4) | 24.0 (24.5) | 25.2 (25.7) |

*2 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.
*3 Values when brake is installed are shown in parentheses.

# KSF8RU THC Specifications

## Model Configuration

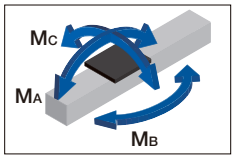
| Model | Ball screw lead | Stroke | Control device | Option | | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|---|
| KSF8RU | - 20 | - 0700 | - TH | - ML-6 | / | M40 | R | S02 | D1 | F3 |
| KSF8RU | 20: 20 mm<br>40: 40 mm | 0100: 100 mm<br>to<br>1500: 1500 mm | TH: THC | MR : Motor right wrap<br>ML : Motor left wrap<br>MD : Motor down wrap<br>T : Back tap<br>1 : Sensor rail only<br>6 : Photo sensor<br>J : Proximity sensor | | M40 : 400 W<br>M40B: 400 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00 : Motor side (pressing)<br>D01 : Motor side (pressing)<br>D10 : Motor side (pressing)<br>D11 : Motor side (pressing)<br>R00 : Reverse motor side (pressing)<br>R01 : Reverse motor side (pressing)<br>R10 : Reverse motor side (pressing)<br>R11 : Reverse motor side (pressing)<br>S02 : Motor side (sensor right)<br>S12 : Motor side (sensor right)<br>S20 : Motor side (sensor left)<br>S21 : Motor side (sensor left)<br>S03 : Reverse motor side (sensor right)<br>S13 : Reverse motor side (sensor right)<br>S30 : Reverse motor side (sensor left)<br>S31 : Reverse motor side (sensor left) | D1: 100 V<br>D2: 200 V | No symbol: None<br>F3 : Standard 3 m<br>F5 : Standard 5 m<br>FA : Standard 10 m<br>H3 : High flex 3 m<br>H5 : High flex 5 m<br>HA : High flex 10 m |

## Basic Specifications

| Control device type | | | | THC | |
|---|---|---|---|---|---|
| Motor rated output [W] | | | | 400 | |
| Ball screw lead [mm] | | | | 20 | 40 |
| Rated speed *1 [mm/s] | | | | 1,000 | 2,000 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount | 1.0G | 41 | 16 |
| | | | 2.0G | 6 | 7 |
| | | Vertical mount | 1.0G | 20 | 8 |
| | | | 2.0G | 3 | 5 |
| Rated thrust *3 [N] | | | | 319 | 160 |
| Maximum thrust *4 [N] | | | | 960 | 480 |
| Electromagnetic brake retention [N] | | | | 319 | 160 |
| Running life *5 [km] | | | | 20,000 | |
| Positioning repeatability [mm] | | | | ±0.010 | |
| Lost motion [mm] | | | | 0.1 | |
| Static permissible moment *6 [N·m] | | | | MA: 730 | MB: 414 MC: 277 |

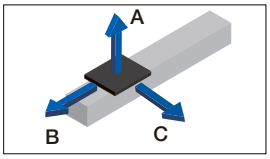
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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

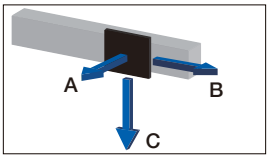



## Permissible Overhang Length *7

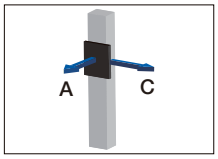
Horizontal use




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]

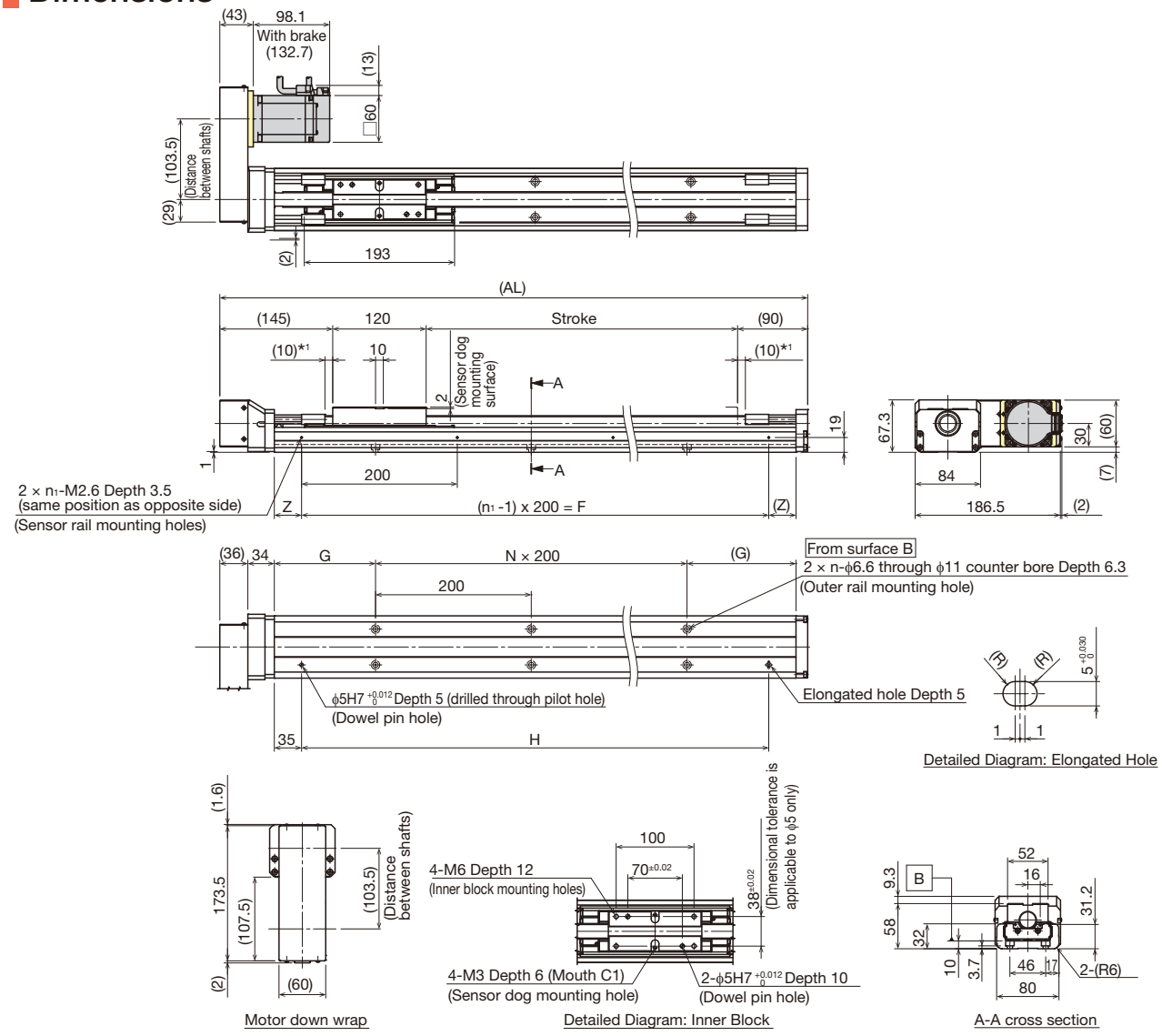
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 20 | 0.75 | 800 | 800 |
| | 1.5 | 800 | 800 |
| | 3 | 800 | 800 |
| 40 | 1.25 | 800 | 800 |
| | 2.5 | 800 | 800 |
| | 5 | 460 | 460 |

*7 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.

# KSF8RU + THC

Motor rated output
400W

## Dimensions




*1 Stroke up to mechanical stopper.

| 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 *2 [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 | 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 |
| | 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 *3 [kg] | | 9.3 (9.8) | 10.5 (11.0) | 11.7 (12.2) | 12.8 (13.3) | 14.0 (14.5) | 15.2 (15.7) | 16.4 (16.9) | 17.5 (18.0) | 18.7 (19.2) | 19.9 (20.4) | 21.1 (21.6) | 22.2 (22.7) | 23.4 (23.9) | 24.6 (25.1) | 25.7 (26.2) |

*2 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.
*3 Values when brake is installed are shown in parentheses.

# KSF10U THC Specifications

## Model Configuration

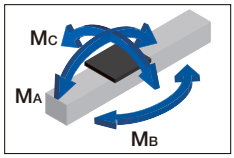
| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF10U - | 25 - | 0700 - | TH - | T-6 / | M75 | L | S02 | D2 | F3 |
| KSF10U | 25: 25 mm<br>50: 50 mm | 0100: 100 mm<br>to<br>1500: 1500 mm | TH: THC | No symbol: None<br>T : Back tap<br>1 : Sensor rail only<br>6 : Photo sensor<br>J : Proximity sensor | M75 : 750 W<br>M75B: 750 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00 : Motor side (pressing)<br>D01 : Motor side (pressing)<br>D10 : Motor side (pressing)<br>D11 : Motor side (pressing)<br>R00 : Reverse motor side (pressing)<br>R01 : Reverse motor side (pressing)<br>R10 : Reverse motor side (pressing)<br>R11 : Reverse motor side (pressing)<br>S02 : Motor side (sensor right)<br>S12 : Motor side (sensor right)<br>S20 : Motor side (sensor left)<br>S21 : Motor side (sensor left)<br>S03 : Reverse motor side (sensor right)<br>S13 : Reverse motor side (sensor right)<br>S30 : Reverse motor side (sensor left)<br>S31 : Reverse motor side (sensor left) | D2: 200 V | No symbol: None<br>F3 : Fixed 3 m<br>F5 : Fixed 5 m<br>FA : Standard 10 m<br>H3 : High flex 3 m<br>H5 : High flex 5 m<br>HA : High flex 10 m |

## Basic Specifications

| Control device type | | | | THC | |
|---|---|---|---|---|---|
| Motor rated output [W] | | | | 750 | |
| Ball screw lead [mm] | | | | 25 | 50 |
| Rated speed *1 [mm/s] | | | | 1,250 | 2,500 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount | 1.0G | 60 | 17 |
| | | | 1.5G | 26 | 8 |
| | | Vertical mount | 1.0G | 25 | 9 |
| | | | 1.5G | 13 | 5 |
| Rated thrust *3 [N] | | | | 541 | 270 |
| Maximum thrust *4 [N] | | | | 1,620 | 810 |
| Electromagnetic brake retention [N] | | | | 541 | 270 |
| Running life *5 [km] | | | | 20,000 | |
| Positioning repeatability [mm] | | | | ±0.010 | |
| Lost motion [mm] | | | | 0.1 | |
| Static permissible moment *6 [N·m] | | | | MA: 1,259 | MB: 775 MC: 504 |

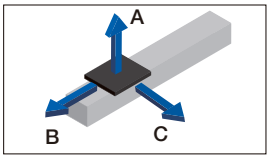
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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

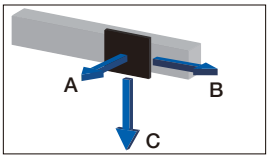



## Permissible Overhang Length *7

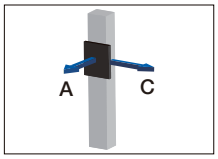
Horizontal use




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]

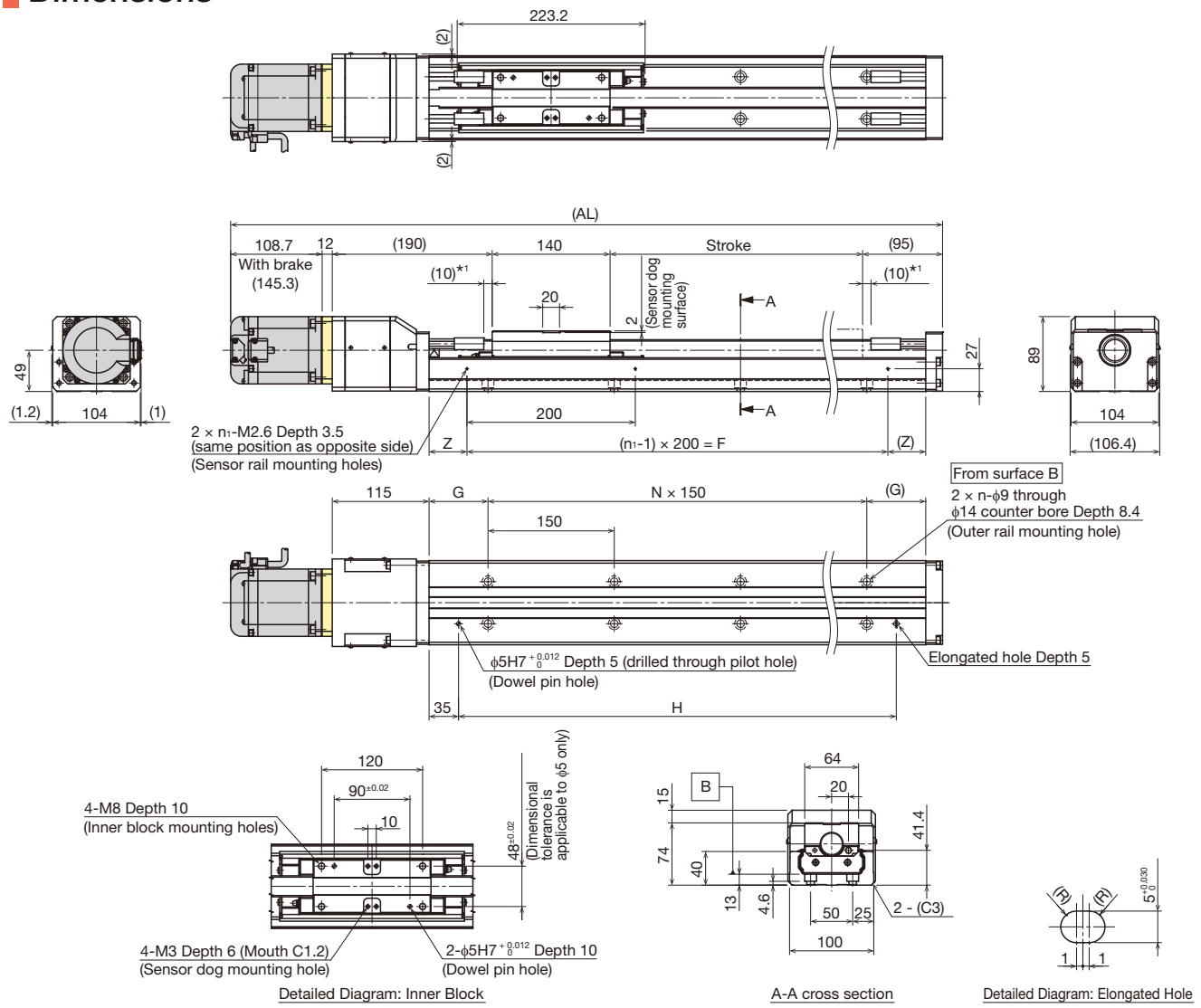
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 25 | 3.25 | 1000 | 1000 |
| | 6.5 | 1000 | 1000 |
| | 13 | 650 | 650 |
| 50 | 1.25 | 1000 | 1000 |
| | 2.5 | 1000 | 1000 |
| | 5 | 970 | 970 |

*7 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.

# KSF10U + THC

Motor rated output
750W

## Dimensions




*1 Stroke up to mechanical stopper.

| 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 *2 [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 *3 [mm] | AL | 645.7 (682.3) | 745.7 (782.3) | 845.7 (882.3) | 945.7 (982.3) | 1045.7 (1082.3) | 1145.7 (1182.3) | 1245.7 (1282.3) | 1345.7 (1382.3) | 1445.7 (1482.3) | 1545.7 (1582.3) | 1645.7 (1682.3) | 1745.7 (1782.3) | 1845.7 (1882.3) | 1945.7 (1982.3) | 2045.7 (2082.3) |
| | 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 *3 [kg] | | 16.0 (16.9) | 17.9 (18.8) | 19.8 (20.7) | 21.6 (22.5) | 23.5 (24.4) | 25.4 (26.3) | 27.3 (28.2) | 29.2 (30.1) | 31.1 (32.0) | 32.9 (33.8) | 34.8 (35.7) | 36.7 (37.6) | 38.6 (39.5) | 40.5 (41.4) | 42.3 (43.2) |

*2 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.
*3 Values when brake is installed are shown in parentheses.

# KSF10RU THC Specifications

## Model Configuration

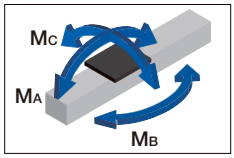
| Model | Ball screw lead | Stroke | Control device | Option | Motor rated output | Motor cable orientation | Home position | Power supply voltage | Cable length and type |
|---|---|---|---|---|---|---|---|---|---|
| KSF10RU - | 25 - | 0700 - | TH - | ML-6 / | M75 | R | S02 | D2 | F3 |
| KSF10RU | 25: 25 mm<br>50: 50 mm | 0100: 100 mm<br>to<br>1500: 1500 mm | TH: THC | MR : Motor right wrap<br>ML : Motor left wrap<br>MD : Motor down wrap<br>T : Back tap<br>1 : Sensor rail only<br>6 : Photo sensor<br>J : Proximity sensor | M75 : 750 W<br>M75B: 750 W with brake | R : Right<br>L : Left<br>U : Up<br>D : Down | D00 : Motor side (pressing)<br>D01 : Motor side (pressing)<br>D10 : Motor side (pressing)<br>D11 : Motor side (pressing)<br>R00 : Reverse motor side (pressing)<br>R01 : Reverse motor side (pressing)<br>R10 : Reverse motor side (pressing)<br>R11 : Reverse motor side (pressing)<br>S02 : Motor side (sensor right)<br>S12 : Motor side (sensor right)<br>S20 : Motor side (sensor left)<br>S21 : Motor side (sensor left)<br>S03 : Reverse motor side (sensor right)<br>S13 : Reverse motor side (sensor right)<br>S30 : Reverse motor side (sensor left)<br>S31 : Reverse motor side (sensor left) | D2: 200 V | No symbol: None<br>F3 : Standard 3 m<br>F5 : Standard 5 m<br>FA : Standard 10 m<br>H3 : High flex 3 m<br>H5 : High flex 5 m<br>HA : High flex 10 m |

## Basic Specifications

| Control device type | | | | THC | |
|---|---|---|---|---|---|
| Motor rated output [W] | | | | 750 | |
| Ball screw lead [mm] | | | | 25 | 50 |
| Rated speed *1 [mm/s] | | | | 1,250 | 2,500 |
| Maximum load capacity *2 [kg] | Acceleration and deceleration rate | Horizontal mount | 1.0G | 38 | 12 |
| | | | 1.5G | 8 | 4 |
| | | Vertical mount | 1.0G | 19 | 7 |
| | | | 1.5G | 3 | 3 |
| Rated thrust *3 [N] | | | | 481 | 240 |
| Maximum thrust *4 [N] | | | | 1,440 | 720 |
| Electromagnetic brake retention [N] | | | | 481 | 240 |
| Running life *5 [km] | | | | 20,000 | |
| Positioning repeatability [mm] | | | | ±0.010 | |
| Lost motion [mm] | | | | 0.1 | |
| Static permissible moment *6 [N·m] | | | | MA: 1,259 | MB: 775 MC: 504 |

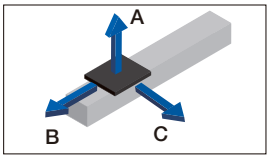
*1 At rated motor speed (3000min$^{-1}$).
*2 At rated speed.
*3 At rated motor torque.
*4 The maximum thrust is a value at the maximum peak torque of the motor.
*5 The conditions for calculation are as follows:
Conditions: Horizontal mount, wall mount, or vertical mount, under the maximum load capacity, stroke 500 mm
*6 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

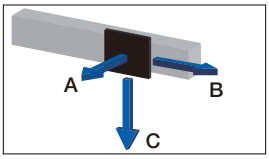



## Permissible Overhang Length *7

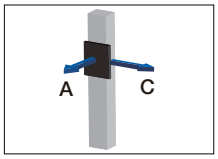
Horizontal use




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 | 700 |
| | 38 | 530 | 290 | 350 |
| 50 | 3 | 1000 | 1000 | 1000 |
| | 6 | 1000 | 1000 | 1000 |
| | 12 | 870 | 760 | 600 |

Wall mount [mm]

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

Vertical mount [mm]

| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 25 | 4.75 | 1000 | 1000 |
| | 9.5 | 970 | 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]

| 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]

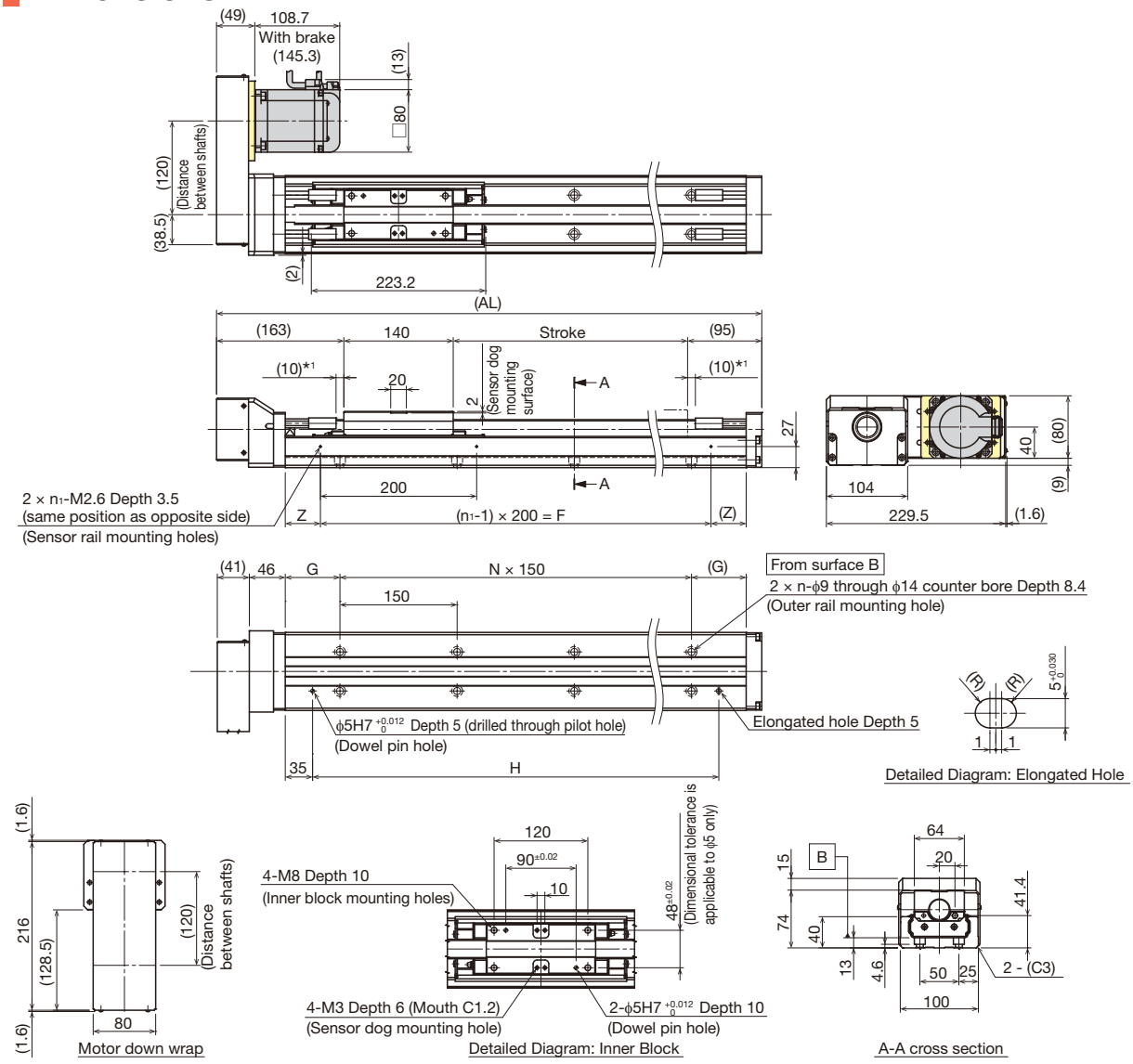
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 25 | 0.75 | 1000 | 1000 |
| | 1.5 | 1000 | 1000 |
| | 3 | 1000 | 1000 |
| 50 | 0.75 | 1000 | 1000 |
| | 1.5 | 1000 | 1000 |
| | 3 | 1000 | 1000 |

*7 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 + THC

Motor rated output
750W

## Dimensions




*1 Stroke up to mechanical stopper.

| 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 *2 [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 *3 [kg] | | 16.9 (17.8) | 18.7 (19.6) | 20.6 (21.5) | 22.5 (23.4) | 24.4 (25.3) | 26.3 (27.2) | 28.2 (29.1) | 30.0 (30.9) | 31.9 (32.8) | 33.8 (34.7) | 35.7 (36.6) | 37.6 (38.5) | 39.4 (40.3) | 41.3 (42.2) | 43.2 (44.1) |

*2 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.
*3 Values when brake is installed are shown in parentheses.

# KSF4 Without Motor

## Model Configuration

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

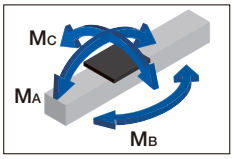
| KSF4 | 10: 10 mm<br>16: 16 mm | 0050: 50 mm<br>to<br>0900: 900 mm | 0: Without motor<br>1: With motor | A0: Without intermediate flange<br>AP<br>AQ<br>AR | No symbol : None<br>T : Back tap<br>GR : Change the cover color to gray<br>6 : Photo sensor<br>J : Proximity sensor<br>M : Proximity sensor (PNP)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

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | | 6,400 | |
| | Basic static load rating C0 [N] | | 12,900 | |
| Ball screw portion | Basic dynamic load rating Ca [N] | | 2,860 | 1,850 |
| | Basic static load rating C0a [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 P0a [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 | |

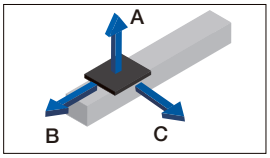
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

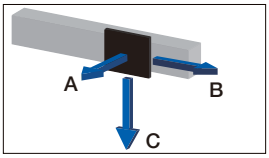



## Permissible Overhang Length *7

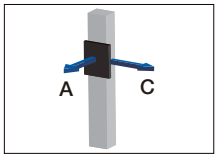
Horizontal use




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]

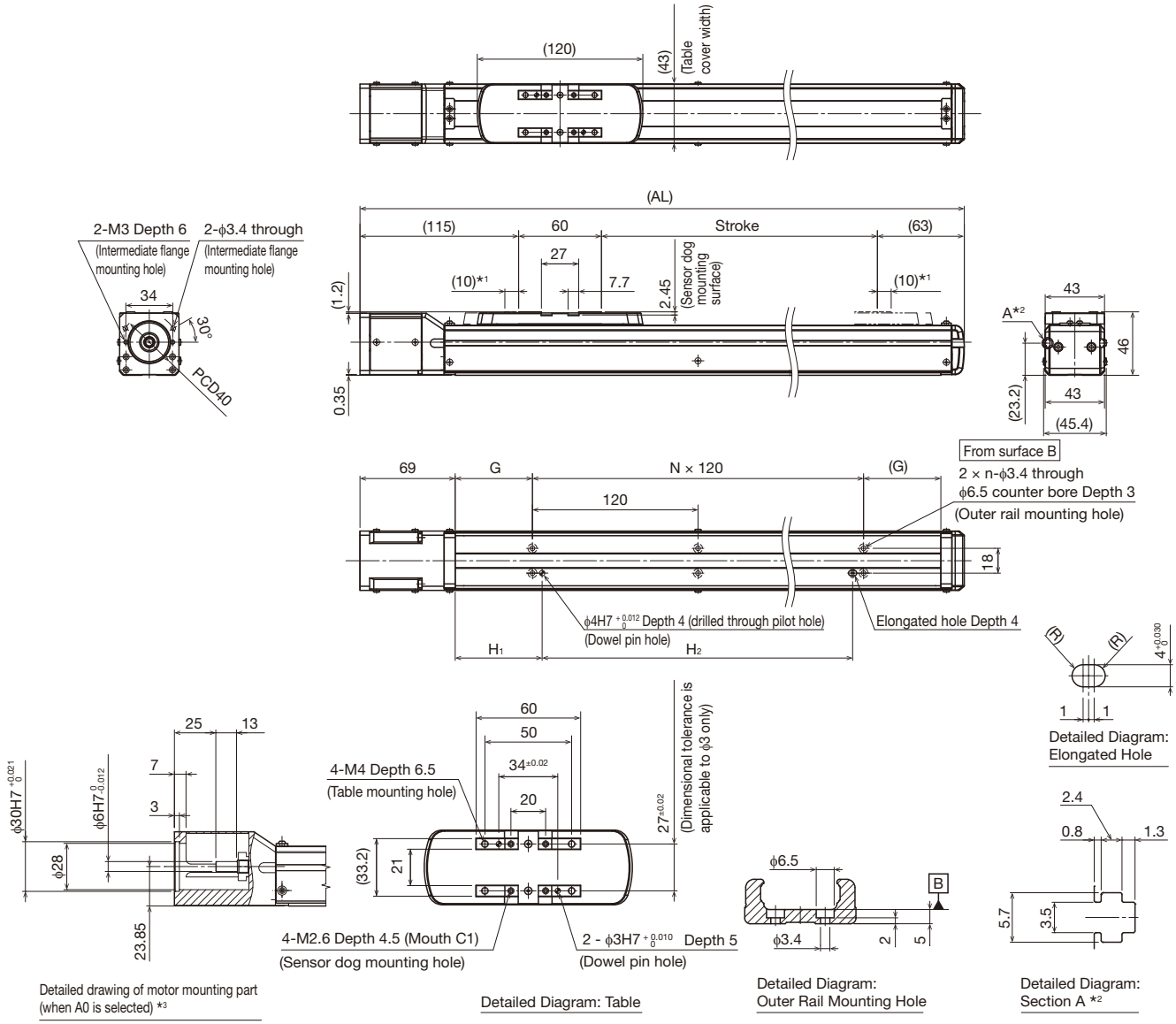
| Ball screw lead [mm] | Load mass [kg] | A | B | C |
|---|---|---|---|---|
| 10 | 2 | 400 | 310 | 400 |
| | 4 | 210 | 140 | 400 |
| | 8 | 80 | 50 | 230 |
| 16 | 1.5 | 360 | 320 | 400 |
| | 3 | 160 | 150 | 240 |
| | 6 | 60 | 60 | 100 |

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.

## 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.135 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: 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) (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 | | 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

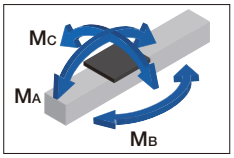
| Model | Ball screw lead | Stroke | With/without motor | Motor mounting plate | Motor shaft diameter | Motor shaft fixing method | Option |
|---|---|---|---|---|---|---|---|
| KSF4R - | 10 - | 0050 - | 0 - | WQ - | 08 | D | - MR-GR |
| KSF4R | 10: 10 mm<br>16: 16 mm | 0050: 50 mm<br>to<br>0900: 900 mm | 0: Without motor<br>1: With motor | WP<br>WQ | 08: 8 mm | D: D-cut<br>K: Key | MR : Motor right wrap<br>ML : Motor left wrap<br>MD : Motor down wrap<br>T : Back tap<br>GR : Change the cover color to gray<br>6 : Photo sensor<br>J : Proximity sensor<br>M : Proximity sensor (PNP) |

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | | 6,400 | |
| | Basic static load rating C0 [N] | | 12,900 | |
| Ball screw portion | Basic dynamic load rating Ca [N] | | 2,860 | 1,850 |
| | Basic static load rating C0a [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 P0a [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 | |

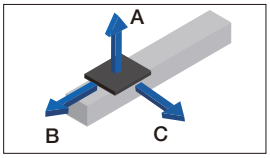
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

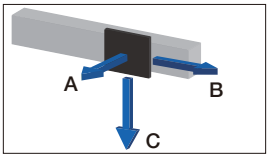



## Permissible Overhang Length *5

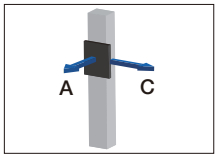
Horizontal use




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]

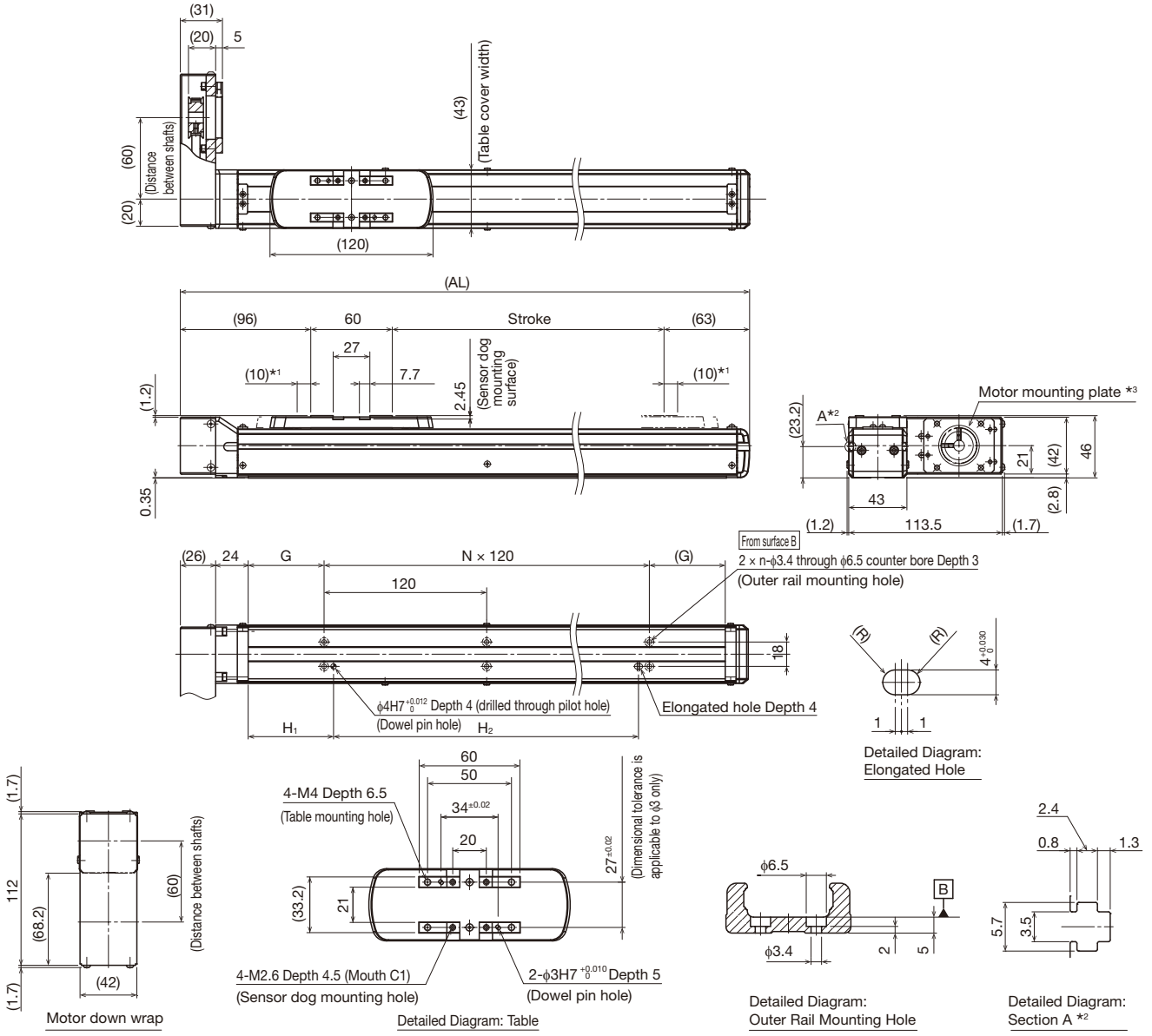
| Ball screw lead [mm] | Load mass [kg] | A | B | C |
|---|---|---|---|---|
| 10 | 2 | 400 | 310 | 400 |
| | 4 | 210 | 140 | 400 |
| | 8 | 80 | 50 | 230 |
| 16 | 1.5 | 360 | 320 | 400 |
| | 3 | 160 | 150 | 240 |
| | 6 | 60 | 60 | 100 |

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 |

*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.

## 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.135 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) |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum speed *4 *5 [mm/s] | 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] (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 | | 430 | 370 | 320 | 290 | 250 | 230 | 200 |
| | Ball screw lead: 16 mm | 800 | | 690 | 600 | 520 | 460 | 410 | 360 | 330 |
| 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

## Model Configuration

| Model | | Ball screw lead | | Stroke | | With/without motor | | Intermediate flange | | Option |
|---|---|---|---|---|---|---|---|---|---|---|
| KSF5 | - | 10 | - | 0050 | - | 0 | - | AQ | - | GR |

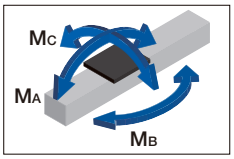
| Model | Ball screw lead | Stroke | With/without motor | Intermediate flange | Option |
|---|---|---|---|---|---|
| KSF5 | 10: 10 mm<br>20: 20 mm | 0050: 50 mm<br>to<br>0900: 900 mm | 0: Without motor<br>1: With motor | A0: Without intermediate flange<br>AP<br>AQ<br>AR | No symbol : None<br>T : Back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

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | | 10,200 | |
| | Basic static load rating C0 [N] | | 17,900 | |
| Ball screw portion | Basic dynamic load rating Ca [N] | | 3,350 | 2,150 |
| | Basic static load rating C0a [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 P0a [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] | | | MA: 147 MB: 147 MC: 149 | |

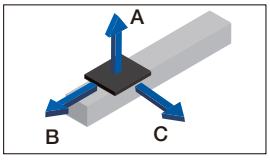
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

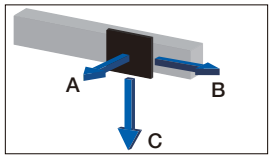



## Permissible Overhang Length *5

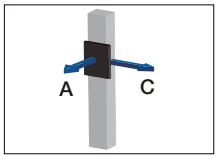
Horizontal use




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 | 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

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 | 1.25 | 500 | 500 | 500 |
| | 2.5 | 440 | 340 | 380 |
| | 5 | 200 | 160 | 190 |

Wall mount [mm]

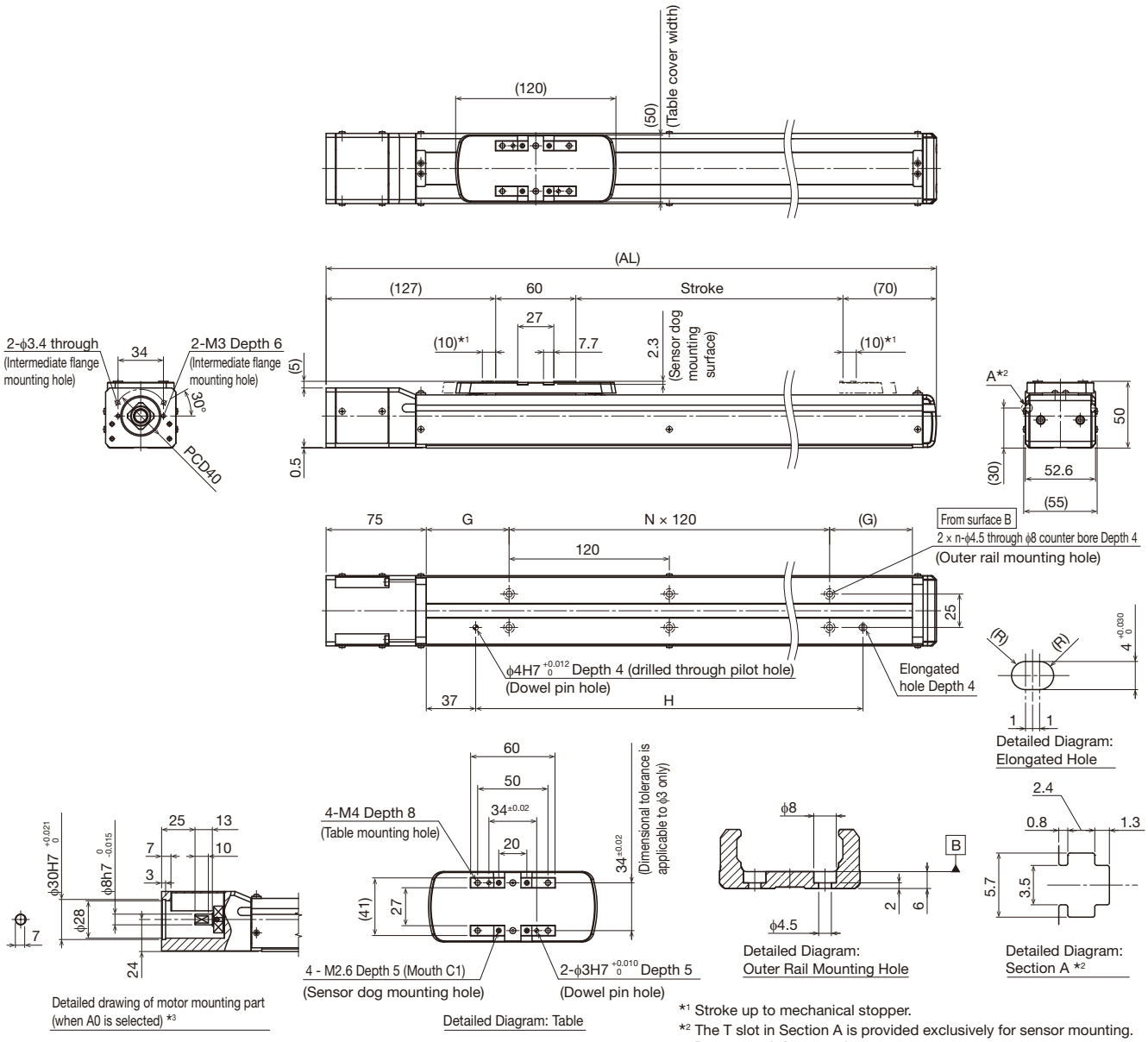
| Ball screw lead [mm] | Load mass [kg] | A | B | C |
|---|---|---|---|---|
| 10 | 3.75 | 490 | 260 | 500 |
| | 7.5 | 220 | 120 | 450 |
| | 15 | 90 | 40 | 190 |
| 20 | 1.25 | 500 | 500 | 500 |
| | 2.5 | 330 | 320 | 430 |
| | 5 | 150 | 140 | 190 |

Vertical mount [mm]

| 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.

## 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.136 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 | 707 |
| | 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] | | 2.3 | 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 | | | 440 | 390 | 340 | 310 | 270 | 250 |
| | Ball screw lead: 20 mm | 1000 | | | 890 | 780 | 690 | 620 | 550 | 500 |
| Dimensions [mm] | AL | 757 | 807 | 857 | 907 | 957 | 1007 | 1057 | 1107 | 1157 |
| | 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] | | 4.8 | 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

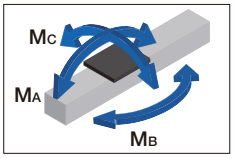
| Model | Ball screw lead | Stroke | With/without motor | Motor mounting plate | Motor shaft diameter | Motor shaft fixing method | Option |
|---|---|---|---|---|---|---|---|
| KSF5R - | 10 - | 0050 - | 0 - | WQ - | 08 | D | - MR-GR |
| KSF5R | 10: 10 mm<br>20: 20 mm | 0050: 50 mm<br>to<br>0900: 900 mm | 0: Without motor<br>1: With motor | WP<br>WQ | 08: 8 mm | D: D-cut<br>K: Key | MR : Motor right wrap<br>ML : Motor left wrap<br>MD : Motor down wrap<br>T : Back tap<br>GR : Change the cover color to gray<br>6 : Photo sensor<br>J : Proximity sensor<br>M : Proximity sensor (PNP) |

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | | 10,200 | |
| | Basic static load rating C0 [N] | | 17,900 | |
| Ball screw portion | Basic dynamic load rating Ca [N] | | 3,350 | 2,150 |
| | Basic static load rating C0a [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 P0a [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 | |

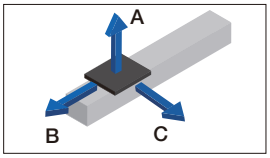
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

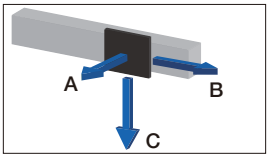



## Permissible Overhang Length *5

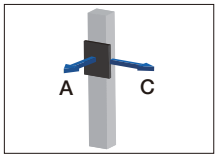
Horizontal use




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]

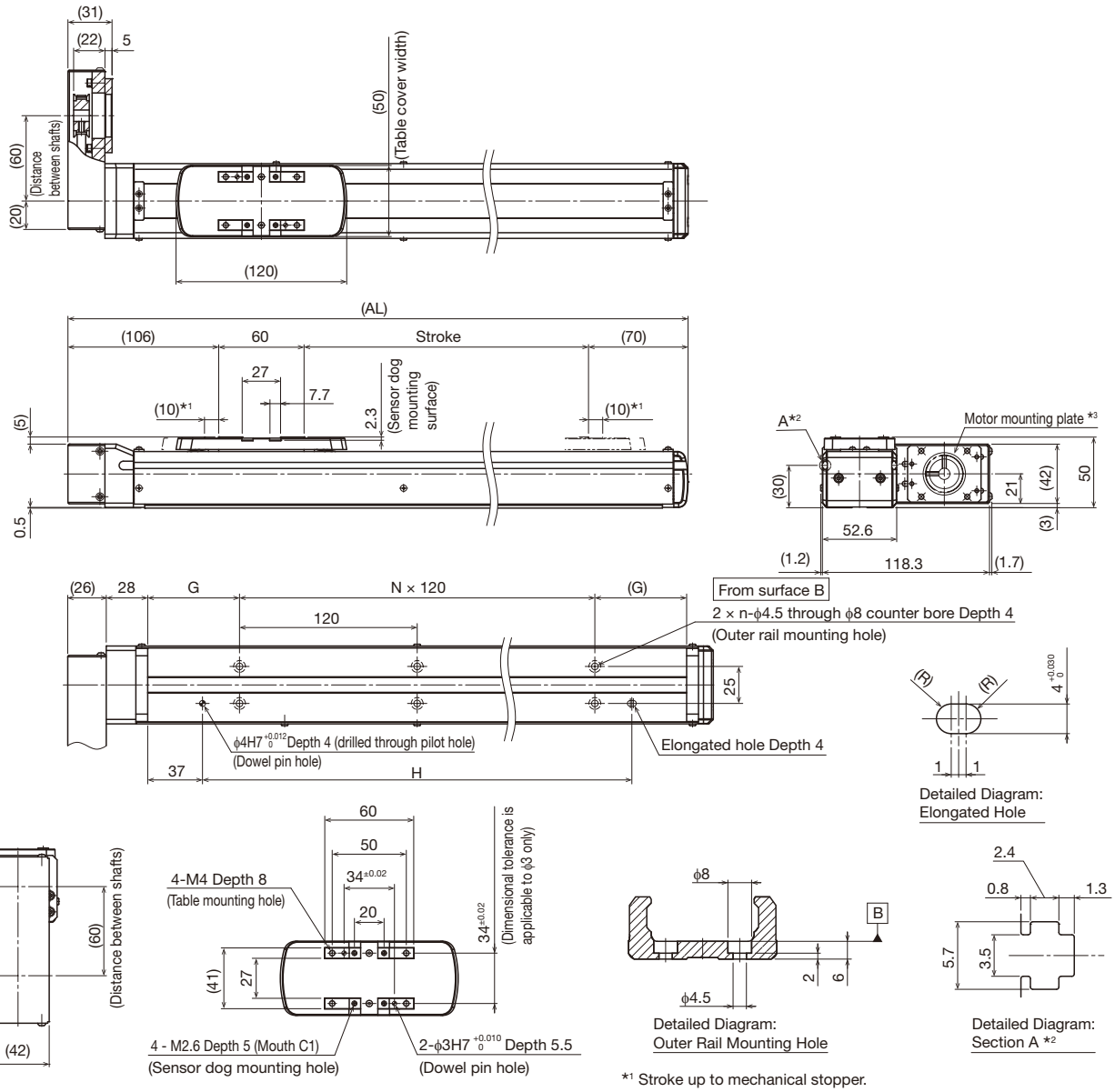
| Ball screw lead [mm] | Load mass [kg] | A | B | C |
|---|---|---|---|---|
| 10 | 3.75 | 490 | 260 | 500 |
| | 7.5 | 220 | 120 | 450 |
| | 15 | 90 | 40 | 190 |
| 20 | 1 | 500 | 500 | 500 |
| | 2 | 430 | 410 | 500 |
| | 4 | 190 | 190 | 250 |

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.

## 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.136 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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 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] (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 | | | 440 | 390 | 340 | 310 | 270 | 250 |
| | Ball screw lead: 20 mm | 1000 | | | 890 | 780 | 690 | 620 | 550 | 500 |
| 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

## Model Configuration

| Model | Ball screw lead | Stroke | With/without motor | Intermediate flange | Option |
|---|---|---|---|---|---|
| KSF6 | 20 | 0750 | 0 | AV | GR-6 |

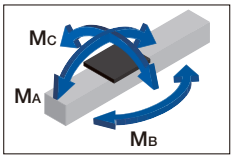
| KSF6 | 20: 20 mm<br>30: 30 mm | 0050: 50 mm<br>to<br>1300: 1300 mm | 0: Without motor<br>1: With motor | A0: Without intermediate flange<br>AV<br>AY<br>AU | No symbol : None<br>T : Back tap<br>GR: Change the cover color to gray<br>6 : Photo sensor<br>J : Proximity sensor<br>M : Proximity sensor (PNP) |
|---|---|---|---|---|---|

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | | 17,400 | |
| | Basic static load rating C0 [N] | | 33,000 | |
| Ball screw portion | Basic dynamic load rating Ca [N] | | 3,400 | 3,230 |
| | Basic static load rating C0a [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 P0a [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] | | | MA: 330 MB: 216 MC: 188 | |

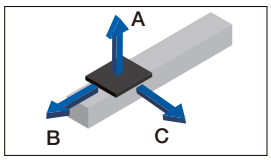
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

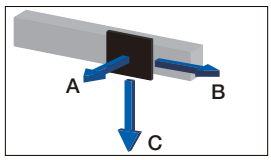



## Permissible Overhang Length *5

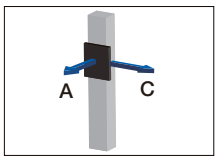
Horizontal use




Wall use




Vertical use




### Acceleration and deceleration rate: 1.0 G

Horizontal mount [mm]

| Ball screw lead [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 | 320 | 210 | 240 |
| | 14 | 140 | 90 | 120 |

Wall mount [mm]

| Ball screw lead [mm] | Load mass [kg] | 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 |

Vertical mount [mm]

| Ball screw lead [mm] | Load mass [kg] | 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

Horizontal mount [mm]

| Ball screw lead [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 | 230 | 240 | 220 |

Wall mount [mm]

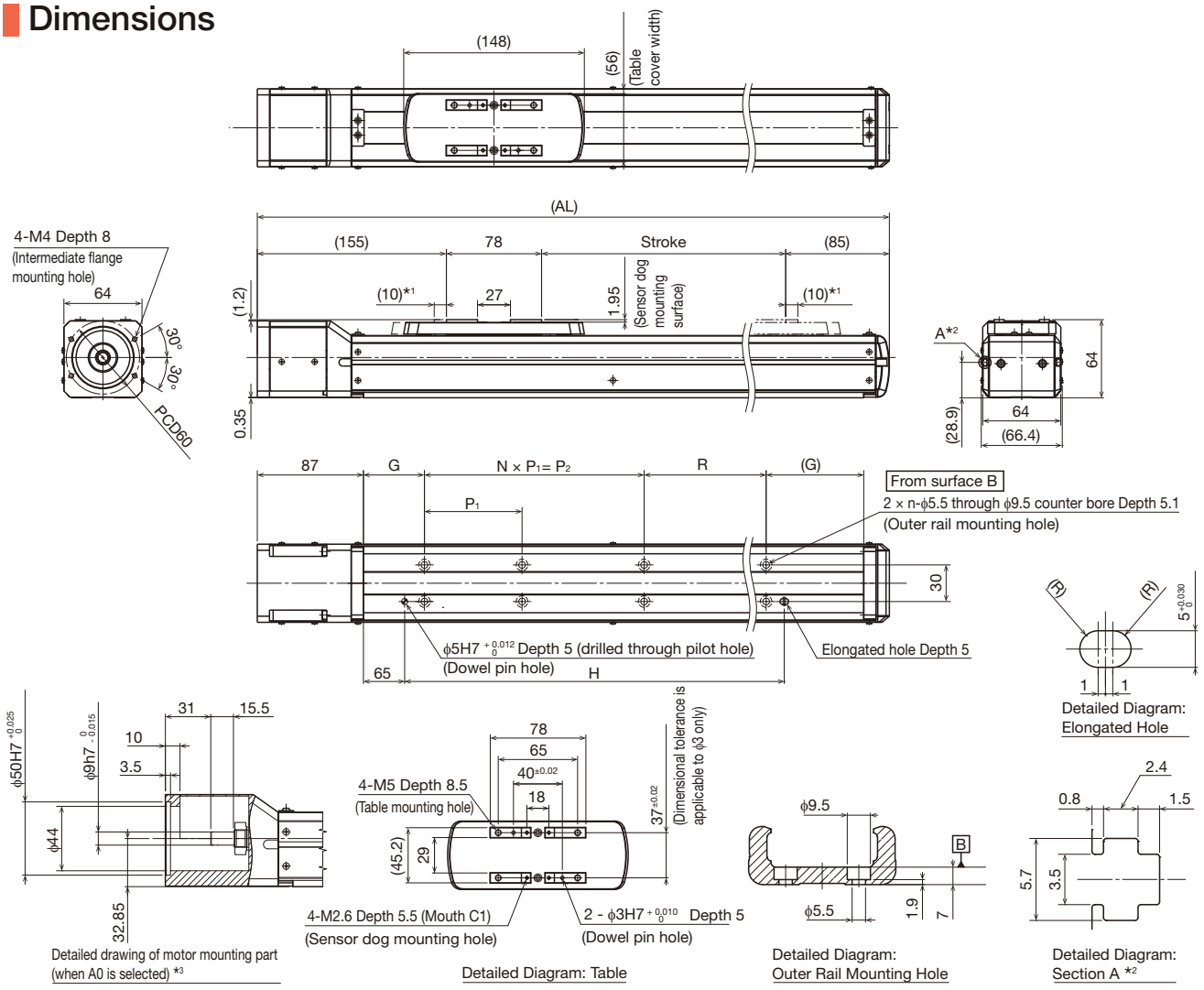
| Ball screw lead [mm] | Load mass [kg] | A | B | C |
|---|---|---|---|---|
| 20 | 1.25 | 600 | 600 | 600 |
| | 2.5 | 600 | 600 | 600 |
| | 5 | 360 | 350 | 470 |
| 30 | 1.5 | 600 | 600 | 600 |
| | 3 | 380 | 470 | 480 |
| | 6 | 170 | 210 | 210 |

Vertical mount [mm]

| Ball screw lead [mm] | Load mass [kg] | 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.137 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 *4 *5 [mm/s] | Ball screw lead | 20mm | 1000 | | | | | | | | | | | | |
| | | 30mm | 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 |
| | $P_2$ | | - | - | - | - | - | - | 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 |
| 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 *4 *5 [mm/s] | Ball screw lead | 20mm | 980 | 870 | 770 | 690 | 630 | 570 | 520 | 470 | 430 | 400 | 370 | 340 | 320 |
| | | 30mm | 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 | 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] | | | 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

## 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 |

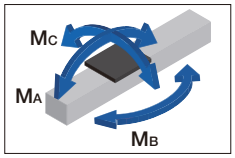
| Model | Ball screw lead | Stroke | With/without motor | Motor mounting plate | Motor shaft diameter | Motor shaft fixing method | Option |
|---|---|---|---|---|---|---|---|
| KSF6R | 20: 20 mm<br>30: 30 mm | 0050: 50 mm<br>to<br>1300: 1300 mm | 0: Without motor<br>1: With motor | WV<br>WY | 11: 11 mm<br>14: 14 mm | D: D-cut<br>K: Key<br>M: Friction tightening | MR : Motor right wrap<br>ML : Motor left wrap<br>MD : Motor down wrap<br>T : Back tap<br>GR : Change the cover color to gray<br>6 : Photo sensor<br>J : Proximity sensor<br>M : Proximity sensor (PNP) |

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | | 17,400 | |
| | Basic static load rating C0 [N] | | 33,000 | |
| Ball screw portion | Basic dynamic load rating Ca [N] | | 3,400 | 3,230 |
| | Basic static load rating C0a [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 P0a [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 MB: 216 MC: 188 | |

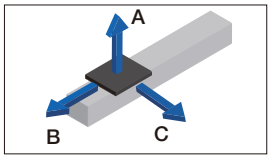
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

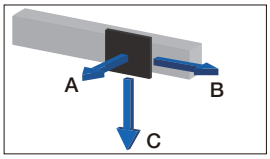



## Permissible Overhang Length *5

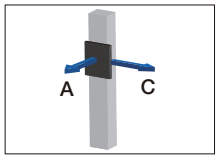
Horizontal use




Wall use




Vertical use




### Acceleration and deceleration rate 1.0 G

Horizontal mount [mm]

| 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]

| 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]

| 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]

| 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]

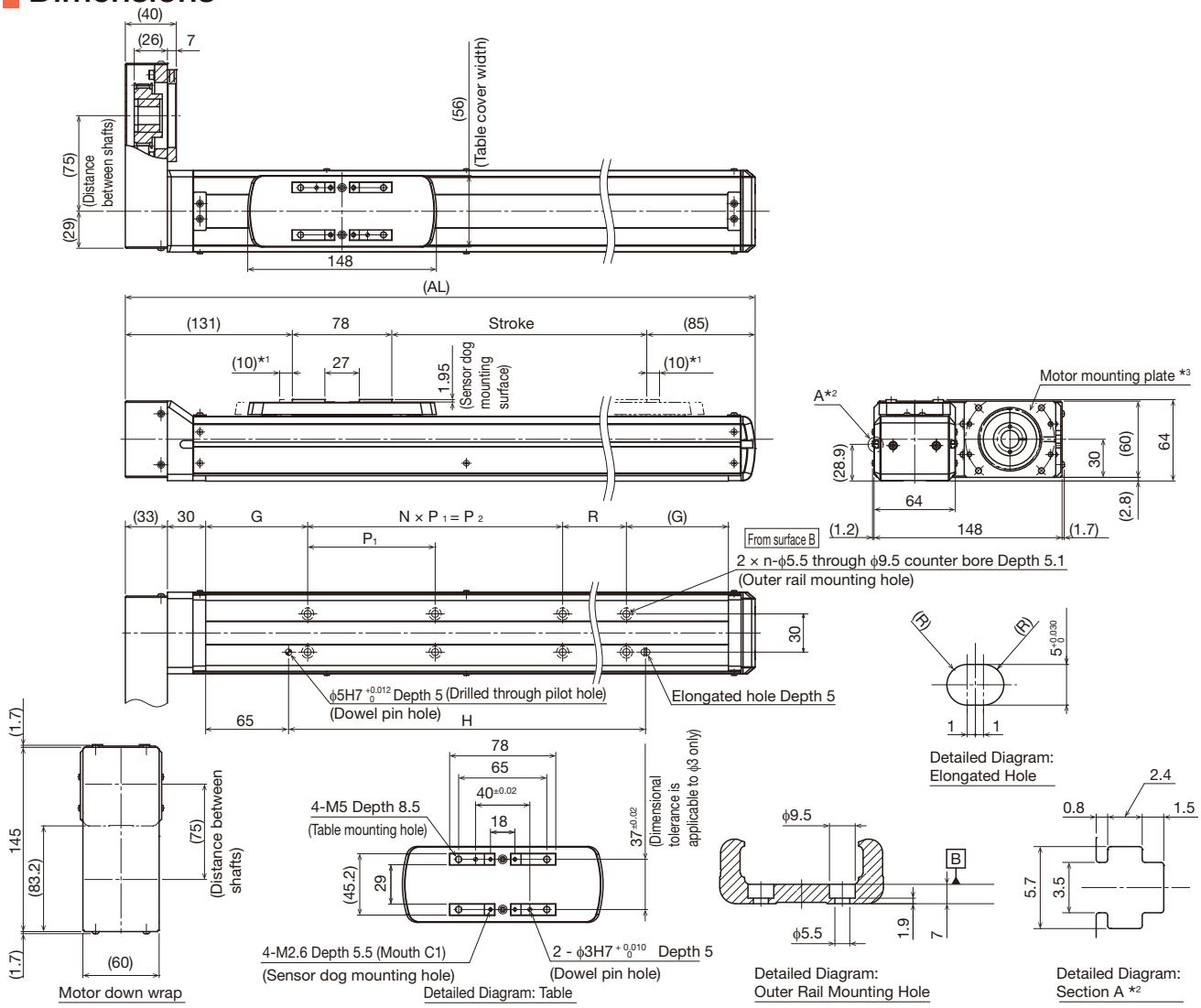
| Ball screw lead [mm] | Load mass [kg] | A | B | C |
|---|---|---|---|---|
| 20 | 1 | 600 | 600 | 600 |
| | 2 | 600 | 600 | 600 |
| | 4 | 460 | 440 | 600 |
| 30 | 1 | 600 | 600 | 600 |
| | 2 | 590 | 600 | 600 |
| | 4 | 270 | 340 | 350 |

Vertical mount [mm]

| 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.

## 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.137 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 *4 *5 [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 | 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] (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 *4 *5 [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 |

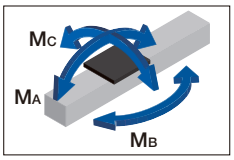
| KSF8 | 20: 20 mm<br>40: 40 mm | 0100: 100 mm<br>to<br>1500: 1500 mm | 0: Without motor<br>1: With motor | A0: Without intermediate flange<br>AV<br>AY<br>AU | No symbol : None<br>T: Back tap<br>GR: Change the cover color to gray<br>6: Photo sensor<br>J: Proximity sensor<br>M: Proximity sensor (PNP)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

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | 32,400 | | |
| | Basic static load rating C0 [N] | 63,500 | | |
| Ball screw portion | Basic dynamic load rating Ca [N] | 4,030 | 3,750 | |
| | Basic static load rating C0a [N] | 10,540 | 8,870 | |
| | Screw shaft diameter [mm] | ϕ20 | | |
| | Ball screw lead [mm] | 20 | 40 | |
| Bearing portion (Fixed side) | Axial direction: Basic dynamic load rating Ca [N] | 7,600 | | |
| | Axial direction: Static permissible load P0a [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 [N·m] | | MA: 730 MB: 437 MC: 387 | | |

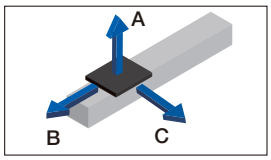
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

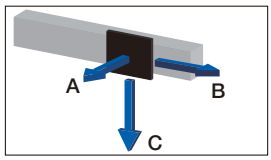



## Permissible Overhang Length *5

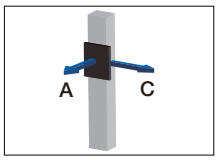
Horizontal use




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]

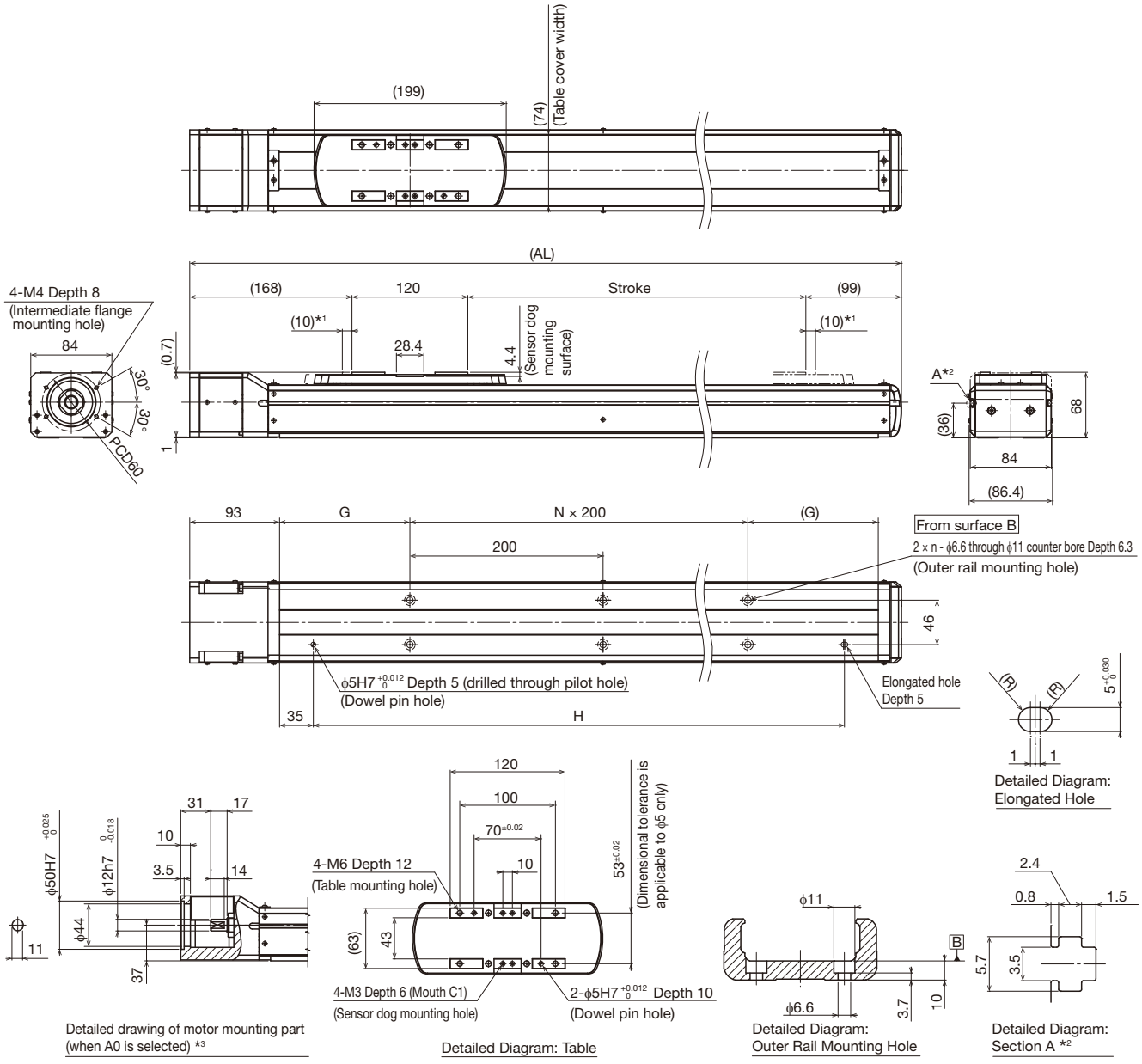
| Ball screw lead [mm] | Load mass [kg] | A | B | C |
|---|---|---|---|---|
| 20 | 1.5 | 800 | 800 | 800 |
| | 3 | 800 | 800 | 800 |
| | 6 | 500 | 470 | 640 |
| 40 | 1.75 | 800 | 800 | 800 |
| | 3.5 | 600 | 800 | 740 |
| | 7 | 280 | 420 | 340 |

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.

## 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.138 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 *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

## 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<br>40: 40 mm | 0100: 100 mm<br>to<br>1500: 1500 mm | 0: Without motor<br>1: With motor | WV<br>WY | 14: 14 mm | M: Friction tightening |
|---|---|---|---|---|---|---|

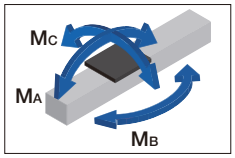
| |
|---|
| MR : Motor right wrap |
| ML : Motor left wrap |
| MD : Motor down wrap |
| T : Back tap |
| GR : Change the cover color to gray |
| 6 : Photo sensor |
| J : Proximity sensor |
| M : Proximity sensor (PNP) |

## 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 | 3,750 |
| | Basic static load rating $C_{0a}$ [N] | | 10,540 | 8,870 |
| | Screw shaft diameter [mm] | | ϕ20 | |
| | Ball screw lead [mm] | | 20 | 40 |
| Bearing portion (Fixed side) | Axial direction | Basic dynamic load rating Ca [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] | | | 4.5 | |
| Static permissible moment *4 [N·m] | | | $M_A$: 730 $M_B$: 437 $M_C$: 387 | |

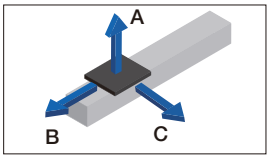
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for $M_A$ and $M_C$ are the top face of the table, and that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

Static Permissible Moment

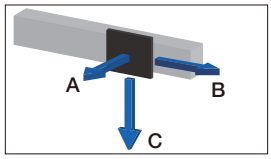



## Permissible Overhang Length *5

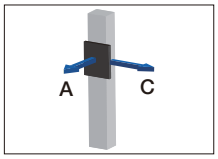
Horizontal use




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 | 10.25 | 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]

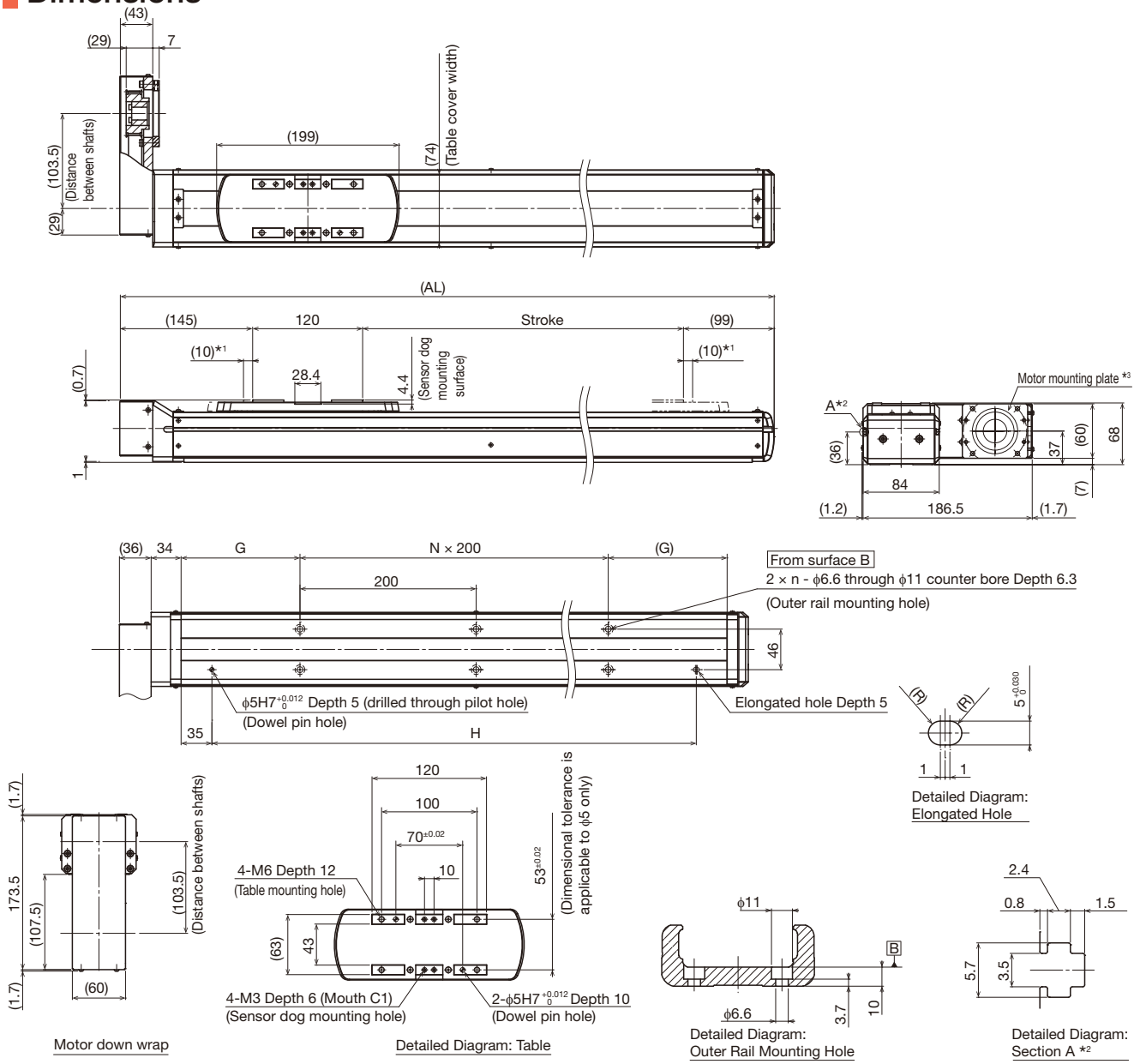
| Ball screw lead [mm] | Load mass [kg] | A | B | C |
|---|---|---|---|---|
| 20 | 1.5 | 800 | 800 | 800 |
| | 3 | 800 | 800 | 800 |
| | 6 | 500 | 470 | 640 |
| 40 | 1.75 | 800 | 800 | 800 |
| | 3.5 | 600 | 800 | 740 |
| | 7 | 280 | 420 | 340 |

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.

## 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.138 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 *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

## Model Configuration

| Model | | Ball screw lead | | Stroke | | With/without motor | | Intermediate flange | | Option |
|---|---|---|---|---|---|---|---|---|---|---|
| KSF10 | - | 25 | - | 0800 | - | 0 | - | AZ | - | GR-6 |

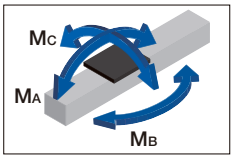
| KSF10 | 25: 25 mm<br>50: 50 mm | 0100: 100 mm<br>to<br>1500: 1500 mm | 0: Without motor<br>1: With motor | A0<br>AZ<br>A5<br>A6 | No symbol: None<br>T: Back tap<br>GR: Change the cover color to gray<br>6: Photo sensor<br>J: Proximity sensor<br>M: Proximity sensor (PNP) |
|---|---|---|---|---|---|

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | | 58,500 | |
| | Basic static load rating C0 [N] | | 103,700 | |
| Ball screw portion | Basic dynamic load rating Ca [N] | | 6,650 | 4,150 |
| | Basic static load rating C0a [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 P0a [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] | | | MA: 1,049 MB: 712 MC: 671 | |

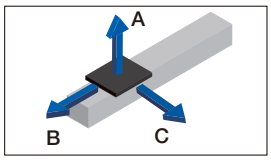
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

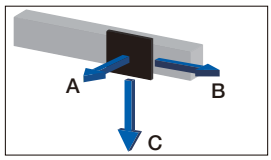



## Permissible Overhang Length *5

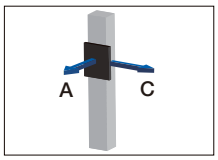
Horizontal use




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 | 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]

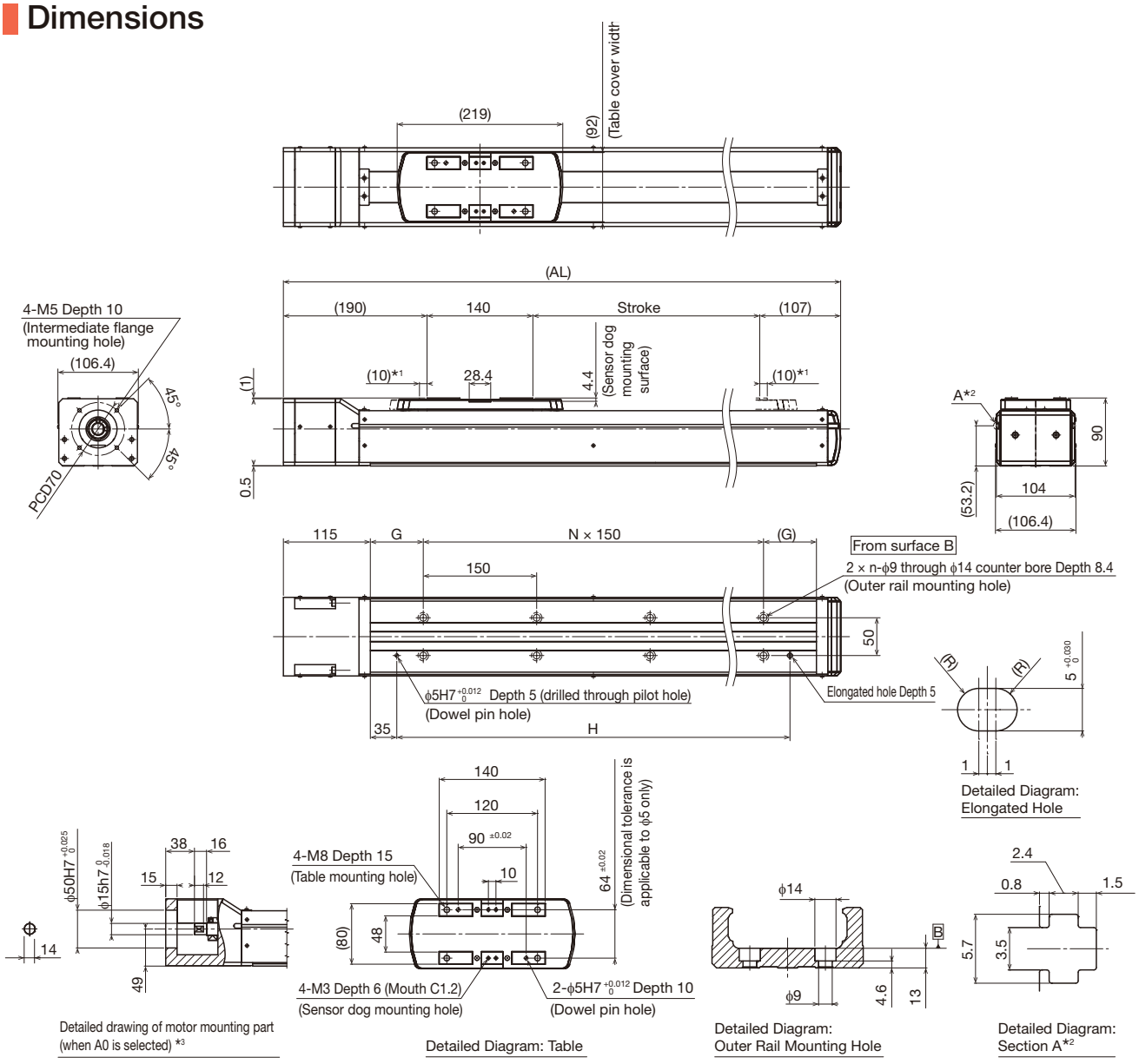
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 25 | 2.75 | 1,000 | 1,000 |
| | 5.5 | 1,000 | 1,000 |
| | 11 | 700 | 700 |
| 50 | 1 | 1,000 | 1,000 |
| | 2 | 1,000 | 1,000 |
| | 4 | 1,000 | 1,000 |

*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.

# KSF10



## 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.139 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 | 1250 | | | | | | | | | 1050 | 890 | 760 | 660 | 580 | 510 |
| | Ball screw lead: 50 mm | 2500 | | | | | | | | | 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

## 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<br>50: 50 mm | 0100: 100 mm<br>to<br>1500: 1500 mm | 0: Without motor<br>1: With motor | WZ<br>W5 | 16: 16 mm<br>19: 19 mm | M: Friction tightening |
|---|---|---|---|---|---|---|

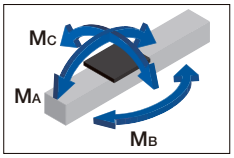
| Option |
|---|
| MR : Motor right wrap |
| ML : Motor left wrap |
| MD : Motor down wrap |
| T : Back tap |
| GR : Change the cover color to gray |
| 6 : Photo sensor |
| J : Proximity sensor |
| M : Proximity sensor (PNP) |

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | | 58,500 | |
| | Basic static load rating C0 [N] | | 103,700 | |
| Ball screw portion | Basic dynamic load rating Ca [N] | | 6,650 | 4,150 |
| | Basic static load rating C0a [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 P0a [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 | |

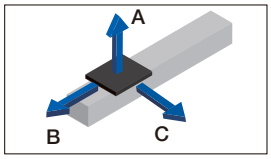
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

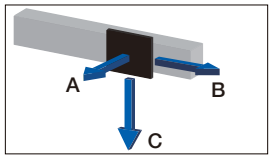



## Permissible Overhang Length *5

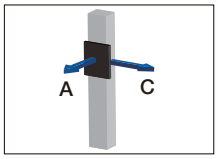
Horizontal use




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]

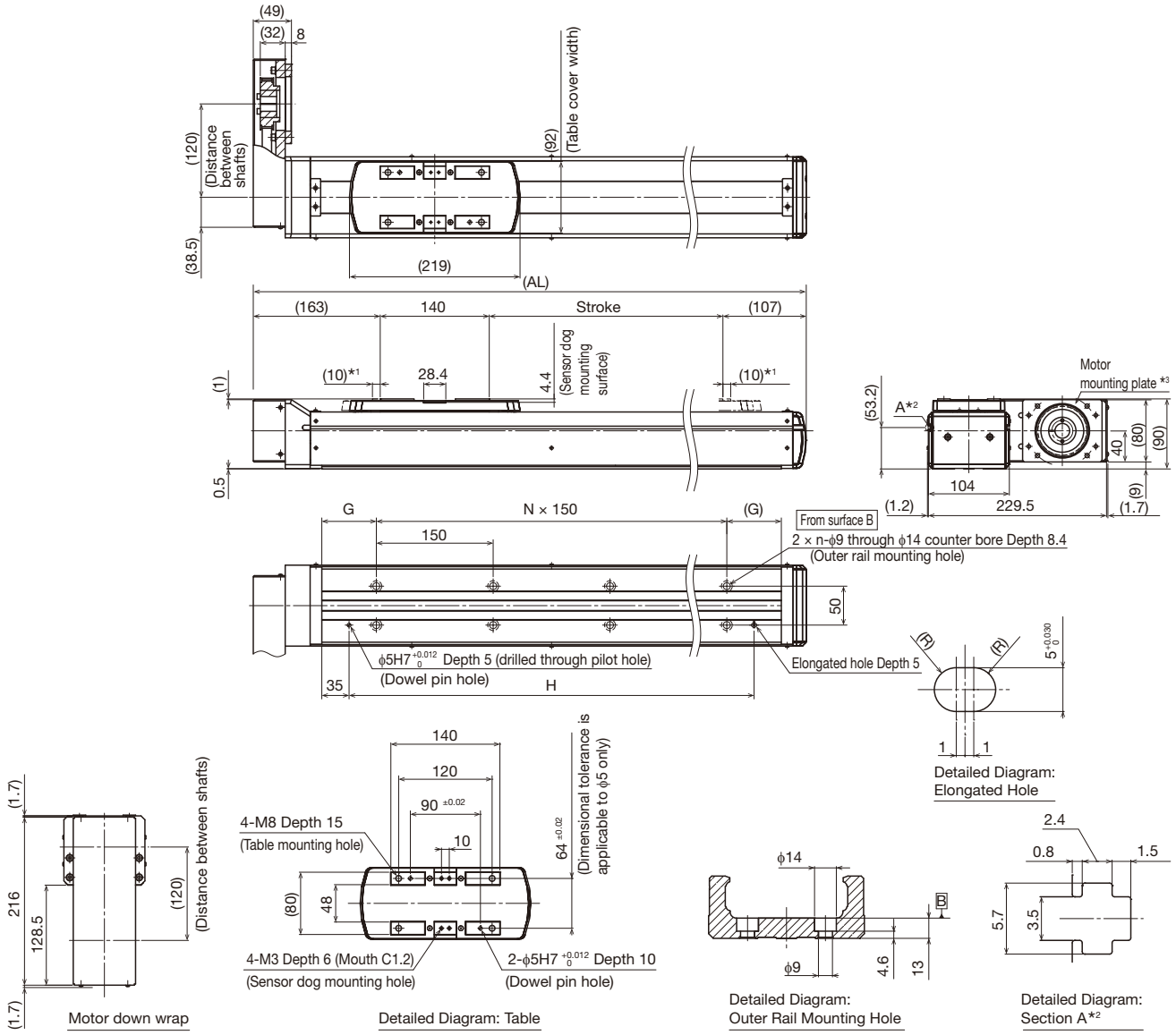
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 25 | 0.75 | 1000 | 1000 |
| | 1.5 | 1000 | 1000 |
| | 3 | 1000 | 1000 |
| 50 | 0.75 | 1000 | 1000 |
| | 1.5 | 1000 | 1000 |
| | 3 | 1000 | 1000 |

*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.

# KSF10R



## 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.139 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 | 1250 | | | | | | | | | 1050 | 890 | 760 | 660 | 580 | 510 |
| | Ball screw lead: 50 mm | 2500 | | | | | | | | | 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.

# KSF5T Without Motor

## Model Configuration

| Model | | Ball screw lead | | Stroke | | With/without motor | | Intermediate flange | | Option |
|---|---|---|---|---|---|---|---|---|---|---|
| KSF5T | - | 10 | - | 0050 | - | 0 | - | AQ | - | T-6 |

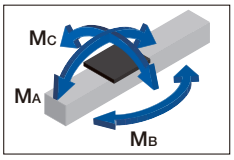
| KSF5T | 10: 10 mm<br>20: 20 mm | 0050: 50 mm<br>to<br>0900: 900 mm | 0: Without motor<br>1: With motor | A0<br>AP<br>AQ<br>AR | No symbol : None<br>T: Back tap<br>1: Sensor rail only<br>6: Photo sensor<br>J: Proximity sensor<br>M: Proximity sensor (PNP)<br>F: Sub-table iron specification |
|---|---|---|---|---|---|

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | | 10,200 | |
| | Basic static load rating C0 [N] | | 17,900 | |
| Ball screw portion | Basic dynamic load rating Ca [N] | | 3,350 | 2,150 |
| | Basic static load rating C0a [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 P0a [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] | | | MA:103 (147) MB: 61 (137) MC: 80 (149) | |

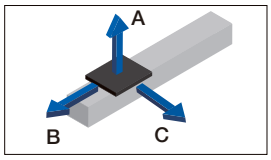
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

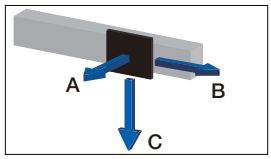



## Permissible Overhang Length *6

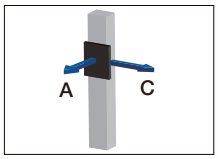
Horizontal use




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 | 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

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 | 1.25 | 500 | 500 | 500 |
| | 2.5 | 440 | 340 | 380 |
| | 5 | 200 | 160 | 190 |

Wall mount [mm]

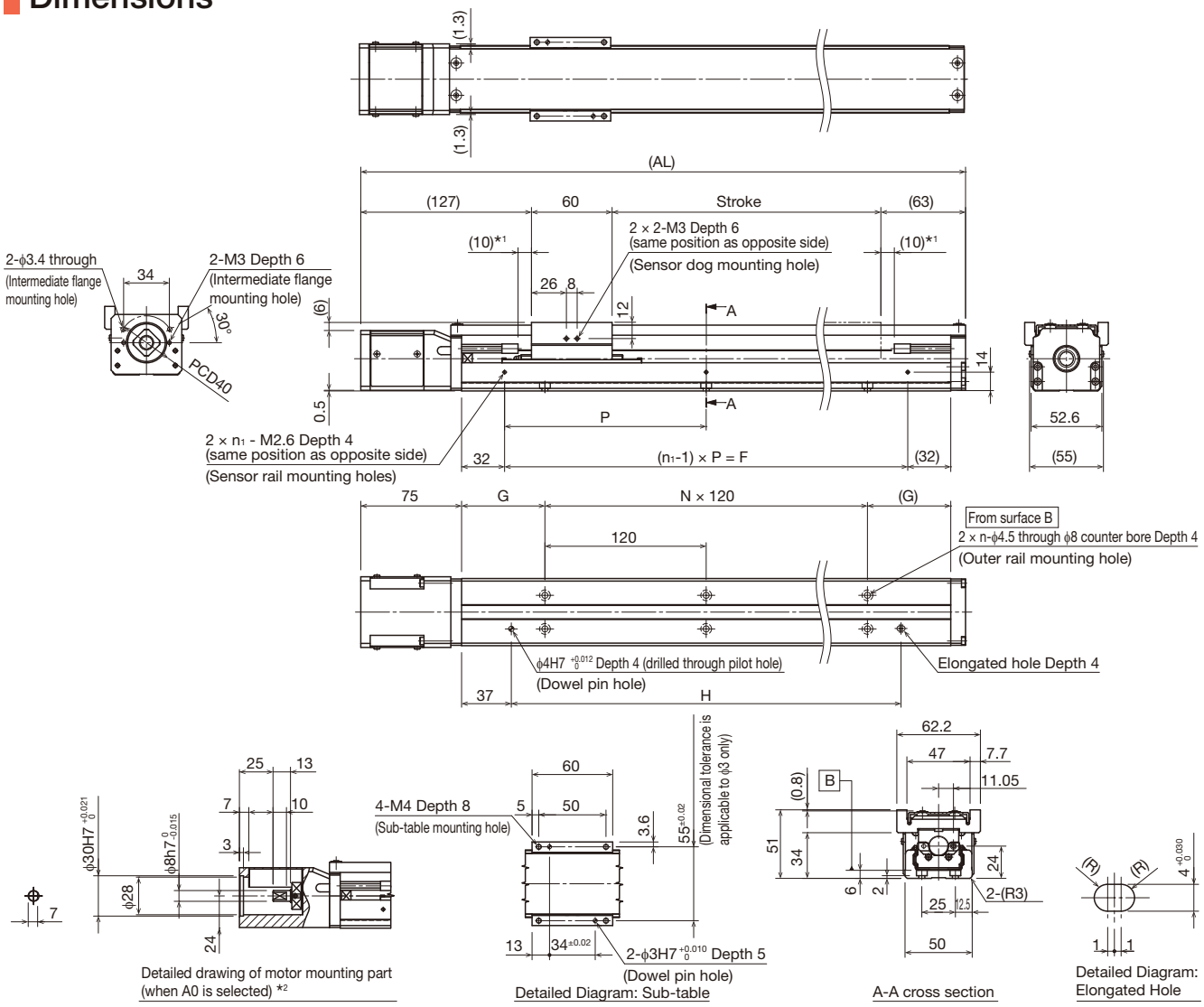
| Ball screw lead [mm] | Load mass [kg] | A | B | C |
|---|---|---|---|---|
| 10 | 3.75 | 490 | 260 | 500 |
| | 7.5 | 220 | 120 | 450 |
| | 15 | 90 | 40 | 190 |
| 20 | 1.25 | 500 | 500 | 500 |
| | 2.5 | 330 | 320 | 430 |
| | 5 | 150 | 140 | 190 |

Vertical mount [mm]

| 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 |

*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.136 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 *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 | 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 *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

## 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<br>20: 20 mm | 0050: 50 mm<br>to<br>0900: 900 mm | 0: Without motor<br>1: With motor | WP<br>WQ | 08: 8 mm | D: D-cut<br>K: Key |
|---|---|---|---|---|---|---|

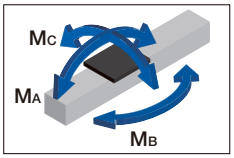
| Option |
|---|
| MR : Motor right wrap |
| ML : Motor left wrap |
| MD : Motor down wrap |
| T : Back tap |
| 1 : Sensor rail only |
| 6 : Photo sensor |
| J : Proximity sensor |
| M : Proximity sensor (PNP) |
| F : Sub-table iron specification |

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | | 10,200 | |
| | Basic static load rating C0 [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 *5 [N·m] | | | MA: 103 (147) MB: 61 (137) MC: 80 (149) | |

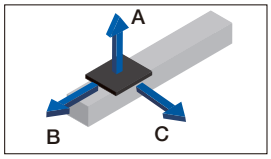
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

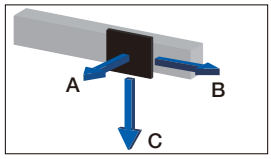



## Permissible Overhang Length *6

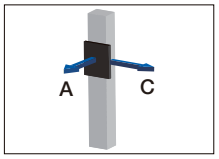
Horizontal use




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]

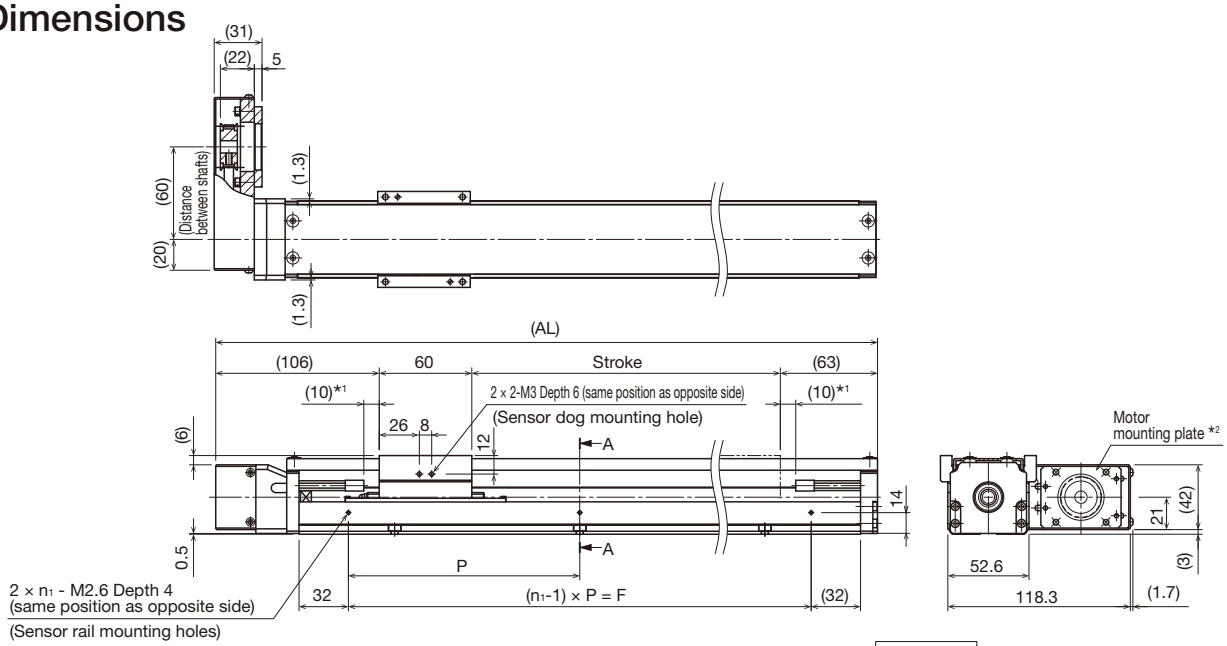
| Ball screw lead [mm] | Load mass [kg] | A | B | C |
|---|---|---|---|---|
| 10 | 3.75 | 490 | 260 | 500 |
| | 7.5 | 220 | 120 | 450 |
| | 15 | 90 | 40 | 190 |
| 20 | 1 | 500 | 500 | 500 |
| | 2 | 430 | 410 | 500 |
| | 4 | 190 | 190 | 250 |

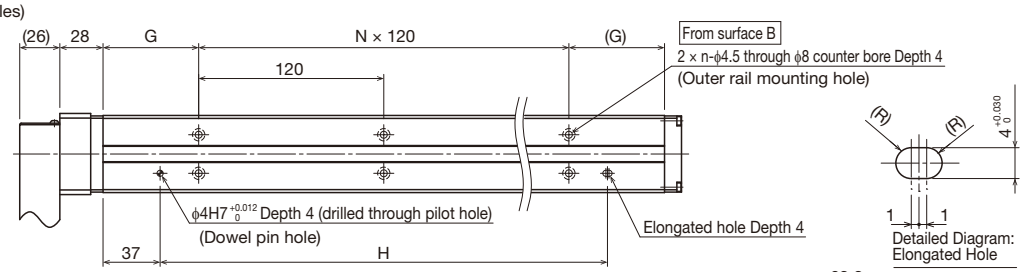
Vertical mount [mm]

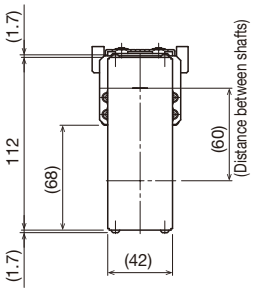
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 10 | 2 | 500 | 500 |
| | 4 | 230 | 230 |
| | 8 | 100 | 100 |
| 20 | 0.625 | 500 | 500 |
| | 1.25 | 500 | 500 |
| | 2.5 | 240 | 240 |

*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.

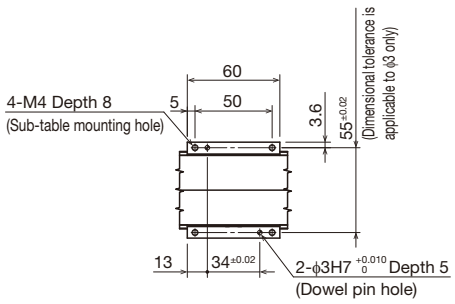
## Dimensions



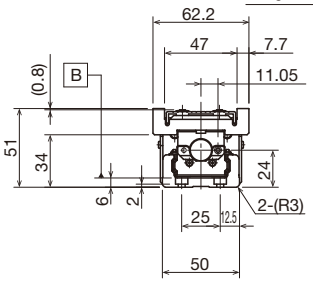




Motor down wrap




Detailed Diagram: Sub-table




A-A cross section

*1 Stroke up to mechanical stopper.
*2 See P.136 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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 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] (Stroke between mechanical stoppers) | | 500 (520) | 550 (570) | 600 (620) | 650 (670) | 700 (720) | 750 (770) | 800 (820) | 850 (870) | 900 (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 | 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

## Model Configuration

| Model | | Ball screw lead | | Stroke | | With/without motor | | Intermediate flange | | Option |
|---|---|---|---|---|---|---|---|---|---|---|
| KSF6T | - | 20 | - | 0050 | - | 0 | - | AQ | - | T-6 |

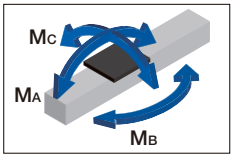
| Model | Ball screw lead | Stroke | With/without motor | Intermediate flange | Option |
|---|---|---|---|---|---|
| KSF6T | 20: 20 mm<br>30: 30 mm | 0050: 50 mm<br>to<br>1300: 1300 mm | 0: Without motor<br>1: With motor | A0<br>AV<br>AY<br>AU | No symbol: None<br>T: Back tap<br>1: Sensor rail only<br>6: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

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | | 17,400 | |
| | Basic static load rating C0 [N] | | 33,000 | |
| Ball screw portion | Basic dynamic load rating Ca [N] | | 3,400 | 3,230 |
| | Basic static load rating C0a [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 P0a [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] | | | MA: 150 (266) MB: 124 (252) MC: 139 (253) | |

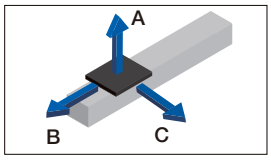
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

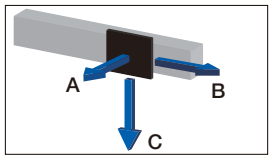



## Permissible Overhang Length *6

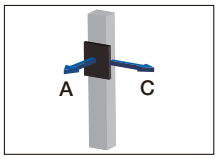
Horizontal use




Wall use




Vertical use




### Acceleration and deceleration rate 1.0 G

Horizontal mount [mm]

| Ball screw lead [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]

| Ball screw lead [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]

| Ball screw lead [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]

| Ball screw lead [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]

| Ball screw lead [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 |

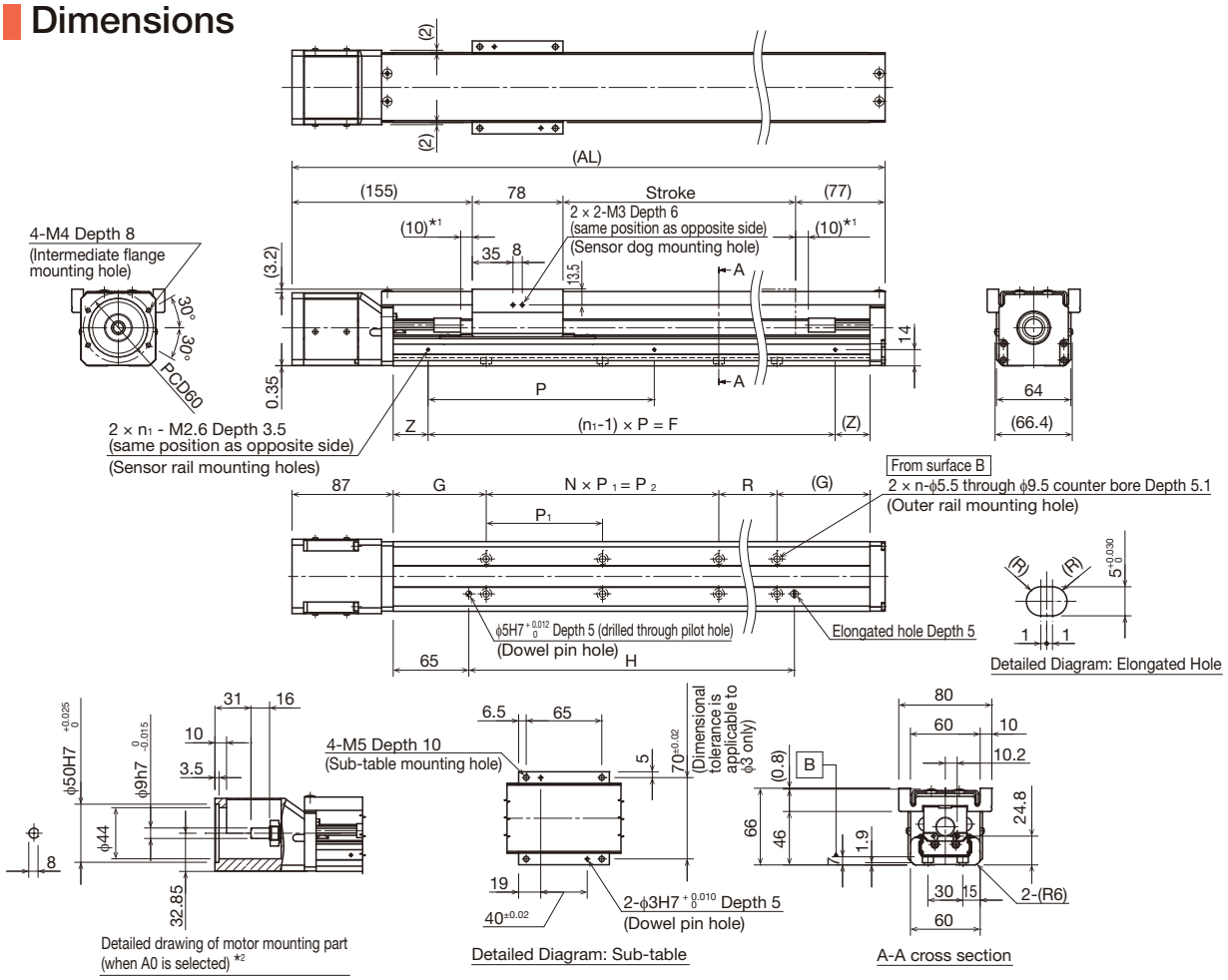
Vertical mount [mm]

| Ball screw lead [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.

# KSF6T

## Dimensions




*1 Stroke up to mechanical stopper.
*2 See P.137 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 | 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 | 3 | 4 | 4 | 4 | 4 | 5 |
| | $n_1$ | 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 |
| | 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 | 6 |
| Mounting hole count | n | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 8 | 8 |
| | $n_1$ | 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 |

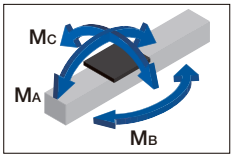
| Model | Ball screw lead | Stroke | With/without motor | Motor mounting plate | Motor shaft diameter | Motor shaft fixing method | Option |
|---|---|---|---|---|---|---|---|
| KSF6RT | 20: 20 mm<br>30: 30 mm | 0050: 50 mm<br>to<br>1300: 1300 mm | 0: Without motor<br>1: With motor | WV<br>WY | 11: 11 mm<br>14: 14 mm | D:D-cut<br>K:Key<br>M:Friction tightening | MR : Motor right wrap<br>ML : Motor left wrap<br>MD : Motor down wrap<br>T : Back tap<br>1 : Sensor rail only<br>6 : Photo sensor<br>J : Proximity sensor<br>M : Proximity sensor (PNP)<br>F : Sub-table iron specification |

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | 17,400 | | |
| | Basic static load rating C0 [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 | | |
| | Axial direction: 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) | | |

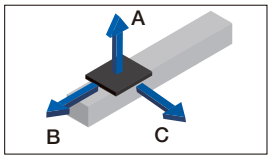
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

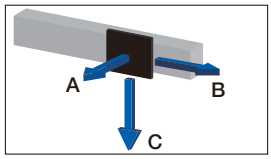



## Permissible Overhang Length *6

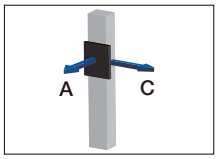
Horizontal use




Wall use




Vertical use




### Acceleration and deceleration rate 1.0 G

Horizontal mount [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]

| 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 |

Vertical mount [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]

| 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]

| 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 |

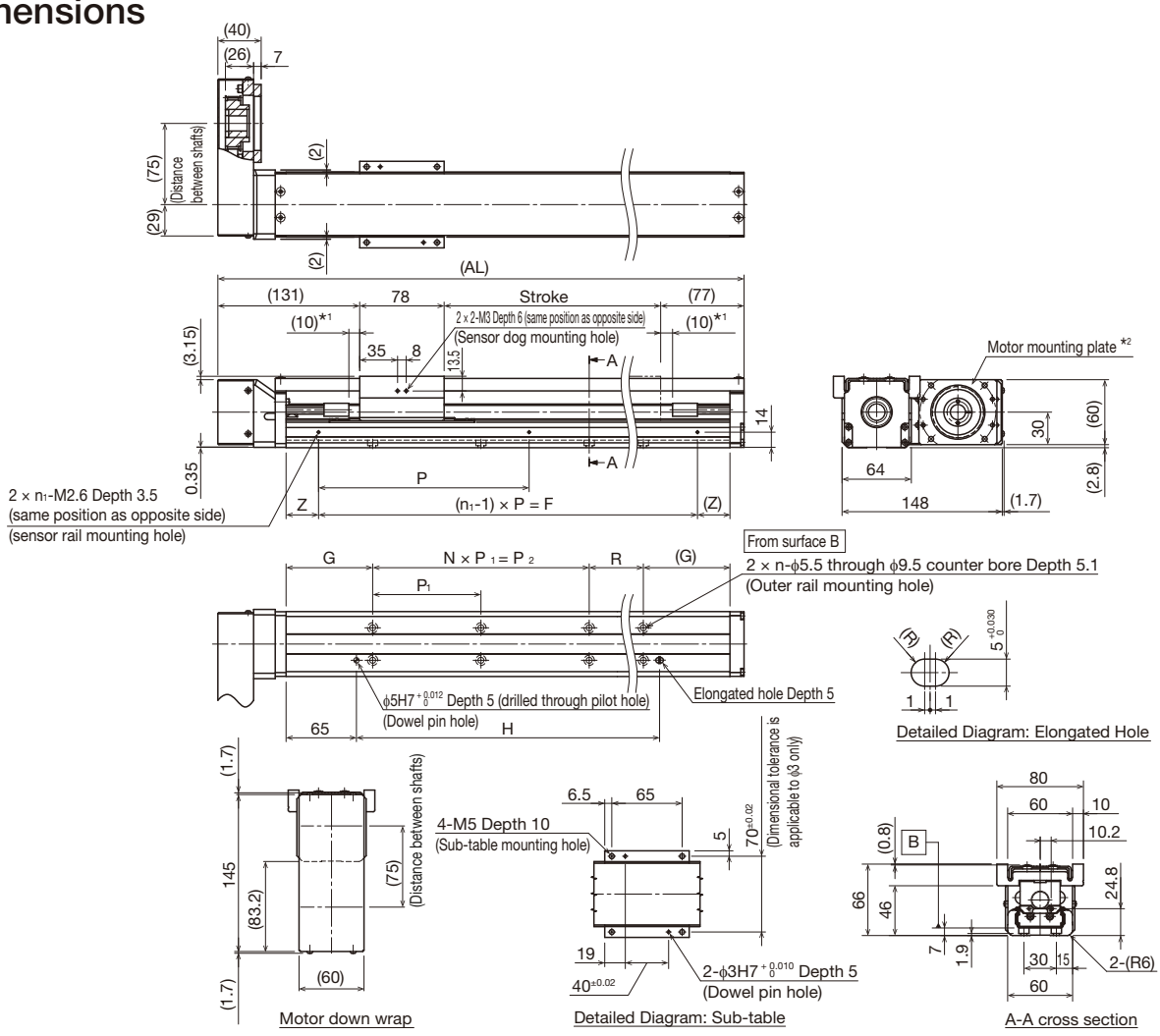
Vertical mount [mm]

| 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.

# KSF6RT

## Dimensions




*1 Stroke up to mechanical stopper.
*2 See P.137 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 | 3 | 4 | 4 | 4 | 4 | 5 |
| | $n_1$ | 2 | 2 | 4 | 3 | 3 | 6 | 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 (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 | 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 | 5 | 6 | 6 | 6 | 6 |
| Mounting hole count | n | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 8 | 8 |
| | $n_1$ | 5 | 10 | 6 | 6 | 6 | 12 | 7 | 7 | 7 | 14 | 8 | 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.

# KSF8T Without Motor

## Model Configuration

| Model | | Ball screw lead | | Stroke | | With/without motor | | Intermediate flange | | Option |
|---|---|---|---|---|---|---|---|---|---|---|
| KSF8T | - | 20 | - | 0800 | - | 0 | - | AV | - | T-6 |

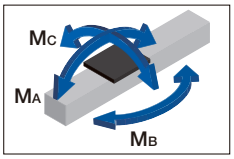
| KSF8T | 20: 20 mm<br>40: 40 mm | 0100: 100 mm<br>to<br>1500: 1500 mm | 0: Without motor<br>1: With motor | A0<br>AV<br>AY<br>AU | No symbol: None<br>T: Back tap<br>1: Sensor rail only<br>6: Photo sensor<br>J: Proximity sensor<br>M: Proximity sensor (PNP)<br>F: Sub-table iron specification |
|---|---|---|---|---|---|

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | | 32,400 | |
| | Basic static load rating C0 [N] | | 63,500 | |
| Ball screw portion | Basic dynamic load rating Ca [N] | | 4,030 | 3,750 |
| | Basic static load rating C0a [N] | | 10,540 | 8,870 |
| | Screw shaft diameter [mm] | | ϕ20 | |
| | Ball screw lead [mm] | | 20 | 40 |
| Bearing portion (Fixed side) | Axial direction | Basic dynamic load rating Ca [N] | 7,600 | |
| | | Static permissible load P0a [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] | | | MA: 324 (730) MB: 253 (425) MC: 265 (503) | |

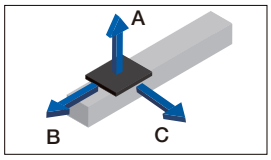
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

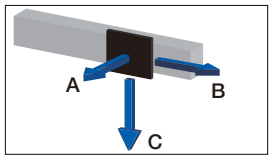



## Permissible Overhang Length *6

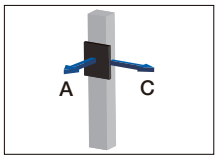
Horizontal use




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 | 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]

| 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]

| 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]

| 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]

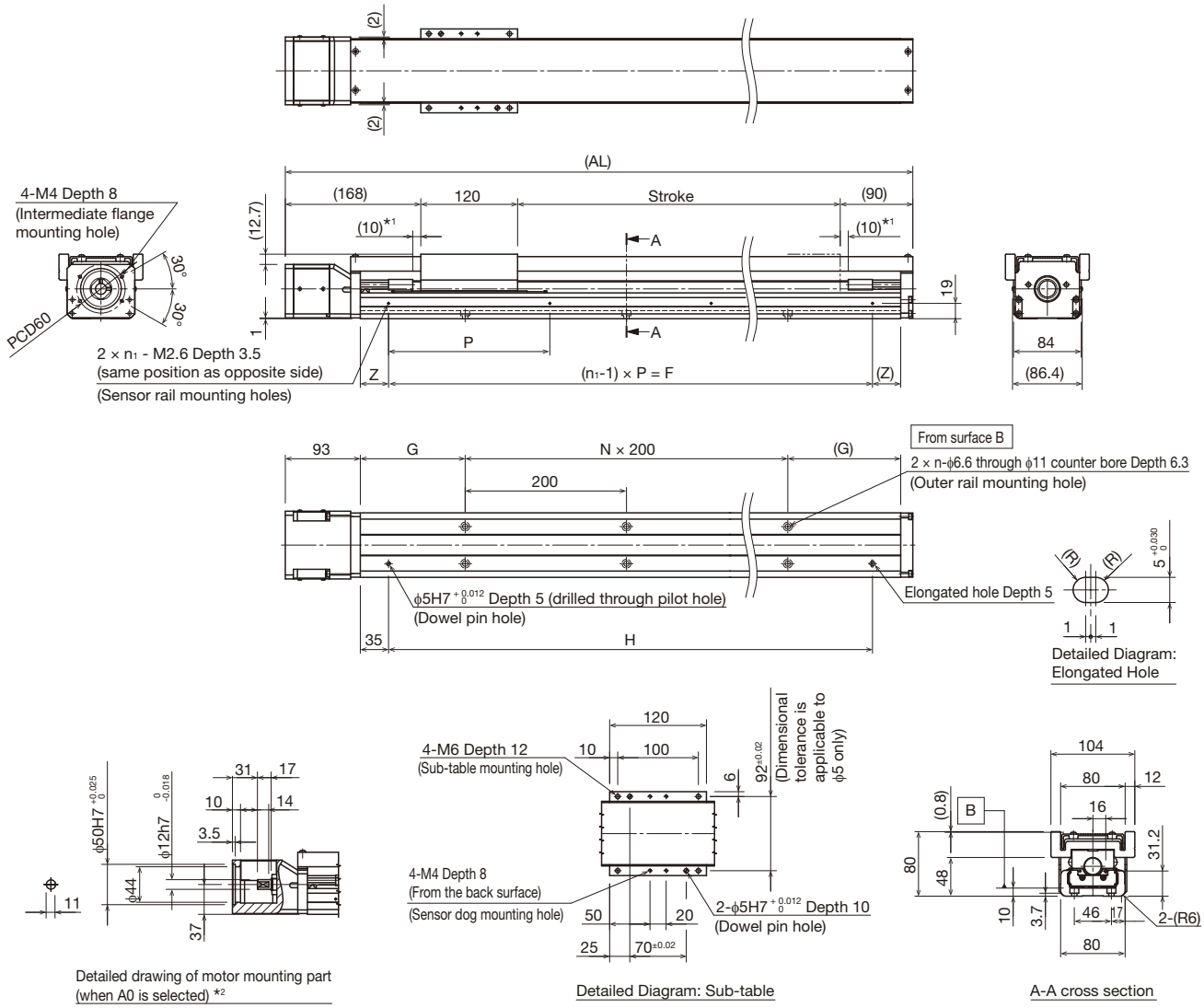
| Ball screw lead [mm] | Load mass [kg] | A | B | C |
|---|---|---|---|---|
| 20 | 1.5 | 800 | 800 | 800 |
| | 3 | 800 | 800 | 800 |
| | 6 | 800 | 800 | 800 |
| 40 | 1.75 | 800 | 800 | 800 |
| | 3.5 | 780 | 800 | 800 |
| | 7 | 370 | 570 | 470 |

Vertical mount [mm]

| 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.

## Dimensions




*1 Stroke up to mechanical stopper.
*2 See P.138 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: 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<br>40: 40 mm | 0100: 100 mm<br>to<br>1500: 1500 mm | 0: Without motor<br>1: With motor | WV<br>WY | 14: 14 mm | M: Friction tightening |
|---|---|---|---|---|---|---|

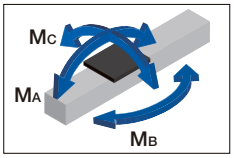
| |
|---|
| MR : Motor right wrap |
| ML : Motor left wrap |
| MD : Motor down wrap |
| T : Back tap |
| 1 : Sensor rail only |
| 6 : Photo sensor |
| J : Proximity sensor |
| M : Proximity sensor (PNP) |
| F : Sub-table iron specification |

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | | 32,400 | |
| | Basic static load rating C0 [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 | |
| | Ball screw lead [mm] | | 20 | 40 |
| 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 *5 [N·m] | | | MA: 324 (730) MB: 253 (425) MC: 265 (503) | |

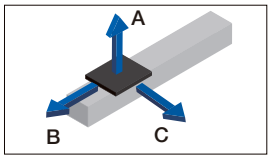
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

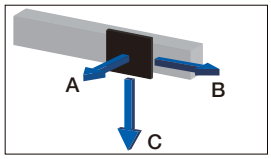



## Permissible Overhang Length *6

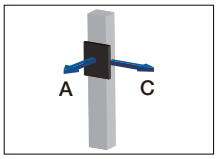
Horizontal use




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 | 520 | 250 | 330 |
| | 41 | 230 | 110 | 160 |
| 40 | 4 | 800 | 800 | 800 |
| | 8 | 690 | 530 | 480 |
| | 16 | 320 | 250 | 240 |

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 | 800 | 800 | 800 |
| | 8 | 420 | 500 | 660 |
| | 16 | 180 | 220 | 290 |

Vertical mount [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]

| 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]

| 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 |

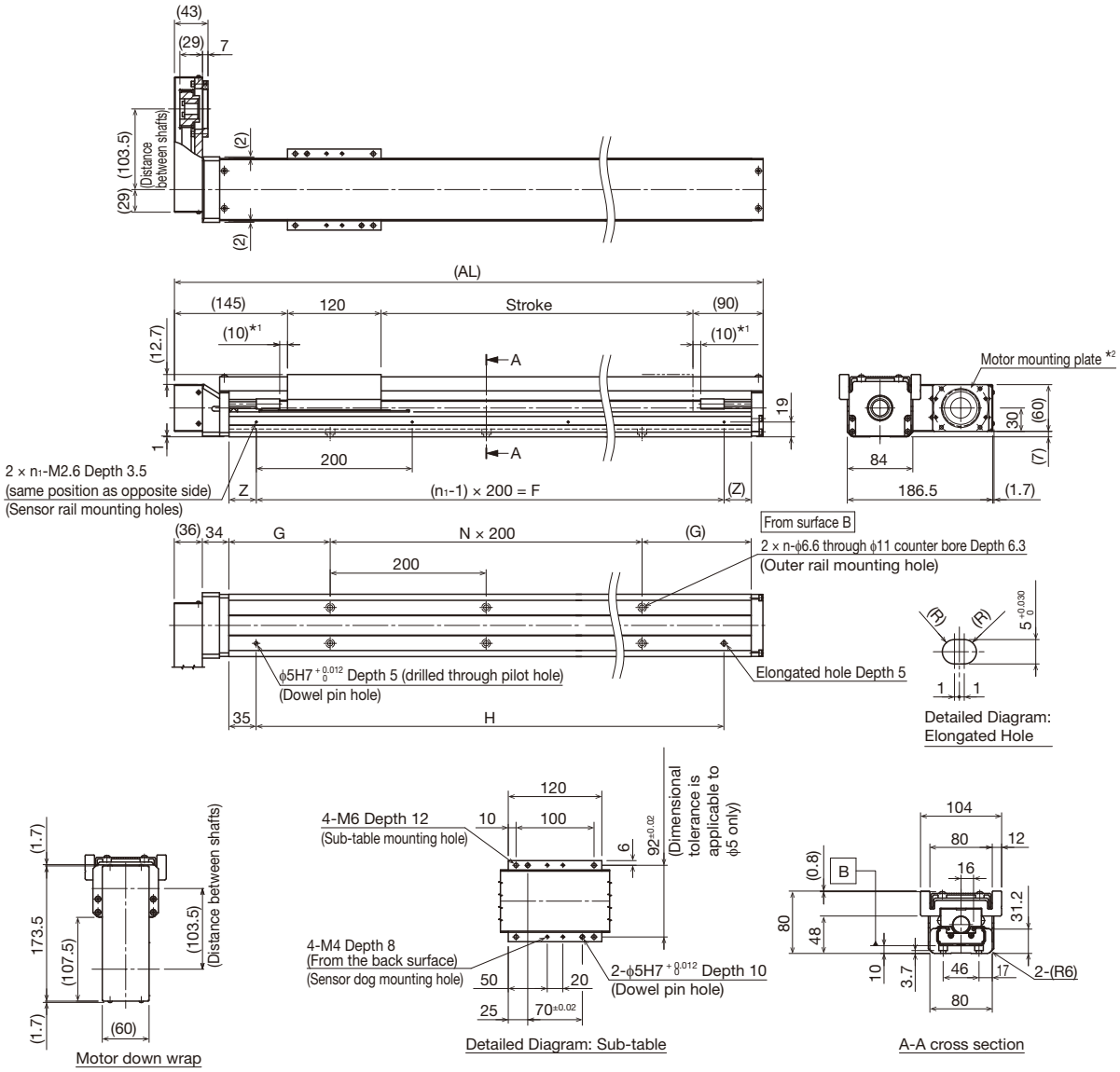
Vertical mount [mm]

| 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.

# KSF8RT

## Dimensions




*1 Stroke up to mechanical stopper.
*2 See P.138 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 | 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 |
| | 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] | | 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.

# KSF10T Without Motor

## Model Configuration

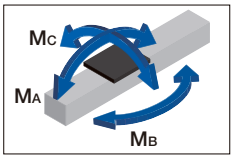
| Model | | Ball screw lead | | Stroke | | With/without motor | | Intermediate flange | | Option |
|---|---|---|---|---|---|---|---|---|---|---|
| KSF10T | - | 25 | - | 0800 | - | 0 | - | AZ | - | T-6 |
| KSF10T | | 25: 25 mm<br>50: 50 mm | | 0100: 100 mm<br>to<br>1500: 1500 mm | | 0: Without motor<br>1: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

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | | 58,500 | |
| | Basic static load rating C0 [N] | | 103,700 | |
| Ball screw portion | Basic dynamic load rating Ca [N] | | 6,650 | 4,150 |
| | Basic static load rating C0a [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 P0a [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] | | | MA: 1,259 MB: 949 MC: 787 | |

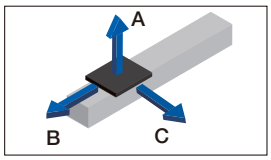
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

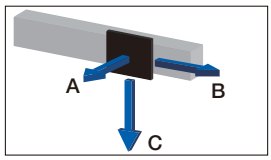



## Permissible Overhang Length *5

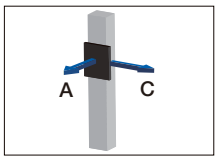
Horizontal use




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 | 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]

| 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]

| 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]

| 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]

| 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 |

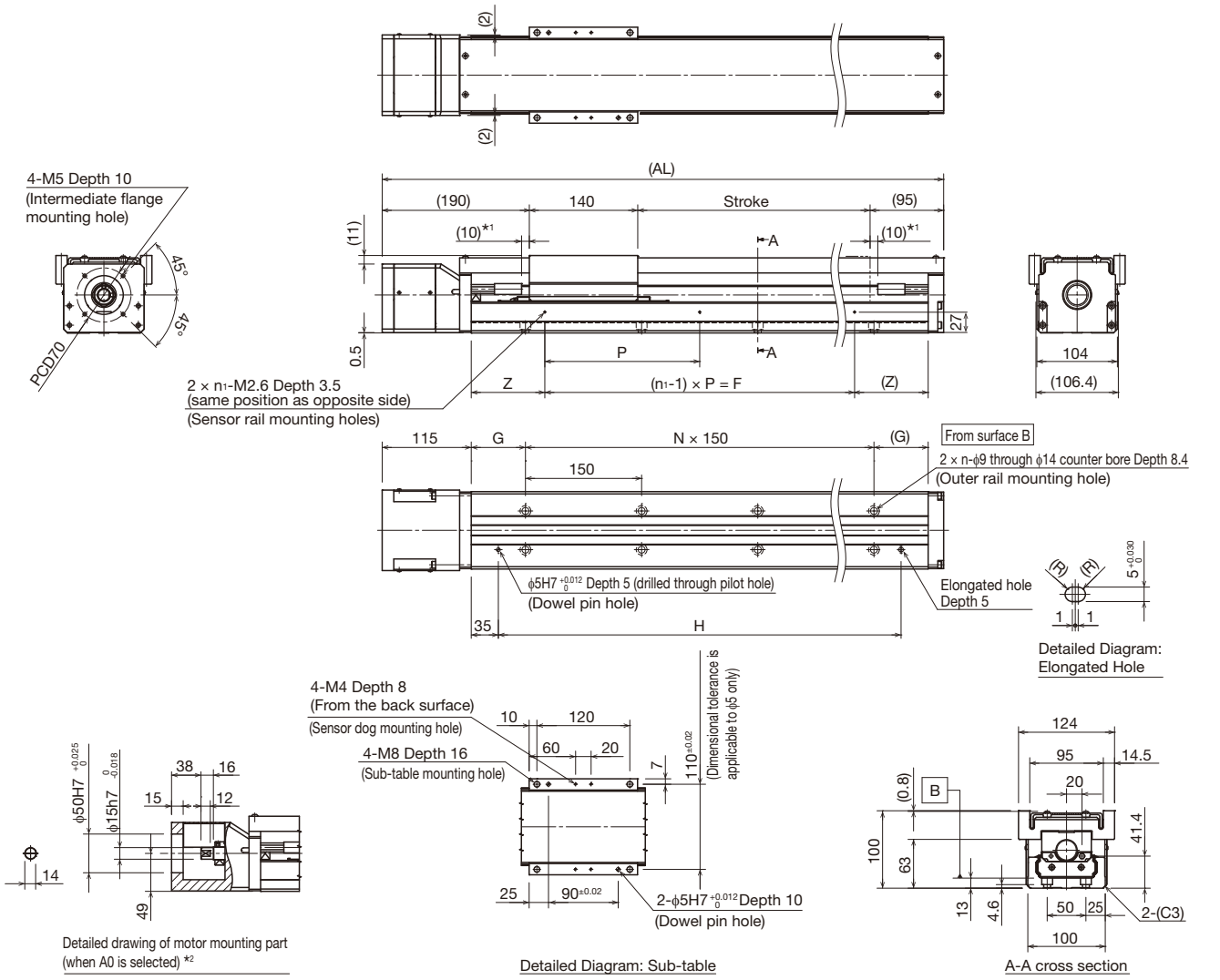
Vertical mount [mm]

| 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.

# KSF10T

## Dimensions




*1 Stroke up to mechanical stopper.
*2 See P.139 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: 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

## 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<br>50: 50 mm | 0100: 100 mm<br>to<br>1500: 1500 mm | 0: Without motor<br>1: With motor | WZ<br>W5 | 16: 16 mm<br>19: 19 mm | M: Friction tightening |
|---|---|---|---|---|---|---|

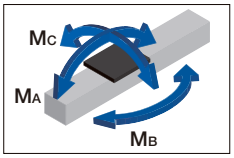
| |
|---|
| MR : Motor right wrap |
| ML : Motor left wrap |
| MD : Motor down wrap |
| T : Back tap |
| 1 : Sensor rail only |
| 6 : Photo sensor |
| J : Proximity sensor |
| M : Proximity sensor (PNP) |

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | | 58,500 | |
| | Basic static load rating C0 [N] | | 103,700 | |
| Ball screw portion | Basic dynamic load rating Ca [N] | | 6,650 | 4,150 |
| | Basic static load rating C0a [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 P0a [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 | |

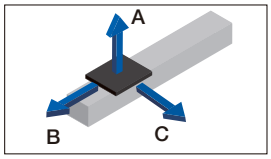
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

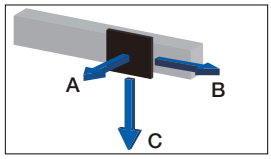



## Permissible Overhang Length *5

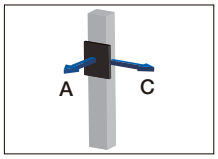
Horizontal use




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 |

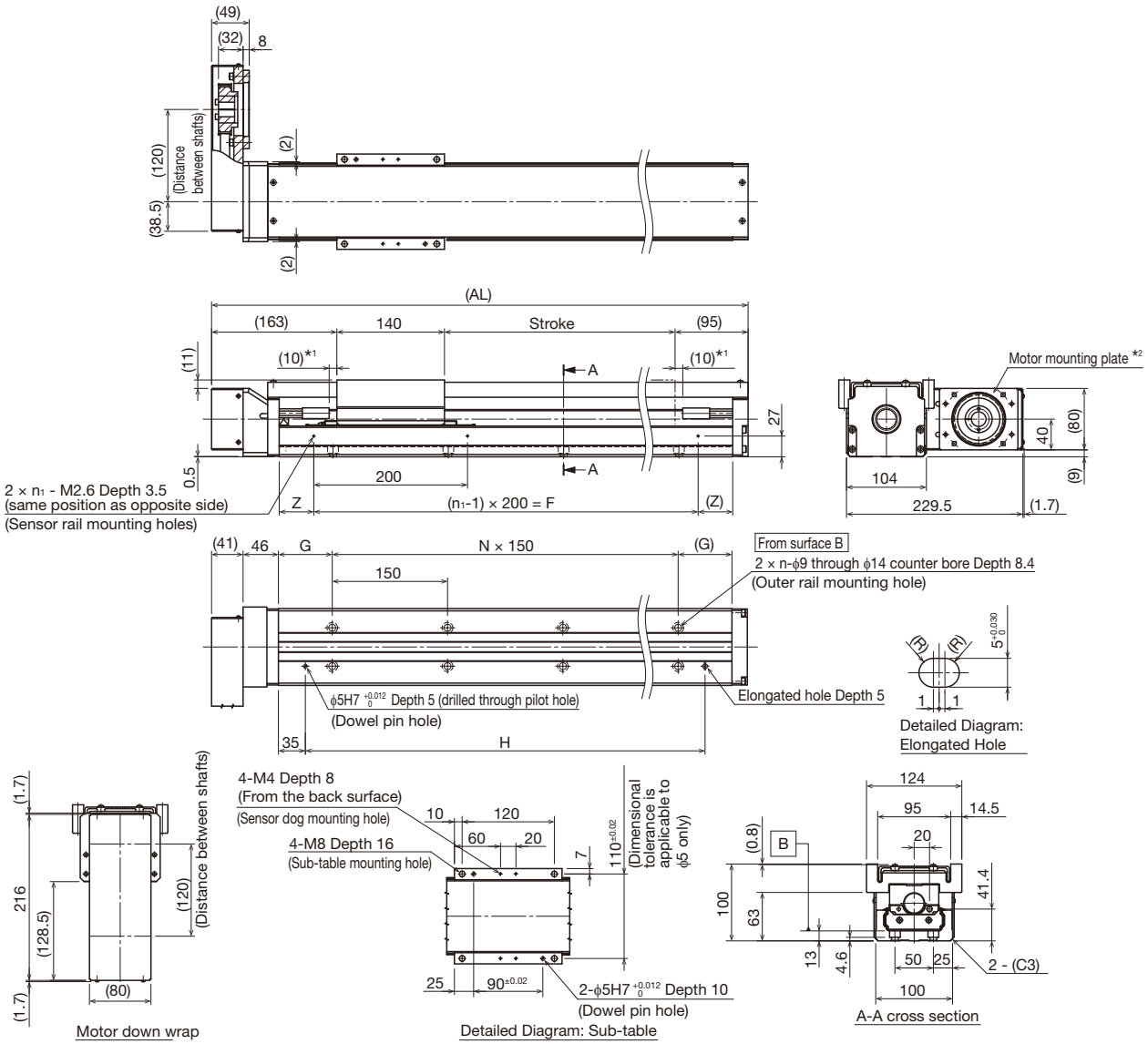
Vertical mount [mm]

| 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.139 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.

# KSF4U Without Motor

## Model Configuration

| Model | | Ball screw lead | | Stroke | | With/without motor | | Intermediate flange | | Option |
|---|---|---|---|---|---|---|---|---|---|---|
| KSF4U | - | 10 | - | 0050 | - | 0 | - | AQ | - | T-6 |

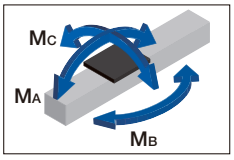
| Model | Ball screw lead | Stroke | With/without motor | Intermediate flange | Option |
|---|---|---|---|---|---|
| KSF4U | 10: 10 mm<br>16: 16 mm | 0050: 50 mm<br>to<br>0900: 900 mm | 0: Without motor<br>1: With motor | A0<br>AP<br>AQ<br>AR | No symbol: None<br>T : Back tap<br>1 : Sensor rail only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

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | | 6,400 | |
| | Basic static load rating C0 [N] | | 12,900 | |
| Ball screw portion | Basic dynamic load rating Ca [N] | | 2,860 | 1,850 |
| | Basic static load rating C0a [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 P0a [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: 95 MC: 58 | |

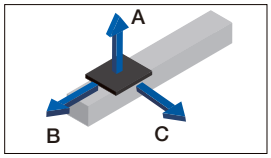
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

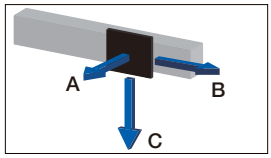



## Permissible Overhang Length *5

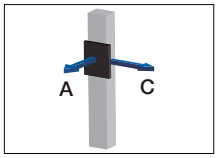
Horizontal use




Wall use




Vertical use




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

Horizontal mount [mm]

| 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 |

Wall mount [mm]

| 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 |

Vertical mount [mm]

| 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

Horizontal mount [mm]

| 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 |

Wall mount [mm]

| 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 |

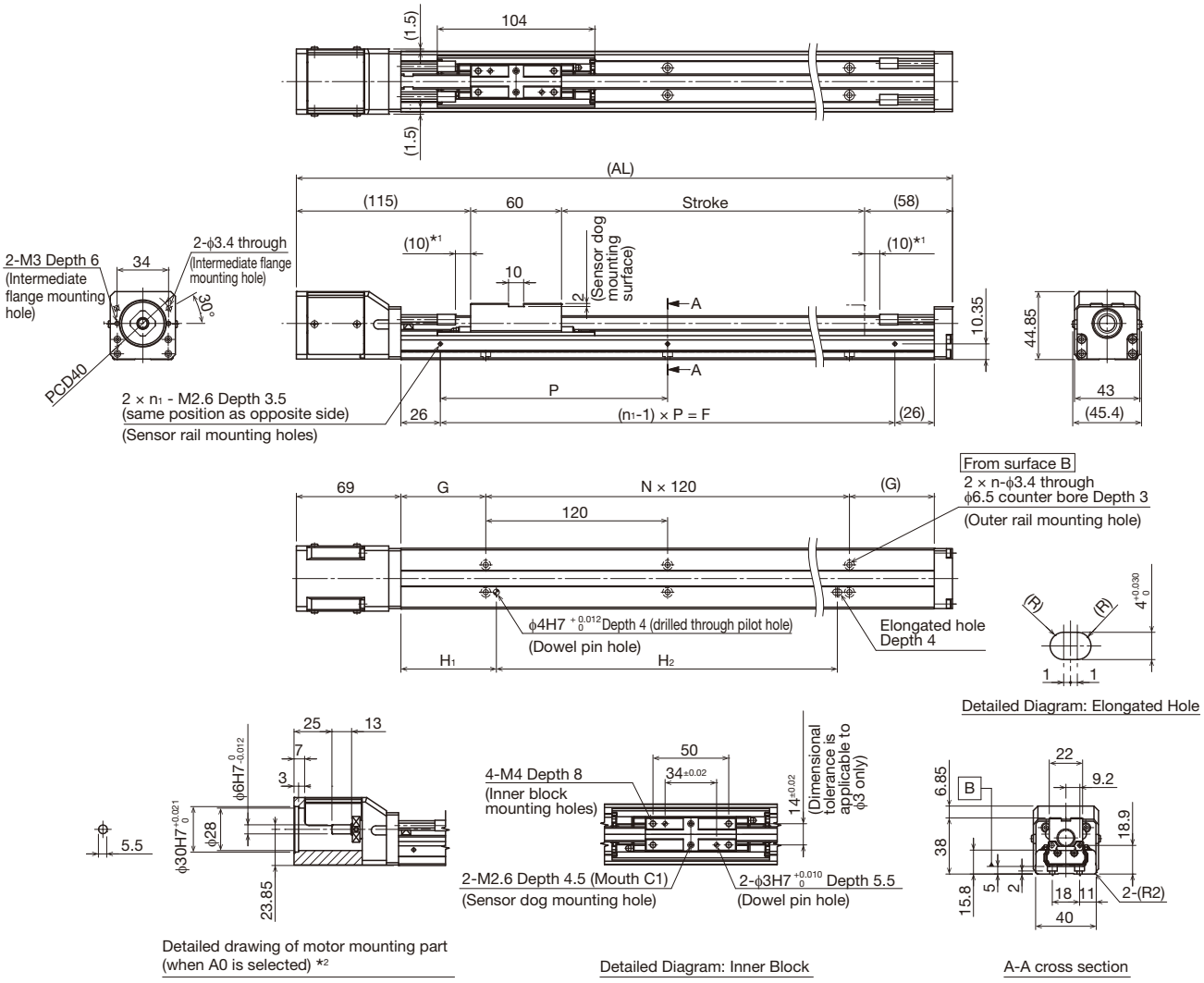
Vertical mount [mm]

| 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.

# KSF4U

## Dimensions




*1 Stroke up to mechanical stopper.
*2 See P.135 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 *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 |
| 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] | | 1.3 | 1.5 | 1.6 | 1.8 | 2.0 | 2.1 | 2.3 | 2.4 | 2.6 |

| 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 *3 [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 | 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 |
| 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] | | 2.8 | 2.9 | 3.1 | 3.2 | 3.4 | 3.6 | 3.7 | 3.9 | 4.0 |

*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.

# 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<br>16: 16 mm | 0050: 50 mm<br>to<br>0900: 900 mm | 0: Without motor<br>1: With motor | WP<br>WQ | 08: 8 mm | D: D-cut<br>K: Key |
|---|---|---|---|---|---|---|

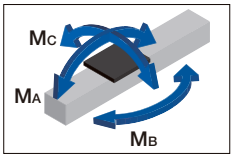
| Option |
|---|
| MR : Motor right wrap |
| ML : Motor left wrap |
| MD : Motor down wrap |
| T : Back tap |
| 1 : Sensor rail only |
| 6 : Photo sensor |
| J : Proximity sensor |
| M : Proximity sensor (PNP) |

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | | 6,400 | |
| | Basic static load rating $C_0$ [N] | | 12,900 | |
| Ball screw portion | Basic dynamic load rating Ca [N] | | 2,860 | 1,850 |
| | Basic static load rating $C_{0a}$ [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 $P_{0a}$ [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] | | | 1.1 | |
| Static permissible moment *4 [N·m] | | | $M_A$: 103 $M_B$: 95 $M_C$: 58 | |

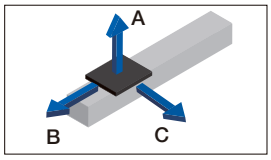
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for $M_A$ and $M_C$ are the top face of the table, and that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

Static Permissible Moment

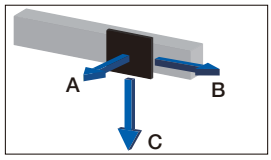



## Permissible Overhang Length *5

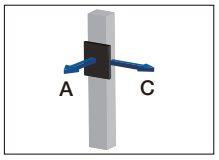
Horizontal use




Wall use




Vertical use




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

Horizontal mount [mm]

| 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 |

Wall mount [mm]

| 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 |

Vertical mount [mm]

| 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

Horizontal mount [mm]

| 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 |

Wall mount [mm]

| 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 |

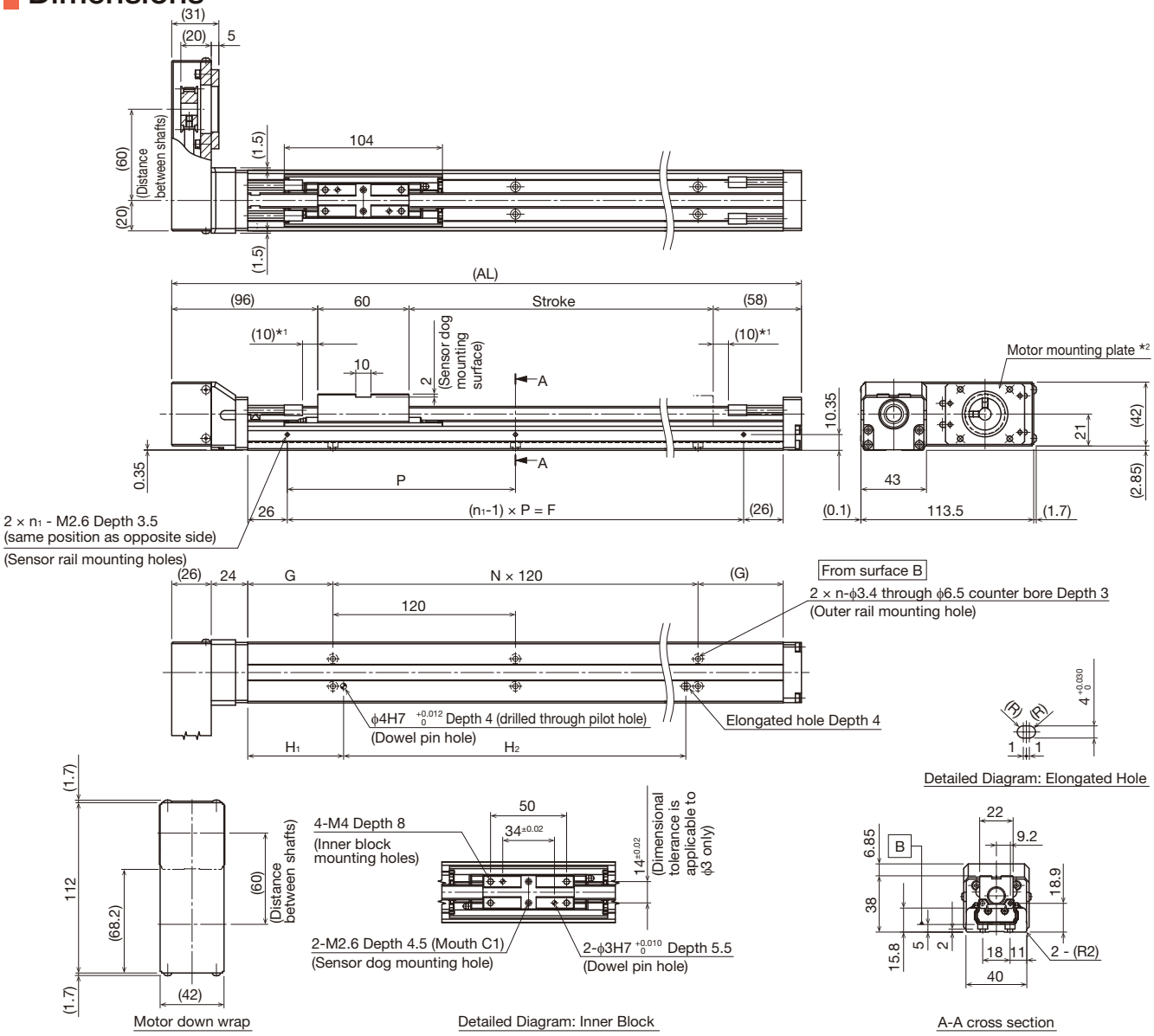
Vertical mount [mm]

| 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.

# KSF4RU

## Dimensions




*1 Stroke up to mechanical stopper.
*2 See P.135 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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 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] | | 1.5 | 1.7 | 1.8 | 2.0 | 2.2 | 2.3 | 2.5 | 2.6 | 2.8 |

| 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 *3 [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 | 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 | 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] | | 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

## Model Configuration

| Model | | Ball screw lead | | Stroke | | With/without motor | | Intermediate flange | | Option |
|---|---|---|---|---|---|---|---|---|---|---|
| KSF5U | - | 10 | - | 0050 | - | 0 | - | AQ | - | T-6 |

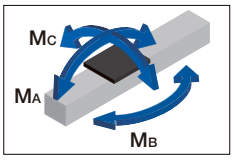
| KSF5U | 10: 10 mm<br>20: 20 mm | 0050: 50 mm<br>to<br>0900: 900 mm | 0: Without motor<br>1: With motor | A0<br>AP<br>AQ<br>AR | No symbol: None<br>T : Back tap<br>1 : Sensor rail only<br>6 : Photo sensor<br>J : Proximity sensor<br>M : Proximity sensor (PNP) |
|---|---|---|---|---|---|

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | | 10,200 | |
| | Basic static load rating C0 [N] | | 17,900 | |
| Ball screw portion | Basic dynamic load rating Ca [N] | | 3,350 | 2,150 |
| | Basic static load rating C0a [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 P0a [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] | | | MA: 147 MB: 107 MC: 89 | |

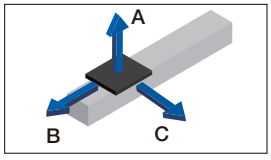
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

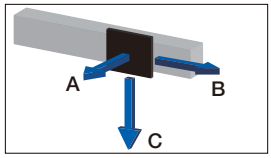



## Permissible Overhang Length *5

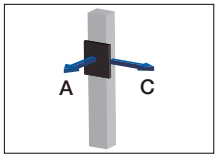
Horizontal use




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 | 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]

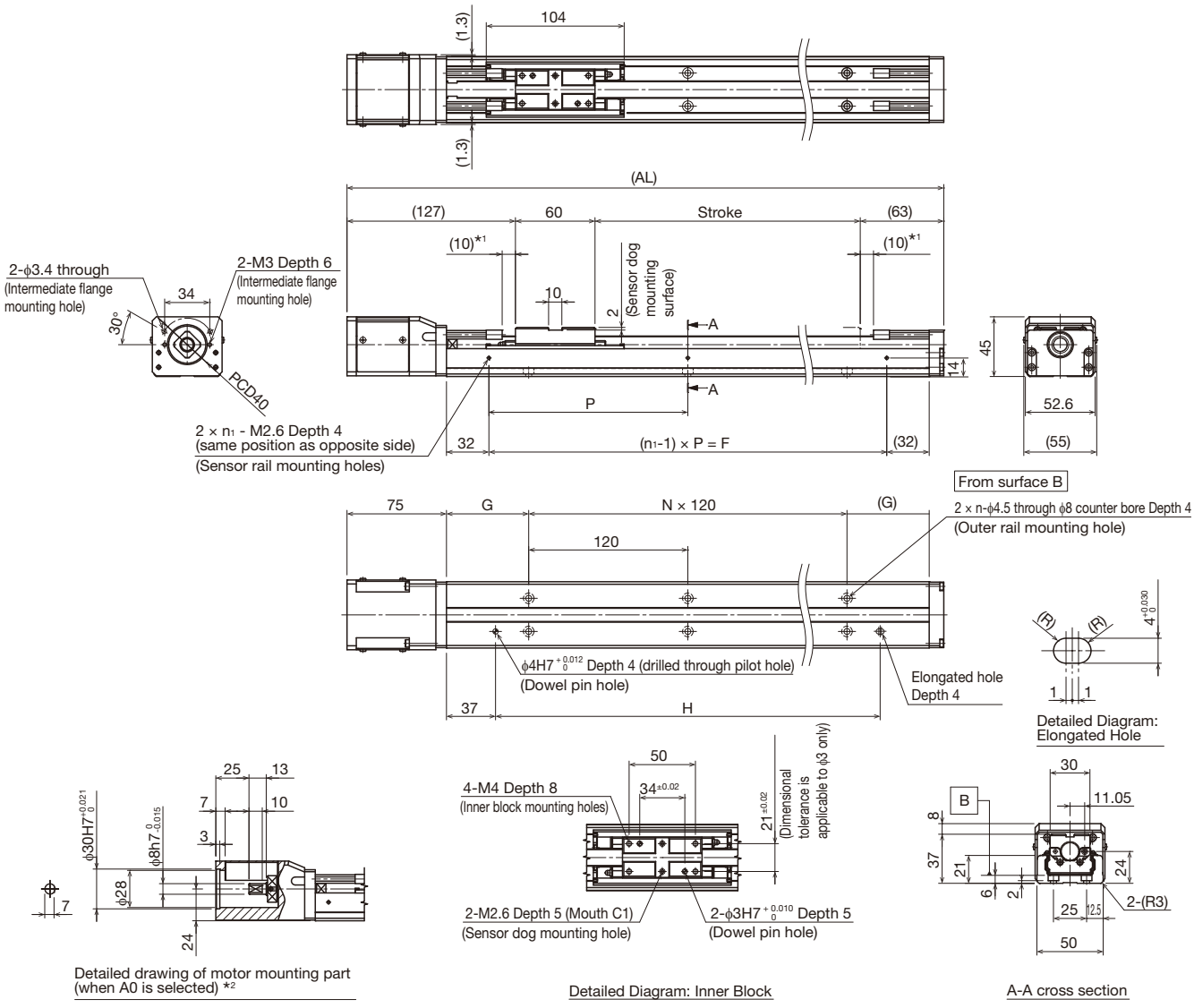
| Ball screw lead [mm] | Load mass [kg] | A | B | C |
|---|---|---|---|---|
| 10 | 3.75 | 500 | 270 | 500 |
| | 7.5 | 230 | 120 | 470 |
| | 15 | 100 | 50 | 210 |
| 20 | 1.25 | 500 | 500 | 500 |
| | 2.5 | 350 | 330 | 450 |
| | 5 | 160 | 150 | 210 |

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.

## Dimensions




*1 Stroke up to mechanical stopper.
*2 See P.136 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 | 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 | 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<br>20: 20 mm | 0050: 50 mm<br>to<br>0900: 900 mm | 0: Without motor<br>1: With motor | WP<br>WQ | 08: 8 mm | D: D-cut<br>K: Key |
|---|---|---|---|---|---|---|

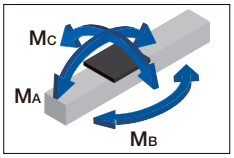
| |
|---|
| MR : Motor right wrap |
| ML : Motor left wrap |
| MD : Motor down wrap |
| T : Back tap |
| 1 : Sensor rail only |
| 6 : Photo sensor |
| J : Proximity sensor |
| M : Proximity sensor (PNP) |

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | | 10,200 | |
| | Basic static load rating $C_0$ [N] | | 17,900 | |
| Ball screw portion | Basic dynamic load rating Ca [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 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 [N·m] | | | $M_A$: 147 $M_B$: 107 $M_C$: 89 | |

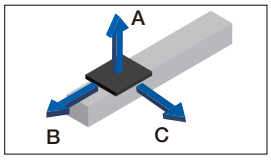
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for $M_A$ and $M_C$ are the top face of the table, and that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

Static Permissible Moment

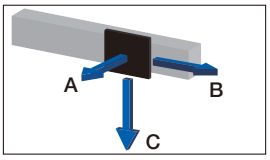



## Permissible Overhang Length *5

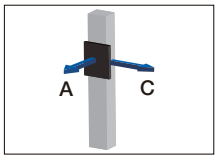
Horizontal use




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 | 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]

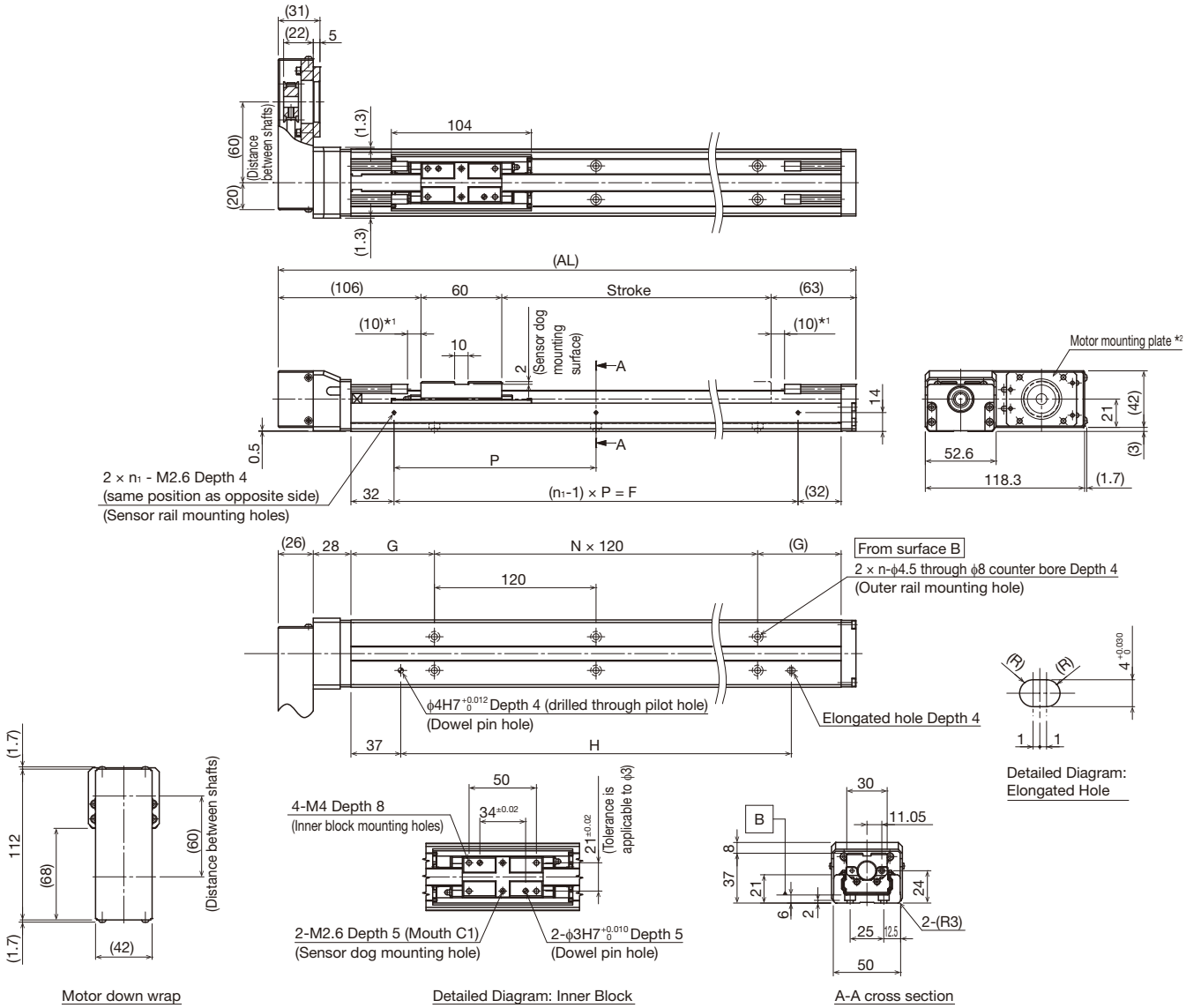
| Ball screw lead [mm] | Load mass [kg] | A | B | C |
|---|---|---|---|---|
| 10 | 3.75 | 500 | 270 | 500 |
| | 7.5 | 230 | 120 | 470 |
| | 15 | 100 | 50 | 210 |
| 20 | 1 | 500 | 500 | 500 |
| | 2 | 440 | 410 | 500 |
| | 4 | 210 | 200 | 270 |

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.

## Dimensions




*1 Stroke up to mechanical stopper.
*2 See P.136 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) |
|---|---|---|---|---|---|---|---|---|---|---|
| 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] (Stroke between mechanical stoppers) | | 500 (520) | 550 (570) | 600 (620) | 650 (670) | 700 (720) | 750 (770) | 800 (820) | 850 (870) | 900 (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 | 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 [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

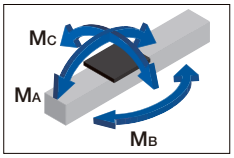
| Model | | Ball screw lead | | Stroke | | With/without motor | | Intermediate flange | | Option |
|---|---|---|---|---|---|---|---|---|---|---|
| KSF6U | - | 20 | - | 0050 | - | 0 | - | AV | - | T-6 |
| KSF6U | | 20: 20 mm<br>30: 30 mm | | 0050: 50 mm<br>to<br>1300: 1300 mm | | 0: Without motor<br>1: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

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | | 17,400 | |
| | Basic static load rating C0 [N] | | 33,000 | |
| Ball screw portion | Basic dynamic load rating Ca [N] | | 3,400 | 3,230 |
| | Basic static load rating C0a [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 P0a [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] | | | MA: 355 MB: 203 MC: 152 | |

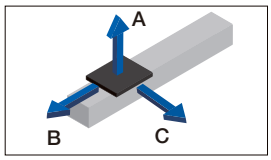
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

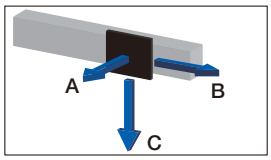



## Permissible Overhang Length *5

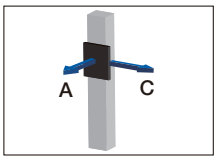
Horizontal use




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 | 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 |

Wall mount [mm]

| 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 |

Vertical mount [mm]

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

### Acceleration and deceleration rate 2.0 G

Horizontal mount [mm]

| 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 |

Wall mount [mm]

| 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 |

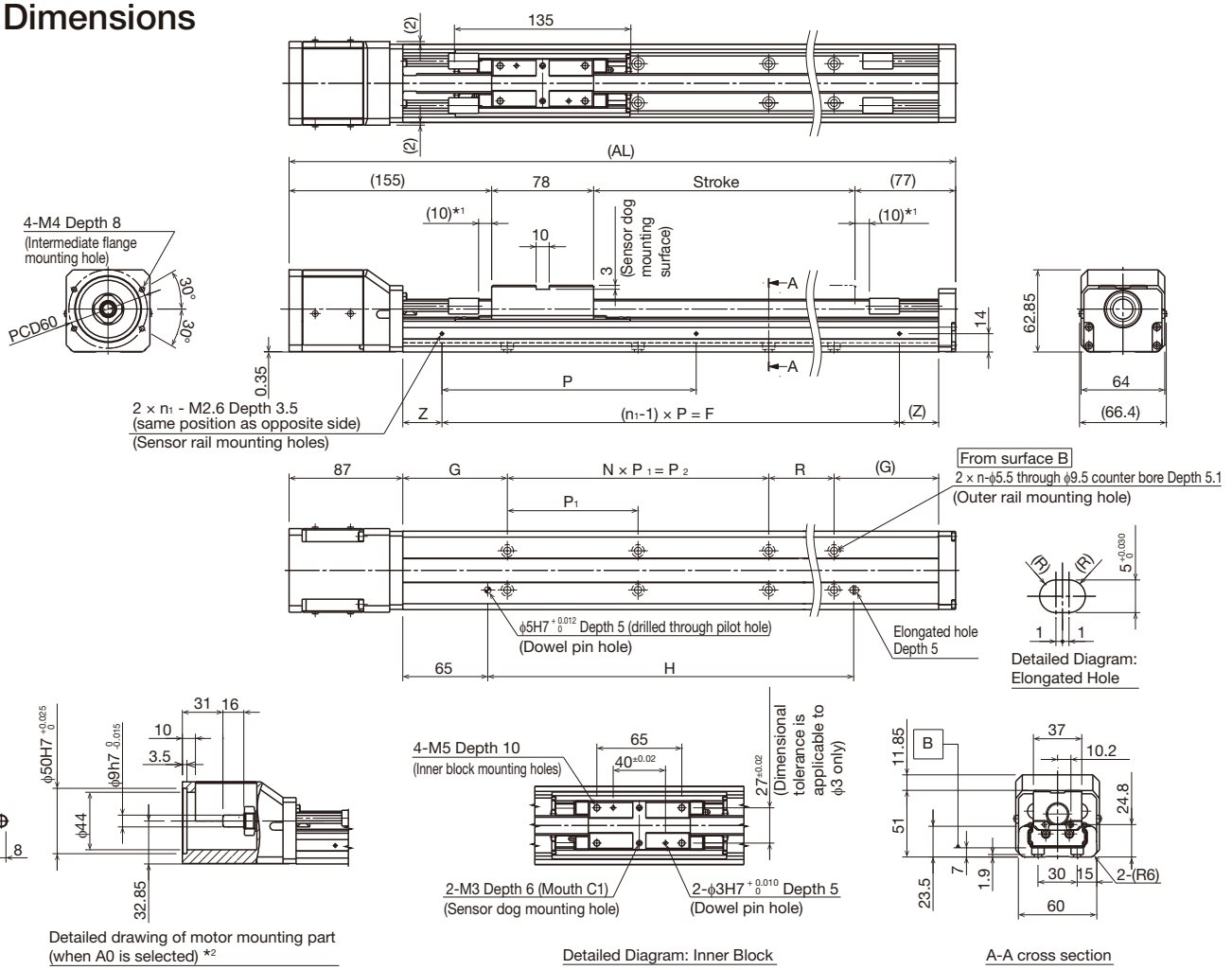
Vertical mount [mm]

| 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.

# KSF6U

## Dimensions




*1 Stroke up to mechanical stopper.
*2 See P.137 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 | 3 | 4 | 4 | 4 | 4 | 5 |
| | $n_1$ | 2 | 2 | 4 | 3 | 3 | 3 | 6 | 4 | 4 | 4 | 8 | 5 | 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 | 6 |
| Mounting hole count | n | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 8 | 8 |
| | $n_1$ | 5 | 10 | 6 | 6 | 6 | 12 | 7 | 7 | 7 | 14 | 8 | 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 |

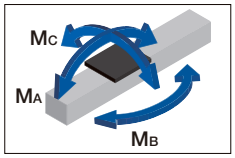
| KSF6RU | 20: 20 mm<br>30: 30 mm | 0050: 50 mm<br>to<br>1300: 1300 mm | 0: Without motor<br>1: With motor | WV<br>WY | 11: 11 mm<br>14: 14 mm | D: D-cut<br>K: Key<br>M: Friction tightening | MR : Motor right wrap<br>ML : Motor left wrap<br>MD : Motor down wrap<br>T : Back tap<br>1 : Sensor rail only<br>6 : Photo sensor<br>J : Proximity sensor<br>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 $C_{0a}$ [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 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] | | | 2.2 | |
| Static permissible moment *4 [N·m] | | | $M_A$: 355 $M_B$: 203 $M_C$: 152 | |

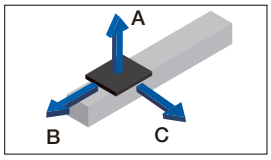
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for $M_A$ and $M_C$ are the top face of the table, and that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

Static Permissible Moment

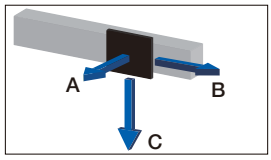



## Permissible Overhang Length *5

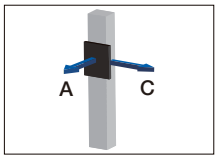
Horizontal use




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 | 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 |

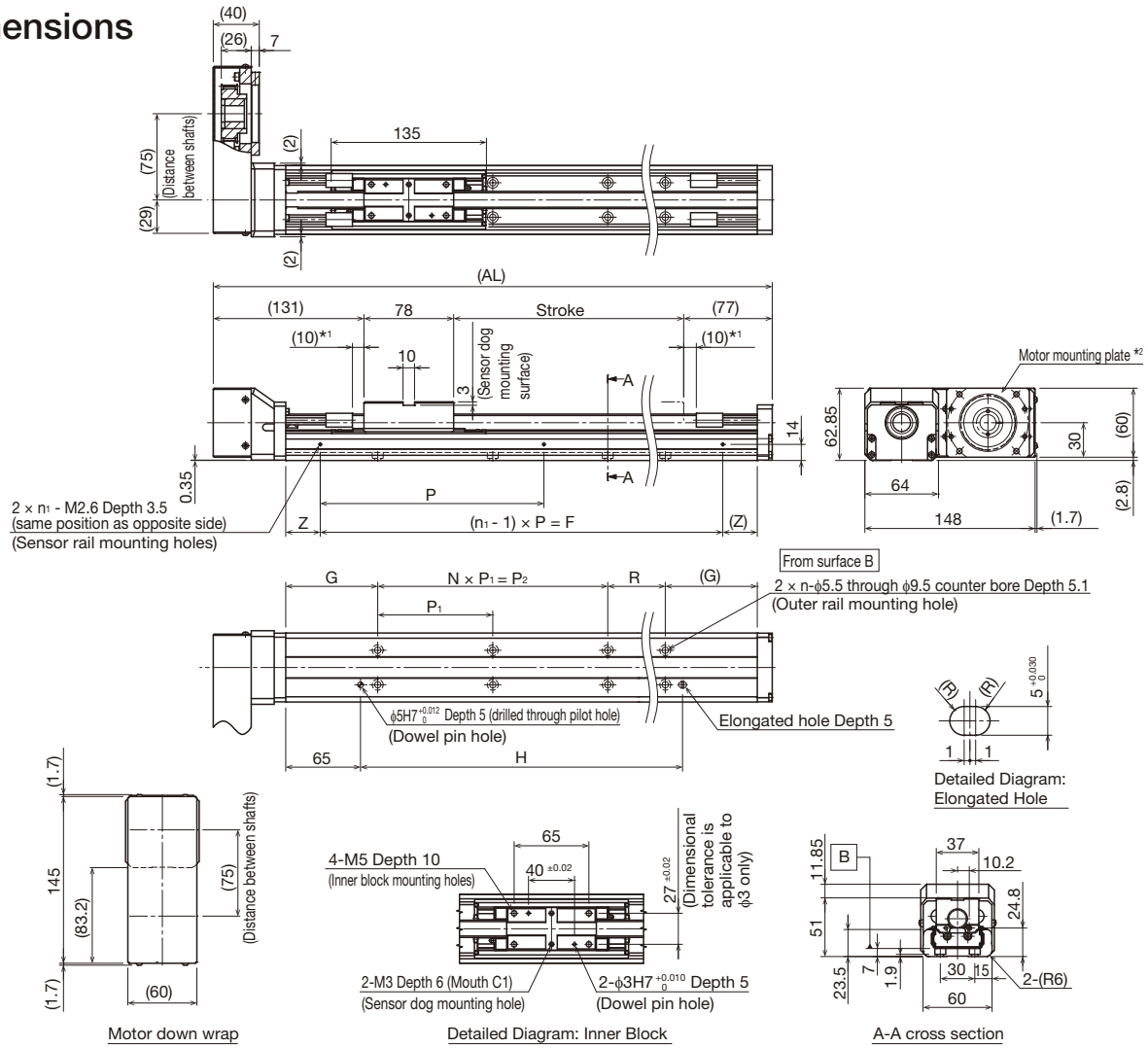
Vertical mount [mm]

| 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.

# KSF6RU

## Dimensions




*1 Stroke up to mechanical stopper.
*2 See P.137 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 | 3 | 4 | 4 | 4 | 4 | 5 |
| | $n_1$ | 2 | 2 | 4 | 3 | 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 | 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 | 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 | 5 | 6 | 6 | 6 | 6 |
| Mounting hole count | n | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 8 | 8 |
| | $n_1$ | 5 | 10 | 6 | 6 | 6 | 12 | 7 | 7 | 7 | 14 | 8 | 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

## Model Configuration

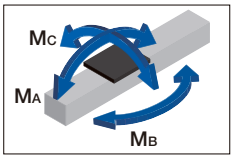
| Model | | Ball screw lead | | Stroke | | With/without motor | | Intermediate flange | | Option |
|---|---|---|---|---|---|---|---|---|---|---|
| KSF8U | - | 20 | - | 0800 | - | 0 | - | AV | - | T-6 |
| KSF8U | | 20: 20 mm<br>40: 40 mm | | 0100: 100 mm<br>to<br>1500: 1500 mm | | 0: Without motor<br>1: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

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | | 32,400 | |
| | Basic static load rating C0 [N] | | 63,500 | |
| Ball screw portion | Basic dynamic load rating Ca [N] | | 4,030 | 3,750 |
| | Basic static load rating C0a [N] | | 10,540 | 8,870 |
| | Screw shaft diameter [mm] | | ϕ20 | |
| | Ball screw lead [mm] | | 20 | 40 |
| Bearing portion (Fixed side) | Axial direction | Basic dynamic load rating Ca [N] | 7,600 | |
| | | Static permissible load P0a [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 [N·m] | | | MA: 730 MB: 414 MC: 277 | |

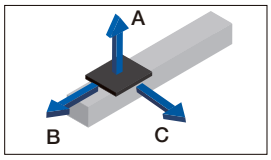
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

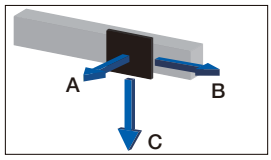



## Permissible Overhang Length *5

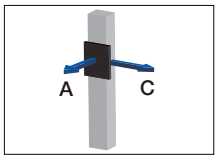
Horizontal use




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 | 10.75 | 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]

| 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]

| 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 |

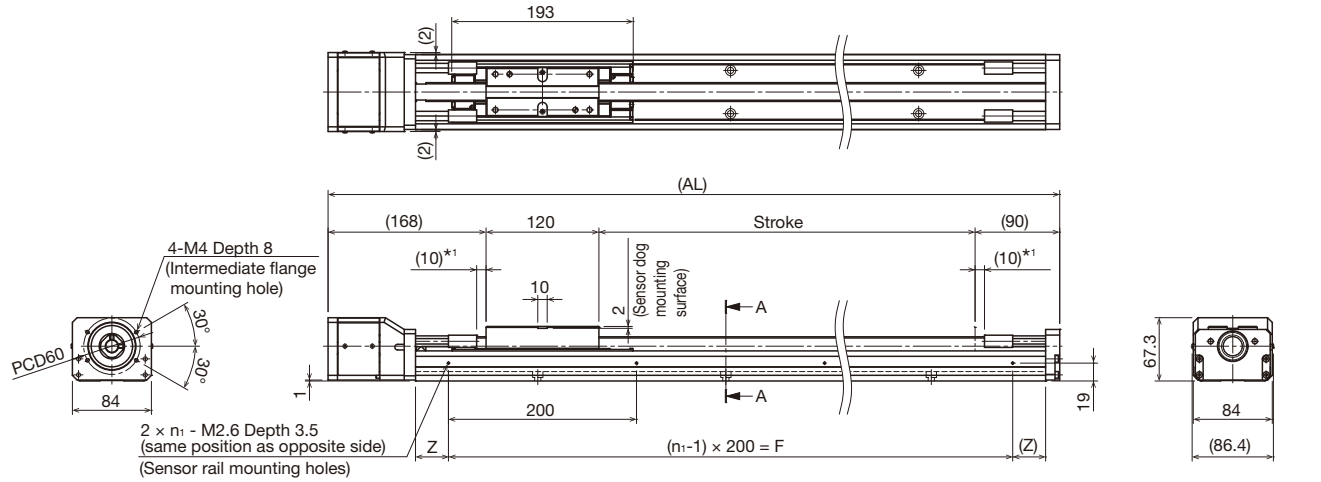
Vertical mount [mm]

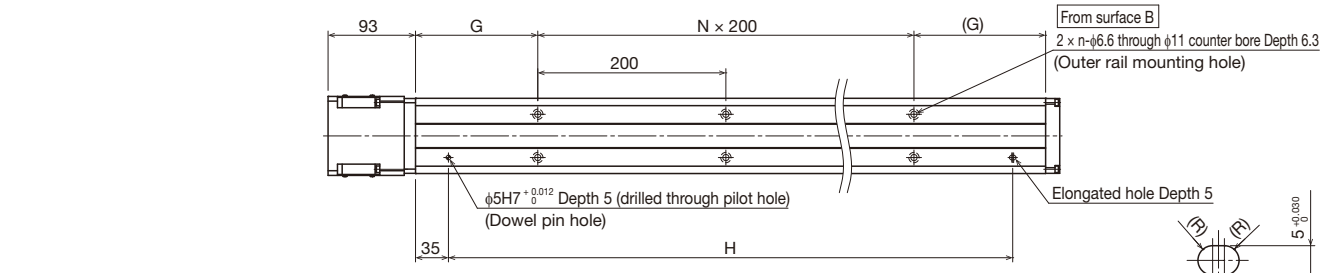
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 20 | 0.75 | 800 | 800 |
| | 1.5 | 800 | 800 |
| | 3 | 800 | 800 |
| 40 | 1.25 | 800 | 800 |
| | 2.5 | 800 | 800 |
| | 5 | 460 | 460 |

*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.

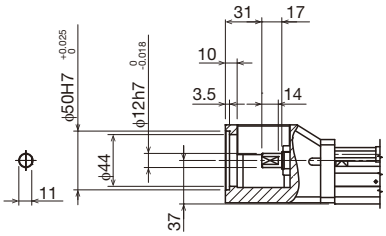
# KSF8U

## Dimensions

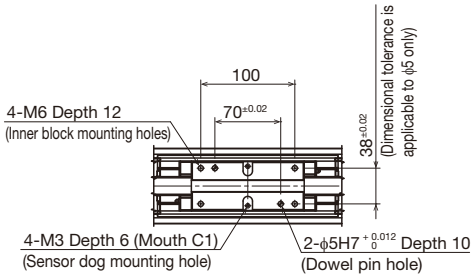


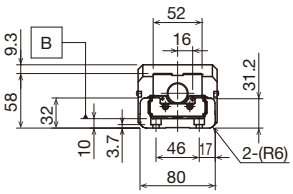

Detailed Diagram: Elongated Hole




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.138 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: 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 |

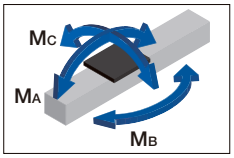
| KSF8RU | 20: 20 mm<br>40: 40 mm | 0100: 100 mm<br>to<br>1500: 1500 mm | 0: Without motor<br>1: With motor | WV<br>WY | 14: 14 mm | M: Friction tightening | MR : Motor right wrap<br>ML : Motor left wrap<br>MD : Motor down wrap<br>T : Back tap<br>1 : Sensor rail only<br>6 : Photo sensor<br>J : Proximity sensor<br>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 | 3,750 |
| | Basic static load rating $C_{0a}$ [N] | | 10,540 | 8,870 |
| | Screw shaft diameter [mm] | | ϕ20 | |
| | Ball screw lead [mm] | | 20 | 40 |
| Bearing portion (Fixed side) | Axial direction | Basic dynamic load rating Ca [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] | | | 4.5 | |
| Static permissible moment *4 [N·m] | | | $M_A$: 730 $M_B$: 414 $M_C$: 277 | |

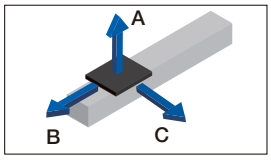
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for $M_A$ and $M_C$ are the top face of the table, and that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

Static Permissible Moment

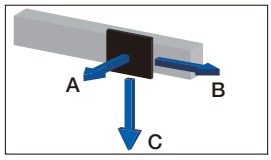



## Permissible Overhang Length *5

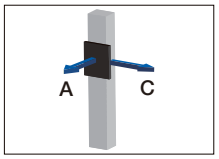
Horizontal use




Wall use




Vertical use




### Acceleration and deceleration rate 1.0 G

Horizontal mount [mm]

| 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 |

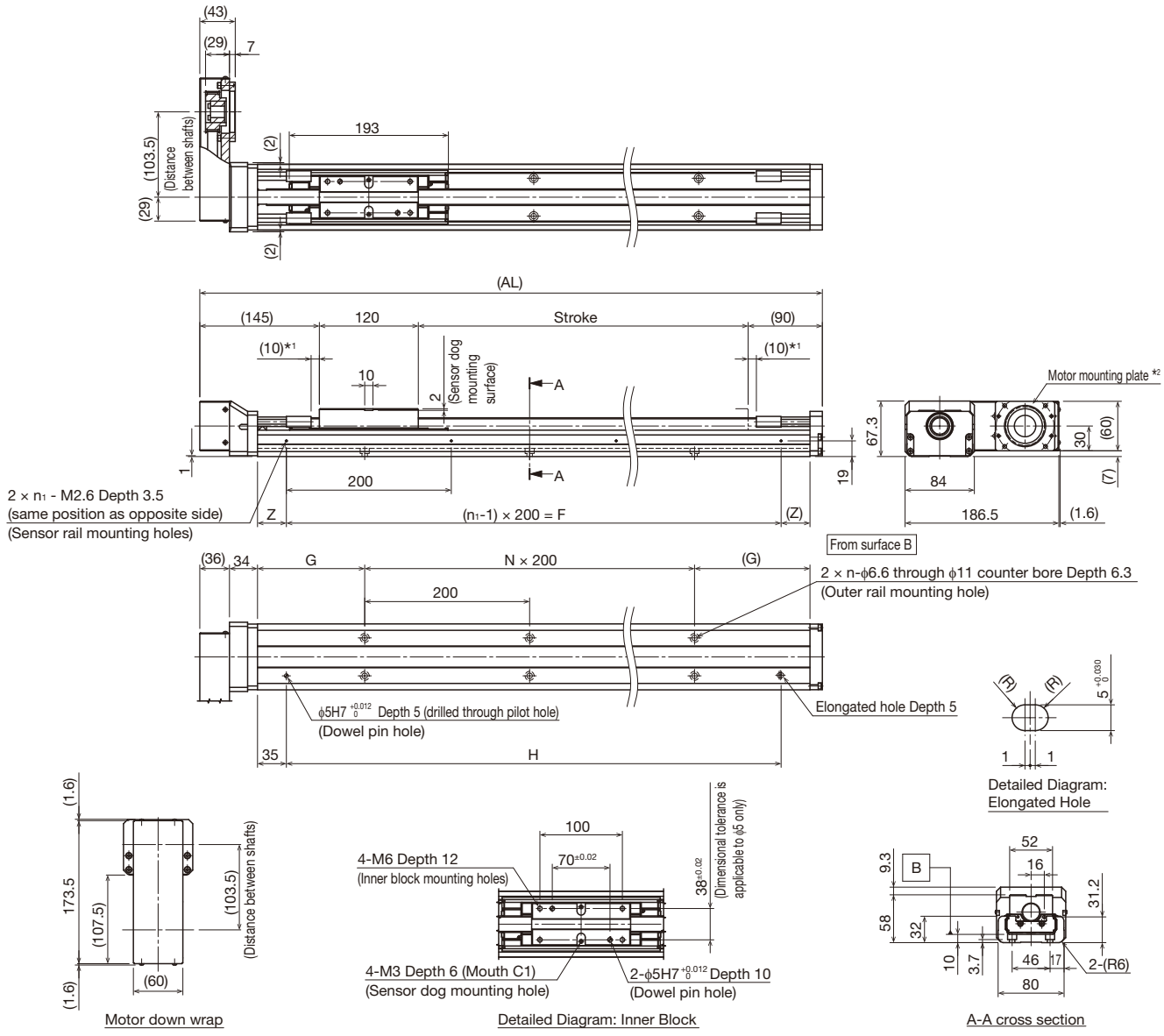
Vertical mount [mm]

| 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.

# KSF8RU

## Dimensions




*1 Stroke up to mechanical stopper.
*2 See P.138 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 | 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 |
| | 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] | | 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 | 24.4 |

*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.

# KSF10U Without Motor

## Model Configuration

| Model | | Ball screw lead | | Stroke | | With/without motor | | Intermediate flange | | Option |
|---|---|---|---|---|---|---|---|---|---|---|
| KSF10U | - | 25 | - | 0800 | - | 0 | - | AZ | - | T-6 |

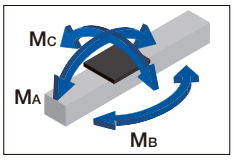
| KSF10U | 25: 25 mm<br>50: 50 mm | 0100: 100 mm<br>to<br>1500: 1500 mm | 0: Without motor<br>1: With motor | A0<br>AZ<br>A5<br>A6 | No symbol: None<br>T : Back tap<br>1 : Sensor rail only<br>6 : Photo sensor<br>J : Proximity sensor<br>M : Proximity sensor (PNP) |
|---|---|---|---|---|---|

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | 58,500 | | |
| | Basic static load rating C0 [N] | 103,700 | | |
| Ball screw portion | Basic dynamic load rating Ca [N] | 6,650 | 4,150 | |
| | Basic static load rating C0a [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 | | |
| | Axial direction: Static permissible load P0a [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] | | MA: 1,259 MB: 775 MC: 504 | | |

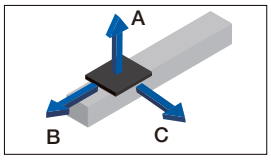
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

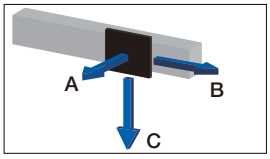



## Permissible Overhang Length *5

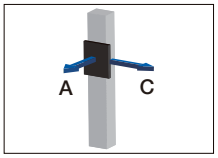
Horizontal use




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 |

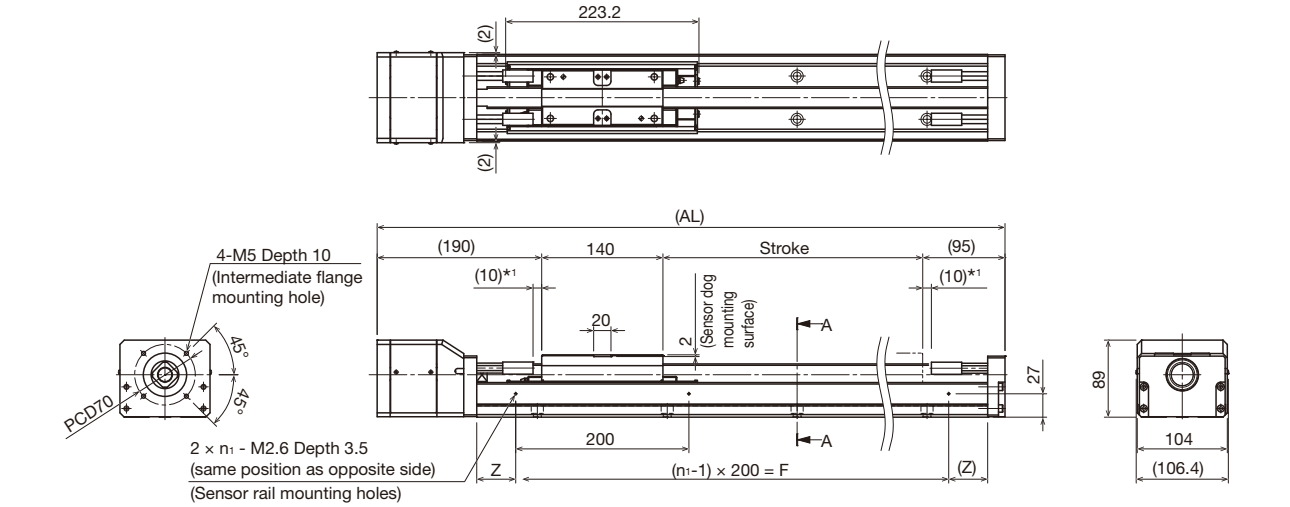
Vertical mount [mm]

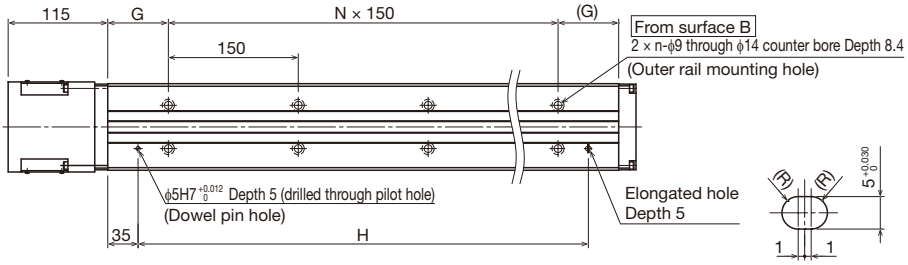
| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 25 | 3.25 | 1000 | 1000 |
| | 6.5 | 1000 | 1000 |
| | 13 | 650 | 650 |
| 50 | 1.25 | 1000 | 1000 |
| | 2.5 | 1000 | 1000 |
| | 5 | 970 | 970 |

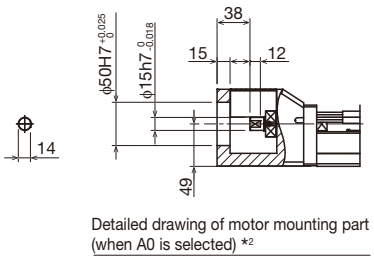
*5 This value is the overhang length whose running life is 20,000 km for each direction.
A permissible value of the applied load in each direction.

# KSF10U

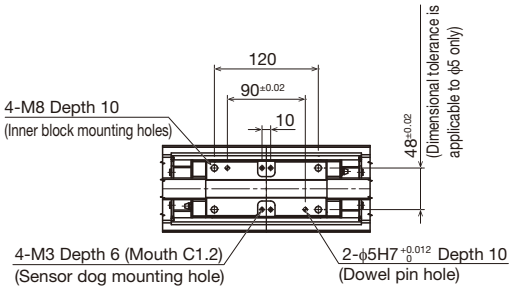
## Dimensions



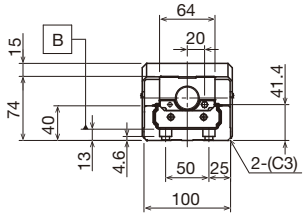




Detailed drawing of motor mounting part (when A0 is selected) *2




Detailed Diagram: Inner Block




A-A cross section

*1 Stroke up to mechanical stopper.
*2 See P.139 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

## Model Configuration

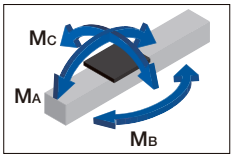
| Model | Ball screw lead | Stroke | With/without motor | Motor mounting plate | Motor shaft diameter | Motor shaft fixing method | Option |
|---|---|---|---|---|---|---|---|
| KSF10RU - | 25 - | 0800 - | 0 - | WZ - | 19 - | M - | MR-T |
| KSF10RU | 25: 25 mm<br>50: 50 mm | 0100: 100 mm<br>to<br>1500: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

## Basic Specifications

| | | | | |
|---|---|---|---|---|
| LM guide portion | Basic dynamic load rating C [N] | | 58,500 | |
| | Basic static load rating C0 [N] | | 103,700 | |
| Ball screw portion | Basic dynamic load rating Ca [N] | | 6,650 | 4,150 |
| | Basic static load rating C0a [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 P0a [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 | |

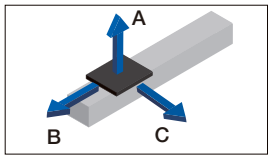
*1 The permissible rotational speed is restricted by the stroke.
*2 The starting torque represents values when the standard grease is filled.
*3 These represent values when measured using a motor provided by THK.
*4 Applied point of moment load for MA and MC are the top face of the table, and that for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

Static Permissible Moment

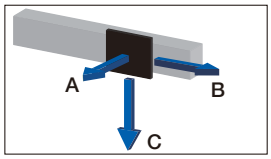



## Permissible Overhang Length *5

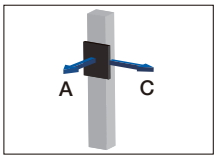
Horizontal use




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 | 700 |
| | 38 | 530 | 290 | 350 |
| 50 | 3 | 1000 | 1000 | 1000 |
| | 6 | 1000 | 1000 | 1000 |
| | 12 | 870 | 760 | 600 |

Wall mount [mm]

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

Vertical mount [mm]

| Ball screw lead [mm] | Load mass [kg] | A | C |
|---|---|---|---|
| 25 | 4.75 | 1000 | 1000 |
| | 9.5 | 970 | 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]

| 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 |

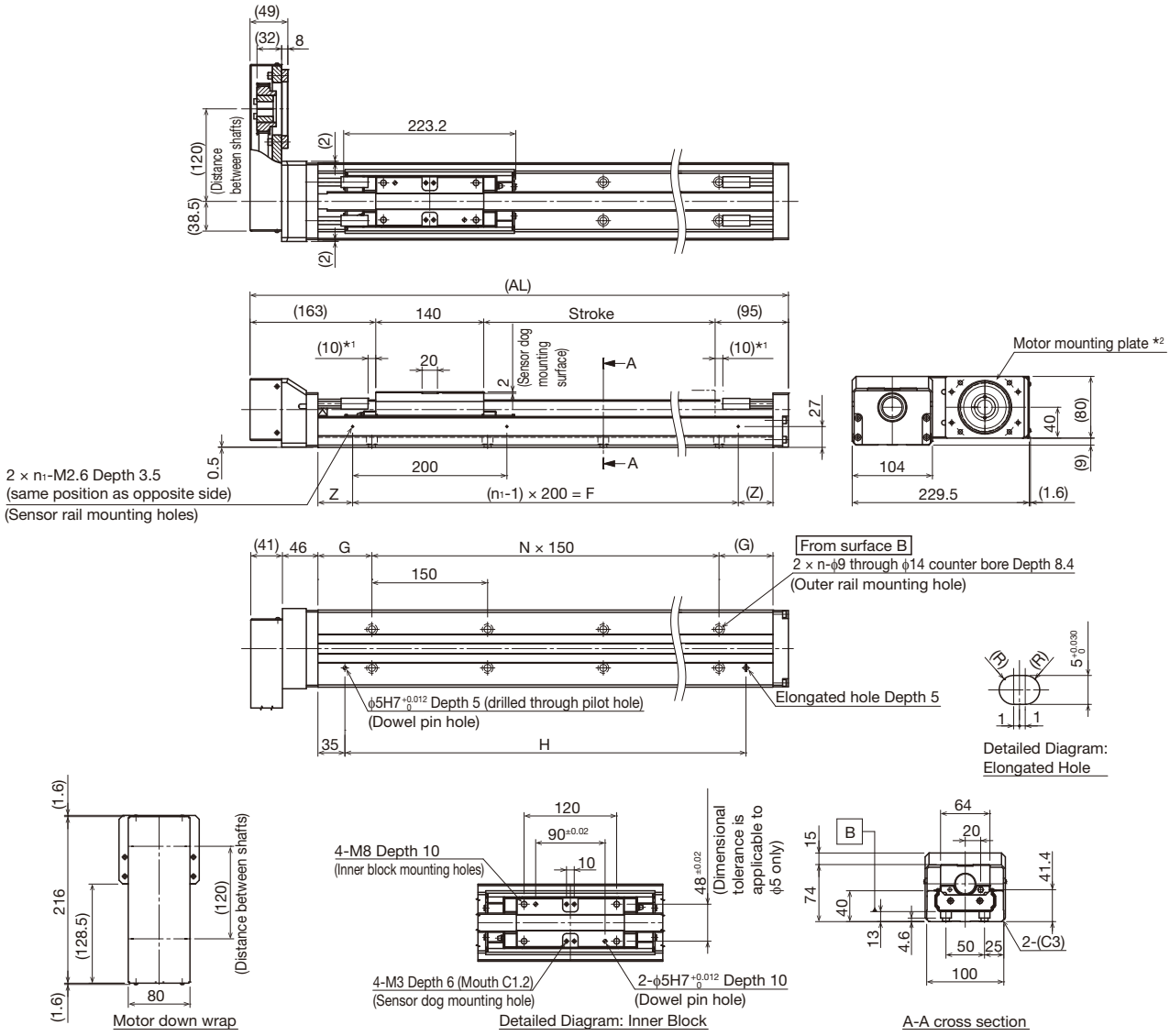
Vertical mount [mm]

| 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.

# KSF10RU

## Dimensions




*1 Stroke up to mechanical stopper.
*2 See P.139 for motor mounting plate dimensions.

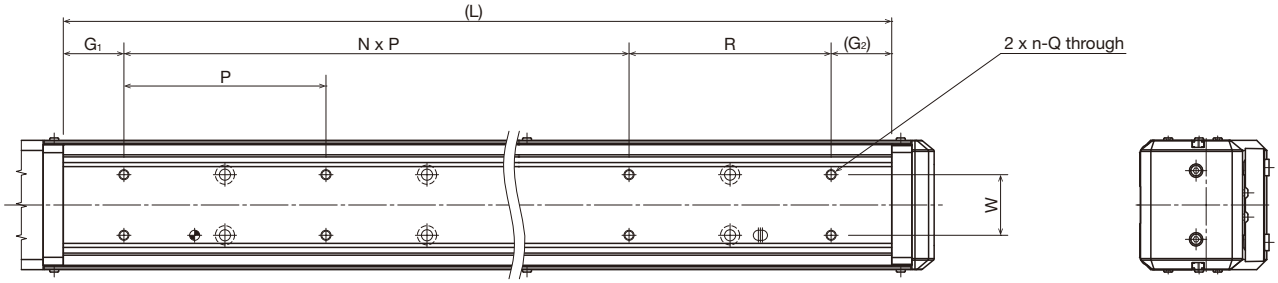
| Stroke [mm] (Stroke between mechanical stoppers) | | 100 (120) | 200 (220) | 300 (320) | 400 (420) | 500 (520) | 600 (620) | 700 (720) | 800 (820) | 900 (920) | 1000 (1020) | 1100 (1120) | 1200 (1220) | 1300 (1320) | 1400 (1420) | 1500 (1520) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Maximum speed *3 [mm/s] | Ball screw lead: 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] | | 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.

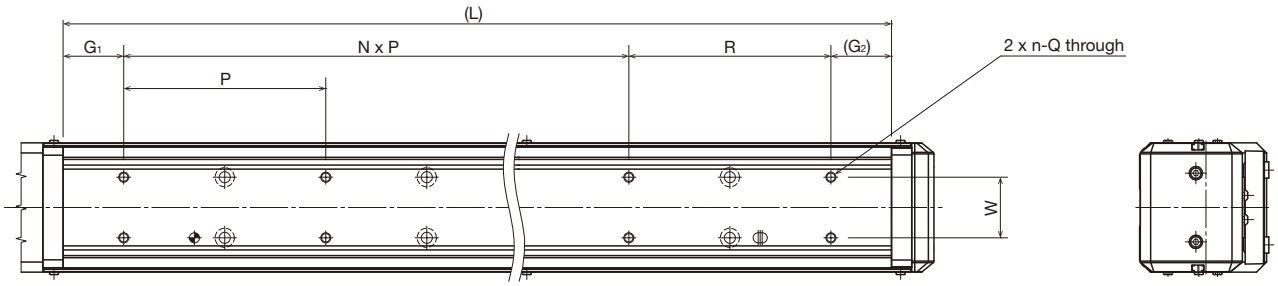
| Model | Stroke [mm] | | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 | 900 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KSF4 | Dimensions [mm] | L | 202 | 252 | 302 | 352 | 402 | 452 | 502 | 552 | 602 | 652 | 702 | 752 | 802 | 852 | 902 | 952 | 1002 | 1052 |
| | | P | 120 | | | | | | | | | | | | | | | | | |
| | | $G_1$ | 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 | - | | | | | | | | | | | | | | | | | |
| | | 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 | | | | | | | | | | | | | | | | |
| | | $G_1$ | 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 | - | | | | | | | | | | | | | | | | | |
| | | 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 | | | | | | | | | | |
| | | $G_1$ | 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 | - | - | 100 | 100 | - | - | 100 | 100 | - | - | 100 | 100 | - |
| | | 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] | | 700 | 750 | 800 | 850 | 900 | 950 | 1000 | 1050 | 1100 | 1150 | 1200 | 1250 | 1300 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KSF6 | Dimensions [mm] | L | 910 | 960 | 1010 | 1060 | 1110 | 1160 | 1210 | 1260 | 1310 | 1360 | 1410 | 1460 | 1510 |
| | | P | 200 | | | | | | | | | | | | |
| | | $G_1$ | 55 | 30 | 55 | 30 | 55 | 30 | 55 | 30 | 55 | 30 | 55 | 30 | 55 |
| | | $G_2$ | 55 | 30 | 55 | 30 | 55 | 30 | 55 | 30 | 55 | 30 | 55 | 30 | 55 |
| | | R | - | 100 | 100 | - | - | 100 | 100 | - | - | 100 | 100 | - | - |
| | | W | 30 | | | | | | | | | | | | |
| | Mounting pitch count | N | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 |
| | Mounting hole count | n | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 |
| | 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 | | | | | | | | | | | | | |
| | | $G_1$ | 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 | - | | | | | | | | | | | | | | |
| | | 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

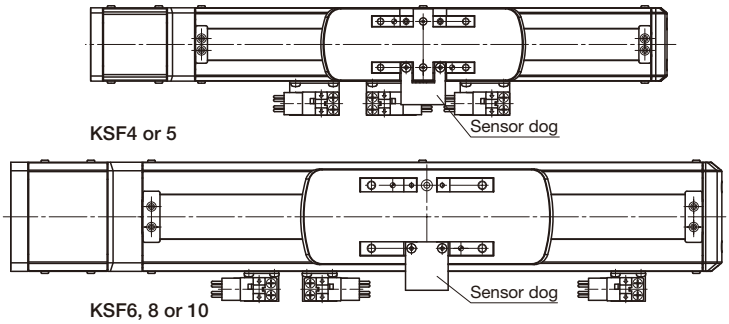
## □: Sensors

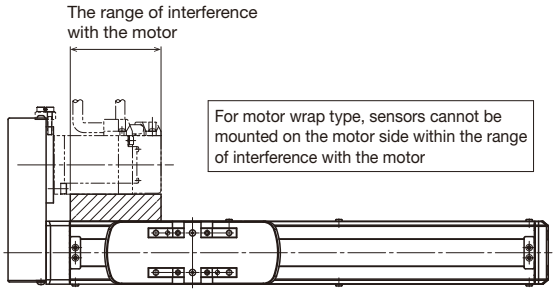
Optional proximity sensors and photo sensors are available for KSF. Please use the sensor with the following precautions (Notes 1 to 3) in mind.

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 [× 1] | GX-F12A (Panasonic Industrial Devices SUNX Co., Ltd.) | Mounting screws, nuts, sensor dog, sensor rail | J |
| | N.C. contact [x 2] | GX-F12B (Panasonic Industrial Devices SUNX Co., Ltd.) | | |
| Sensors | N.O. contact [x 1] (PNP output) | GX-F12A-P (Panasonic Industrial Devices SUNX Co., Ltd.) | Mounting screws, nuts, sensor dog, sensor rail | M |
| | N.C. contact [x 2] (PNP output) | GX-F12B-P (Panasonic Industrial Devices SUNX Co., Ltd.) | | |

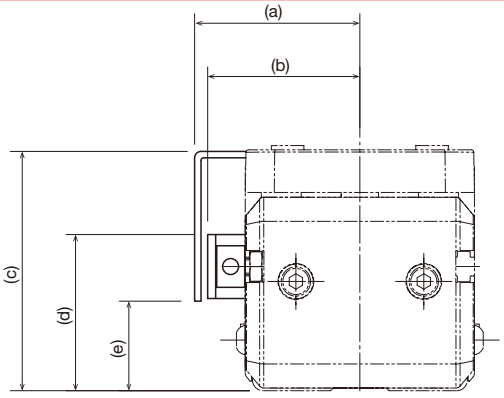
N.O. contact: Normally open contact point
N.C. contact: Normally closed contact point
Sensors marked with a symbol “M”, if combined with our controller, cannot be used as a home position sensor.
*1 Sensor rails are included for Top Cover and Open Cover specification types only.
*2 Selectable only for 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.)

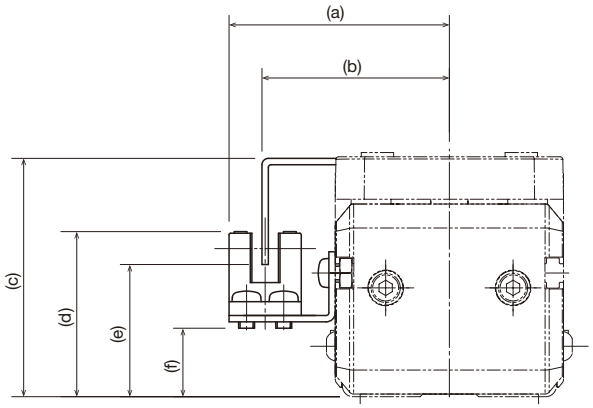



Unit: mm

| 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)



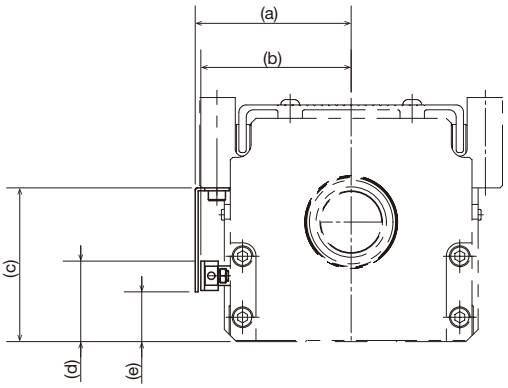

Unit: mm

| 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.)

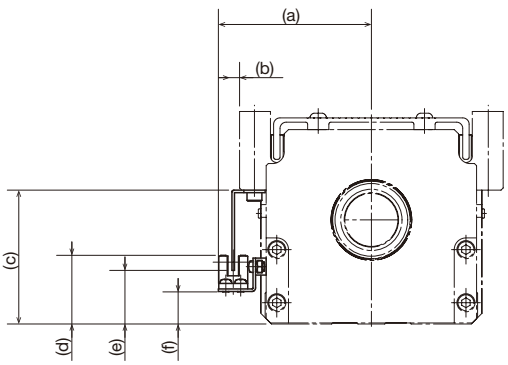



Unit: mm

| 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)



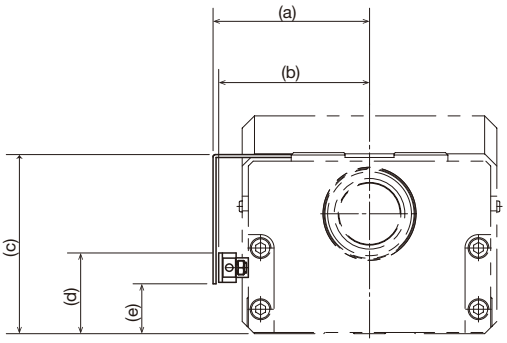

Unit: mm

| 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

## Open Cover

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

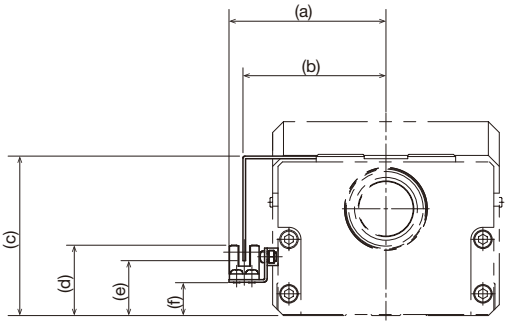



Unit: mm

| 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)



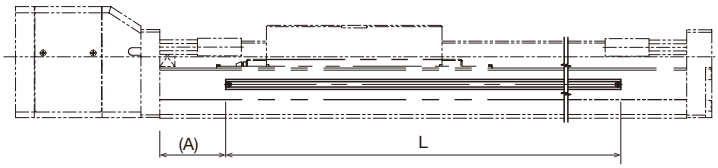

Unit: mm

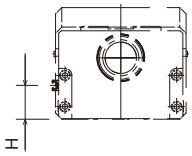
| Model | a | b | c | d | e | f |
|---|---|---|---|---|---|---|
| KSF4U | 44.8 | 38.4 | 36.8 | 18.1 | 11.8 | 0.9 |
| KSF5U | 49.7 | 43.5 | 36.2 | 21.8 | 15.4 | 3.6 |
| KSF6U | 52.3 | 46 | 49.2 | 19.3 | 12.2 | 1.1 |
| KSF8U | 62.3 | 56 | 57.2 | 24.3 | 17.2 | 6.1 |
| KSF10U | 72 | 65.6 | 73.2 | 32.3 |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

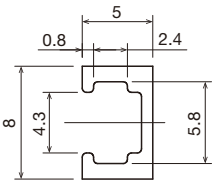
Sensor dog width: KSF4U 9mm
KSF5U 9mm
KSF6U 9mm
KSF8U 9mm
KSF10U 18mm

## 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 | | | | | | | | | | | | | | | | | |
| | | L | 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 | | | | | | | | | | | | | | | | | |
| | | L | 155 | 205 | 255 | 305 | 355 | 405 | 455 | 505 | 555 | 605 | 655 | 705 | 755 | 805 | 855 | 905 | 955 | 1005 |
| | | H | 14 | | | | | | | | | | | | | | | | | |

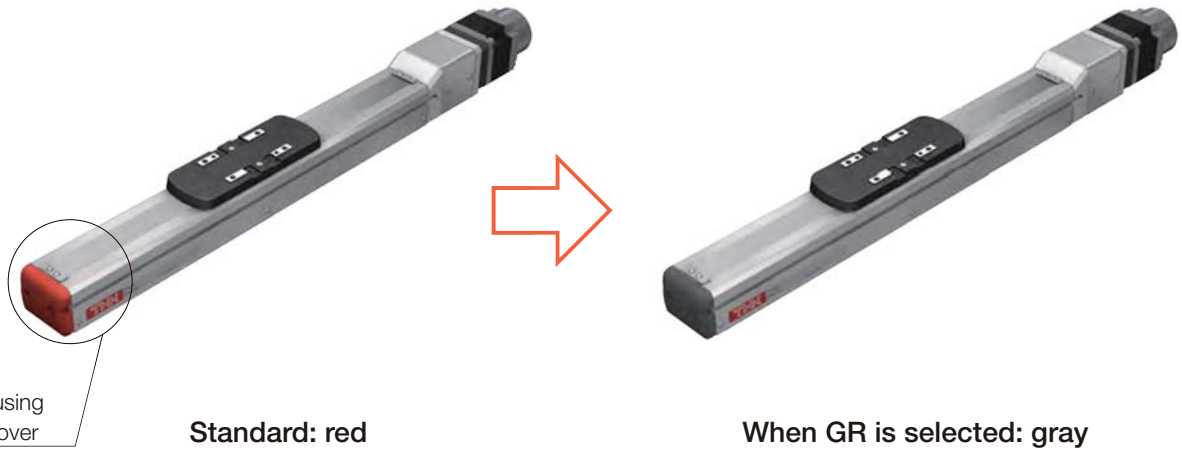
| Model | Stroke [mm] | | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KSF6T KSF6U | Dimensions [mm] | A | 27.5 | 52.5 | 27.5 | 2.5 | 27.5 | 2.5 | 27.5 | 2.5 | 27.5 | 52.5 | 27.5 | 2.5 | 27.5 |
| | | L | 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 | 32.5 | 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 | 42.5 | 92.5 |
| | | L | 205 | 405 | | 605 | | 805 | | 1005 | | 1205 | | 1405 | | 1605 | |
| | | H | 27 | | | | | | | | | | | | | | |

## 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 | - | - | - | - |
| | | | SGMJV-01 | 100 | □40 | AQ | AQ | - | - | - |
| | | | SGMAV-01 | | | AQ | AQ | - | - | - |
| | | | SGMJV-02 | 200 | □60 | - | - | AV | - | - |
| | | | SGMAV-02 | | | - | - | AV | - | - |
| | | | SGMJV-04 | 400 | □60 | - | - | - | AV | - |
| | | | SGMAV-04 | | | - | - | - | AV | - |
| | | | SGMJV-08 | 750 | □80 | - | - | - | - | AZ |
| | | | SGMAV-08 | | | - | - | - | - | AZ |
| | | Σ-7 | SGM7J-A5 | 50 | □40 | AQ | - | - | - | - |
| | | | SGM7A-A5 | | | AQ | - | - | - | - |
| | | | SGM7J-01 | 100 | □40 | AQ | AQ | - | - | - |
| | | | SGM7A-01 | | | AQ | AQ | - | - | - |
| | | | SGM7J-02 | 200 | □60 | - | - | AV | - | - |
| | | | SGM7A-02 | | | - | - | AV | - | - |
| | | | SGM7J-04 | 400 | □60 | - | - | - | AV | - |
| | | | SGM7A-04 | | | - | - | - | AV | - |
| | | | SGM7J-08 | 750 | □80 | - | - | - | - | AZ |
| | | | SGM7A-08 | | | - | - | - | - | AZ |
| | Mitsubishi Electric Corporation | J3 | HF-MP053 | 50 | □40 | AQ | - | - | - | - |
| | | | HF-KP053 | | | AQ | - | - | - | - |
| | | | HF-MP13 | 100 | □40 | AQ | AQ | - | - | - |
| | | | HF-KP13 | | | AQ | AQ | - | - | - |
| | | | HF-MP23 | 200 | □60 | - | - | AV | - | - |
| | | | HF-KP23 | | | - | - | AV | - | - |
| | | | HF-MP43 | 400 | □60 | - | - | - | AV | - |
| | | | HF-KP43 | | | - | - | - | AV | - |
| | | | HF-MP73 | 750 | □80 | - | - | - | - | AZ |
| | | | HF-KP73 | | | - | - | - | - | AZ |
| | | J4 | HG-MR053 | 50 | □40 | AQ | - | - | - | - |
| | | | HG-KR053 | | | AQ | - | - | - | - |
| | | | HG-MR13 | 100 | □40 | AQ | AQ | - | - | - |
| | | | HG-KR13 | | | AQ | AQ | - | - | - |
| | | | HG-KR23 | 200 | □60 | - | - | AV | - | - |
| | | | HG-MR23 | | | - | - | AV | - | - |
| | | | HG-KR43 | 400 | □60 | - | - | - | AV | - |
| | | | HG-MR43 | | | - | - | - | AV | - |
| | | | HG-KR73 | 750 | □80 | - | - | - | - | 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.

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 | | βis0.2/5000 | 50 | □40 | AQ | - | - | - | - |
| | | | | βis0.3/5000 | 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 | - |
| | | | | RKS59 | | □85 | - | - | - | - | A6 |
| | | 2 phase | 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.153)

# Motor mounting plate for motor wrap option

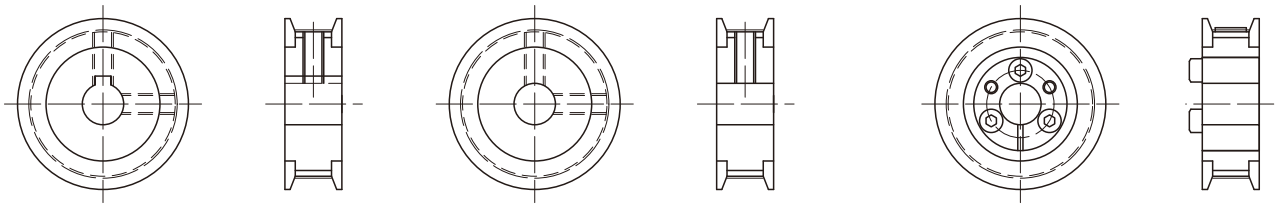
## Wrap symbol configuration

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

| W | Q | - | 08 | D |
|---|---|---|---|---|
| (1) | (2) | | (3) | (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<br>D : D-cut<br>M: Friction tightening |

| 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 | WQ-08D, WQ-08K | WQ-08D, WQ-08K | - | - | - |
| | | | SGMAV-A5 | | | WQ-08D, WQ-08K | WQ-08D, WQ-08K | - | - | - |
| | | | SGMJV-01 | 100 | □40 | WQ-08D, WQ-08K | WQ-08D, WQ-08K | - | - | - |
| | | | SGMAV-01 | | | WQ-08D, WQ-08K | WQ-08D, WQ-08K | - | - | - |
| | | | SGMJV-02 | 200 | □60 | - | - | WV-14D, WV-14K, WV-14M | - | - |
| | | | SGMAV-02 | | | - | - | WV-14D, WV-14K, WV-14M | - | - |
| | | | SGMJV-04 | 400 | □60 | - | - | - | WV-14M | - |
| | | | SGMAV-04 | | | - | - | - | WV-14M | - |
| | | | SGMJV-08 | 750 | □80 | - | - | - | - | WZ-19M |
| | | | SGMAV-08 | | | - | - | - | - | WZ-19M |
| | | Σ-7 | SGM7J-A5 | 50 | □40 | WQ-08D, WQ-08K | WQ-08D, WQ-08K | - | - | - |
| | | | SGM7A-A5 | | | WQ-08D, WQ-08K | WQ-08D, WQ-08K | - | - | - |
| | | | SGM7J-01 | 100 | □40 | WQ-08D, WQ-08K | WQ-08D, WQ-08K | - | - | - |
| | | | SGM7A-01 | | | WQ-08D, WQ-08K | WQ-08D, WQ-08K | - | - | - |
| | | | SGM7J-02 | 200 | □60 | - | - | WV-14D, WV-14K, WV-14M | - | - |
| | | | SGM7A-02 | | | - | - | WV-14D, WV-14K, WV-14M | - | - |
| | | | SGM7J-04 | 400 | □60 | - | - | - | WV-14M | - |
| | | | SGM7A-04 | | | - | - | - | WV-14M | - |
| | | | SGM7J-08 | 750 | □80 | - | - | - | - | WZ-19M |
| | | | SGM7A-08 | | | - | - | - | - | WZ-19M |
| | Mitsubishi Electric Corporation | J3 | HF-MP053 | 50 | □40 | WQ-08D | WQ-08D | - | - | - |
| | | | HF-KP053 | | | WQ-08D | WQ-08D | - | - | - |
| | | | HF-MP13 | 100 | □40 | WQ-08D | WQ-08D | - | - | - |
| | | | HF-KP13 | | | WQ-08D | WQ-08D | - | - | - |
| | | | HF-MP23 | 200 | □60 | - | - | WV-14M | - | - |
| | | | HF-KP23 | | | - | - | WV-14M | - | - |
| | | | HF-MP43 | 400 | □60 | - | - | - | WV-14M | - |
| | | | HF-KP43 | | | - | - | - | WV-14M | - |
| | | | HF-MP73 | 750 | □80 | - | - | - | - | WZ-19M |
| | | | HF-KP73 | | | - | - | - | - | WZ-19M |
| | | J4 | HG-MR053 | 50 | □40 | WQ-08D | WQ-08D | - | - | - |
| | | | HG-KR053 | | | WQ-08D | WQ-08D | - | - | - |
| | | | HG-MR13 | 100 | □40 | WQ-08D | WQ-08D | - | - | - |
| | | | HG-KR13 | | | WQ-08D | WQ-08D | - | - | - |
| | | | HG-KR23 | 200 | □60 | - | - | WV-14M | - | - |
| | | | HG-MR23 | | | - | - | WV-14M | - | - |
| | | | HG-KR43 | 400 | □60 | - | - | - | WV-14M | - |
| | | | HG-MR43 | | | - | - | - | WV-14M | - |
| | | | HG-KR73 | 750 | □80 | - | - | - | - | WZ-19M |
| | | | HG-MR73 | | | - | - | - | - | WZ-19M |
| | Tamagawa Seiki Co., Ltd. | TBL-ill | 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 |



Key D-cut Friction tightening

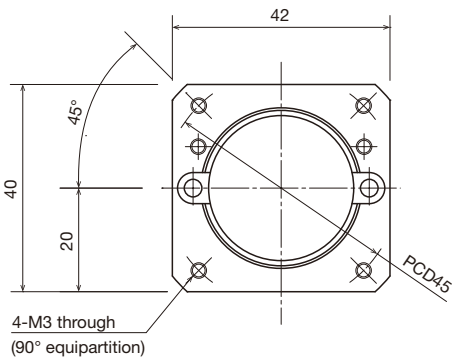
Figure : Motor shaft fixing method

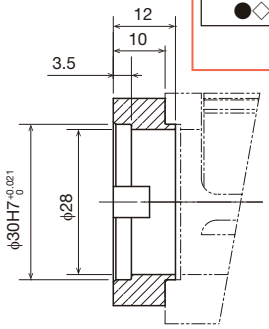
| Motor type | | | | Rated output [W] | Flange angle [mm] | KSF4 | KSF5 | KSF6 | KSF8 | KSF10 |
|---|---|---|---|---|---|---|---|---|---|---|
| AC servo motor | Panasonic Corporation | MINAS A5 | MSMD5A | 50 | □38 | WP-08D, WP-08K | WP-08D, WP-08K | - | - | - |
| | | | MSME5A | | | WP-08D, WP-08K | WP-08D, 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 |

## For KSF4

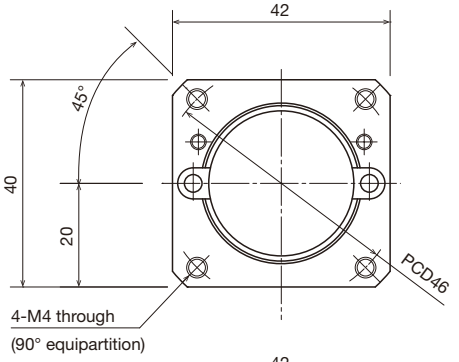
### Intermediate flange

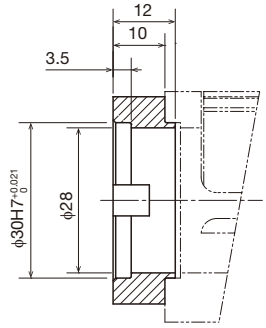
| KSF4 |
|---|
| AP |



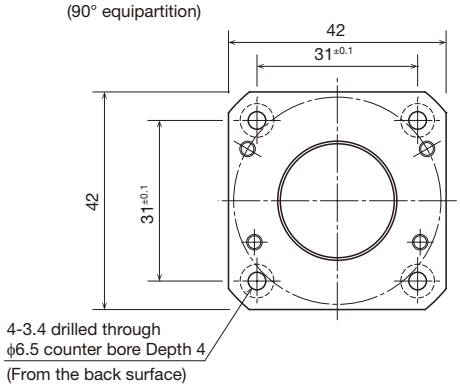



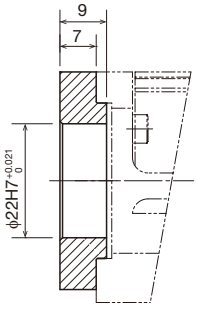

| KSF4 |
|---|
| AQ |




| KSF4 |
|---|
| AR |



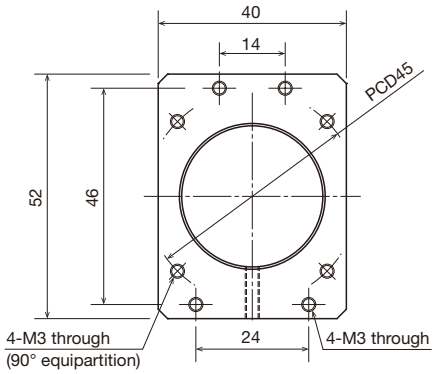



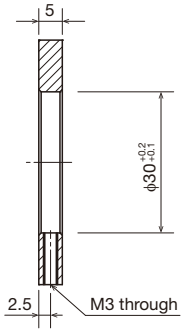

Note) For A0, see the external side view of intermediate flange without motor and the detailed drawing of motor mounting part. (→P.72)

## For KSF4R

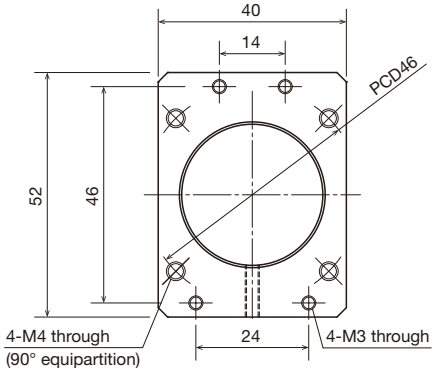
### Motor mounting plate

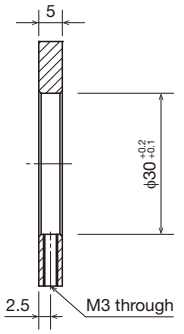
| KSF4R |
|---|
| WP |




| KSF4R |
|---|
| WQ |



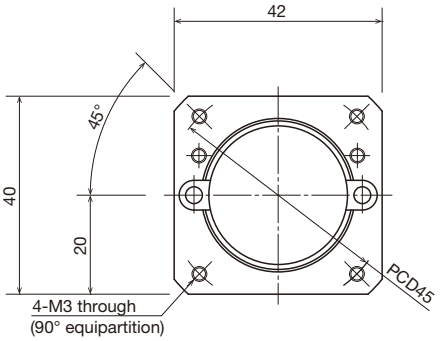



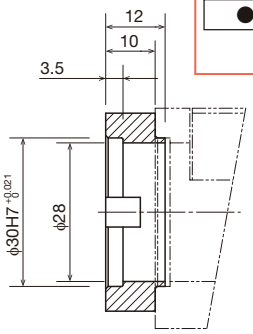
## For KSF5

### Intermediate flange

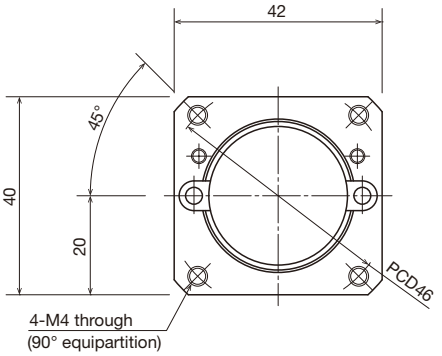
KSF∗ ●◇ ... Actuator model
... ●: Housing A
◇: Intermediate flange

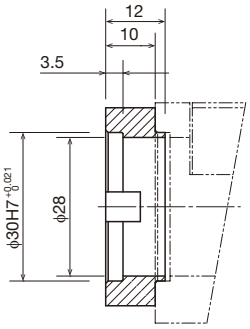
KSF5 AP



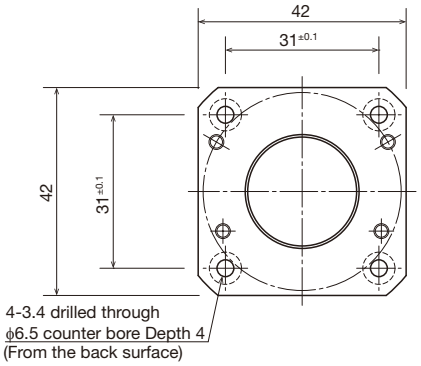



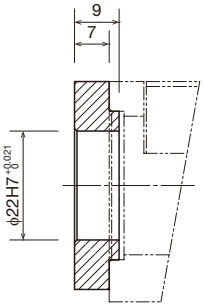

KSF5 AQ




KSF5 AR



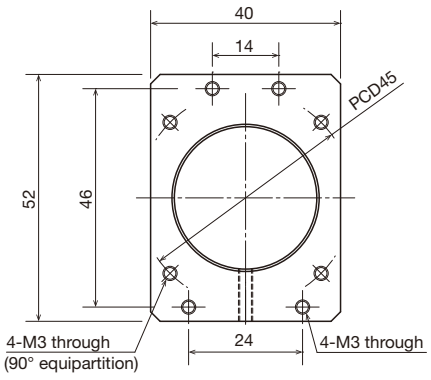



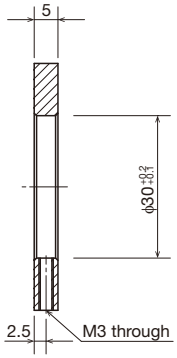

Note) For A0, see the external side view of intermediate flange without motor and the detailed drawing of motor mounting part. (→P.76)

## For KSF5R

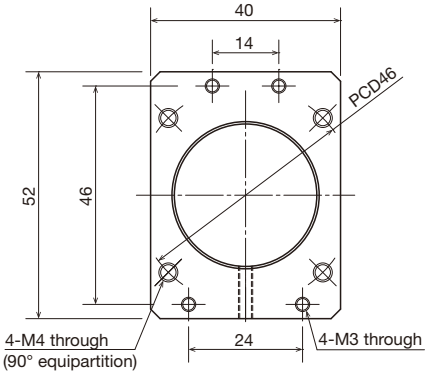
### Motor mounting plate

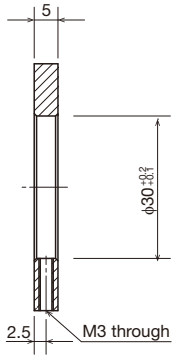
KSF5R WP




KSF5R WQ



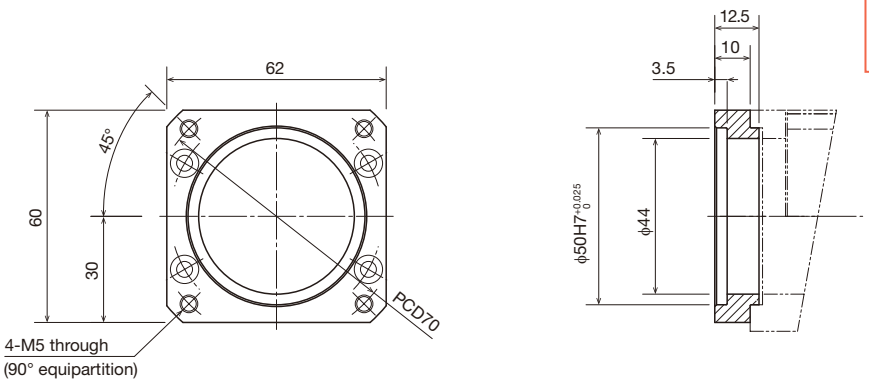



## For KSF6

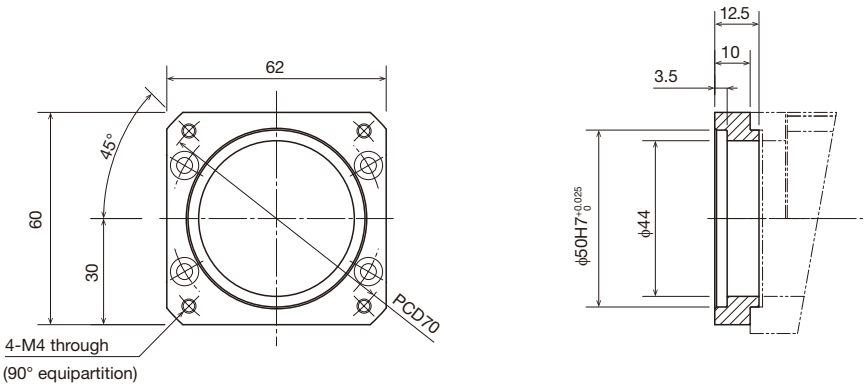
### Intermediate flange

KSF∗ ... Actuator model
●◇ ... ●: Housing A
◇: Intermediate flange

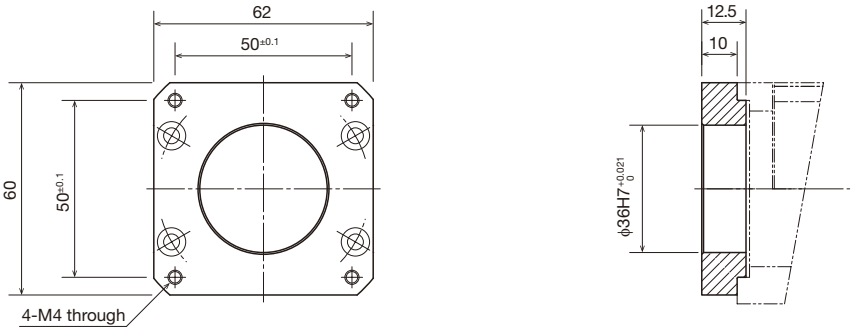
KSF6
AV




KSF6
AY




KSF6
AU

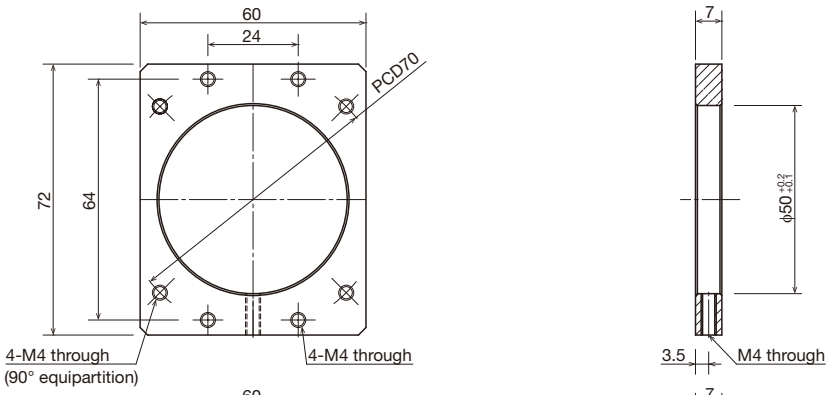



Note) For A0, see the external side view of intermediate flange without motor and the detailed drawing of motor mounting part. (→P.80)

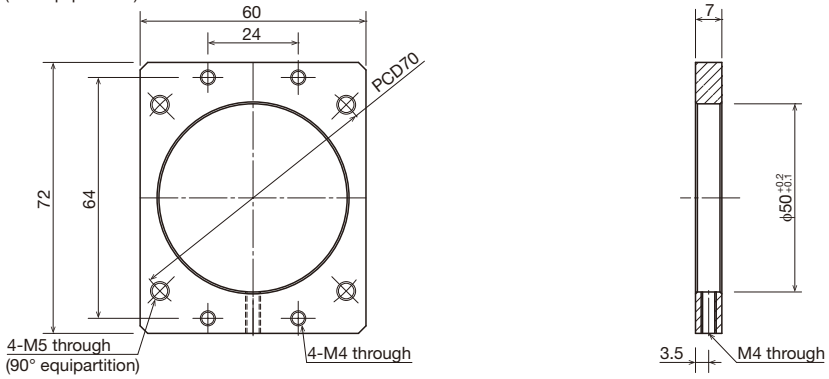
## For KSF6R

### Motor mounting plate

KSF6R
WY




KSF6R
WV



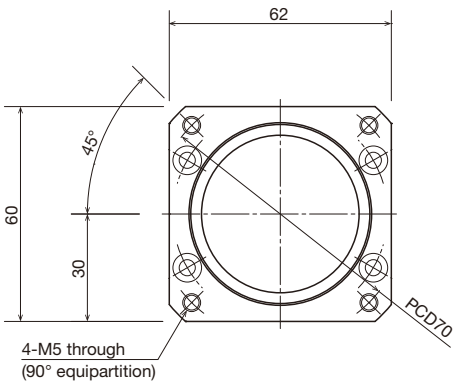
## For KSF8

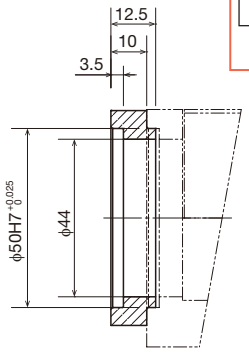
### Intermediate flange

| KSF* |
|---|
| ●◇ |

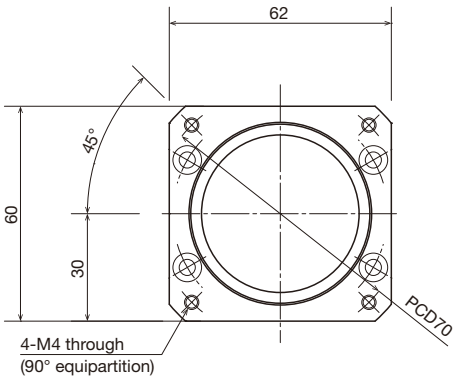
... Actuator model
... ●: Housing A
◇: Intermediate flange

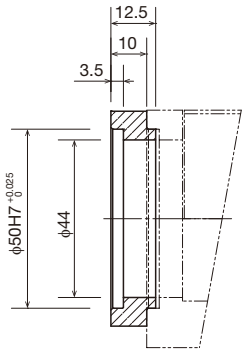
| KSF8 |
|---|
| AV |



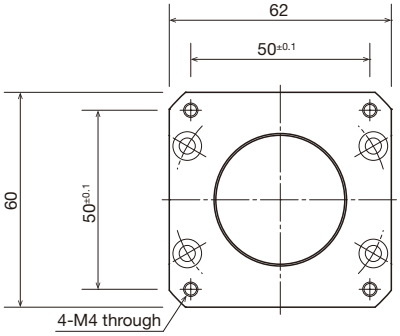



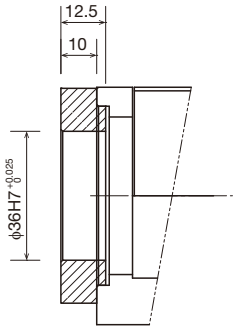

| KSF8 |
|---|
| AY |




| KSF8 |
|---|
| AU |



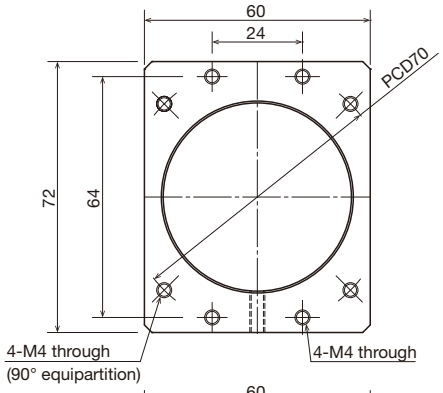



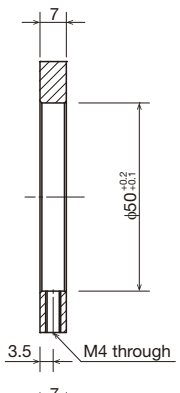

Note) For A0, see the external side view of intermediate flange without motor and the detailed drawing of motor mounting part. (→P.84)

## For KSF8R

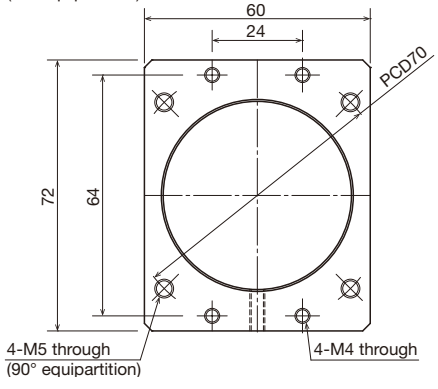
### Motor mounting plate

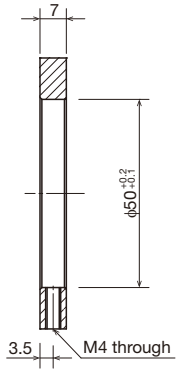
| KSF8R |
|---|
| WY |




| KSF8R |
|---|
| WV |

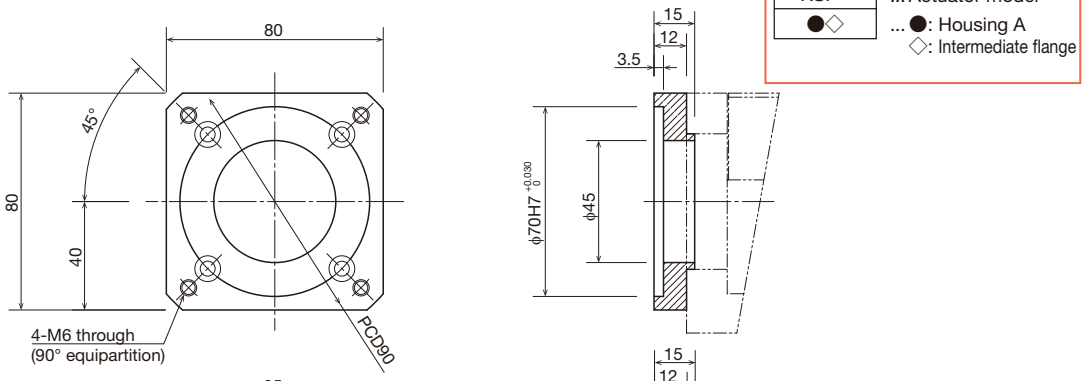


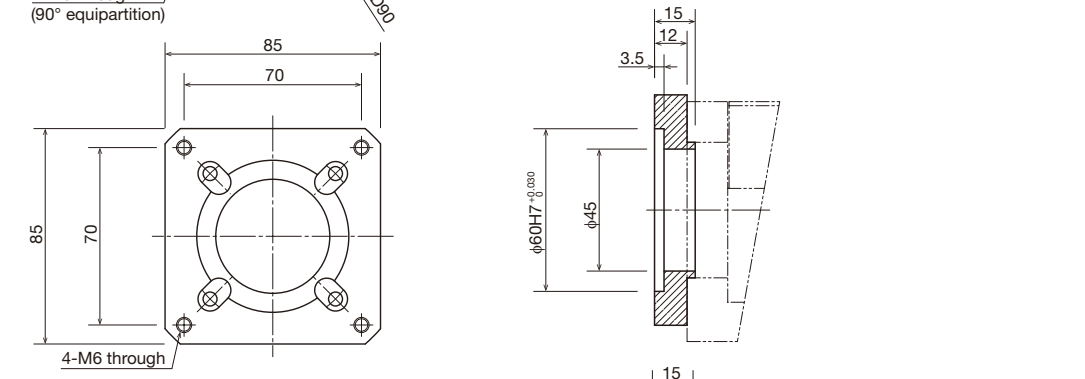
## For KSF10

### Intermediate flange

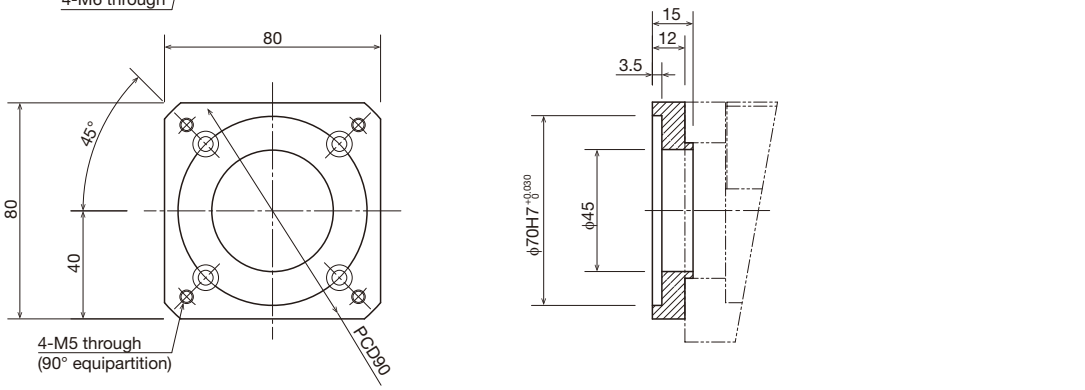
| KSF10 |
|---|
| AZ |




| KSF10 |
|---|
| A6 |




| KSF10 |
|---|
| A5 |

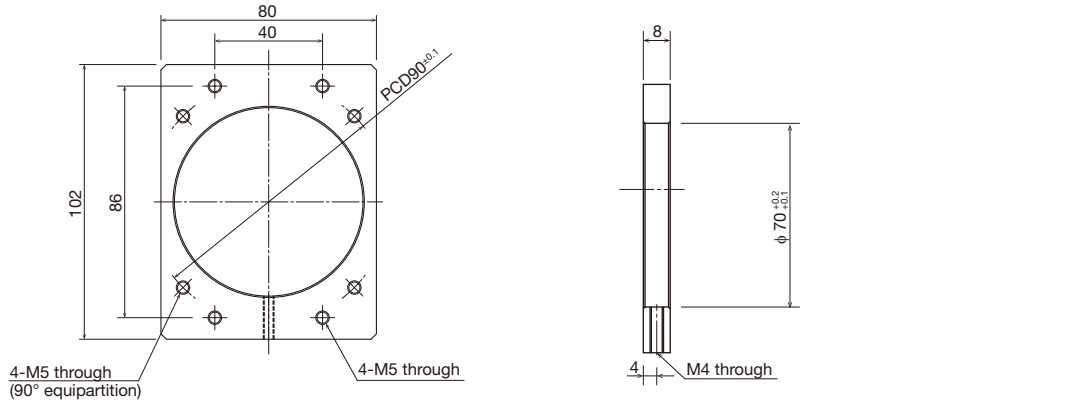



Note) For A0, see the external side view of intermediate flange without motor and the detailed drawing of motor mounting part. (→P.88)

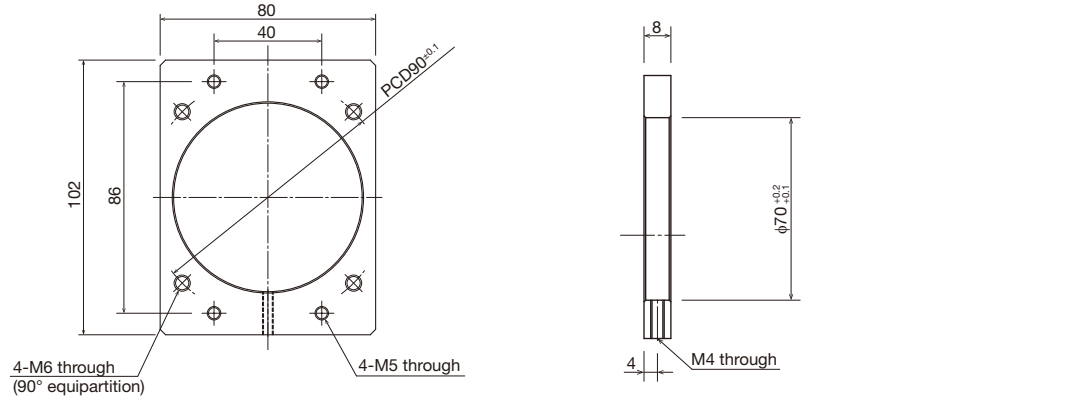
## For KSF10R

### Motor mounting plate

| KSF10R |
|---|
| W5 |




| KSF10R |
|---|
| WZ |



# THC Controller series
For single axis / Position type



**High-capacity servo driver controller**

## THC

## Features

Ready to use by simplified setup.

## Simple Operation

Use PC setup tool D-STEP or digital operator TDO to access many useful functions.

## Functions

· Function select mode
(64-position, external unit input instruction, 256-position, 512-position, solenoid mode 1, solenoid mode 2)
· Step data count: Up to 512 (depending on function mode)
· Alarm history: Up to 50 (including power ON history)
· Switching between Auto/Manual, brake release switch
· Selectable control methods (positioning or pressing)
· Absolute supported
· Auto-tuning functionality built-in

## Model Configuration

| Model | Capacity | Power supply voltage | Type | Encoder type | Compatible actuator* | Ball screw lead | Home position | Brake | Stroke | Sensors |
|---|---|---|---|---|---|---|---|---|---|---|
| THC | 010 | 100AC | MOD | A | KSF4 | 10 | D | B | 0100 | 1 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
| THC | 010: 100 W<br>020: 200 W<br>040: 400 W<br>075: 750 W | 100 AC: 100 VAC<br>200 AC: 200 VAC | MOD: Mode switching type | A: Absolute | Direct coupling<br>KSF4<br>KSF5<br>KSF6<br>KSF8<br>KSF10<br>Motor wrap<br>KSF4R<br>KSF5R<br>KSF6R<br>KSF8R<br>KSF10R | 10: 10 mm<br>16: 16 mm<br>20: 20 mm<br>25: 25 mm<br>30: 30 mm<br>40: 40 mm<br>50: 40 mm | D: Motor side<br>R: Reverse motor side | No symbol: Without brake<br>B: With brake | Enter the stroke of the compatible actuator (6), e.g.) 0050: 50 mm | No symbol: None<br>1: N.O. contact [x 1]<br>N.C. contact [x 2] |

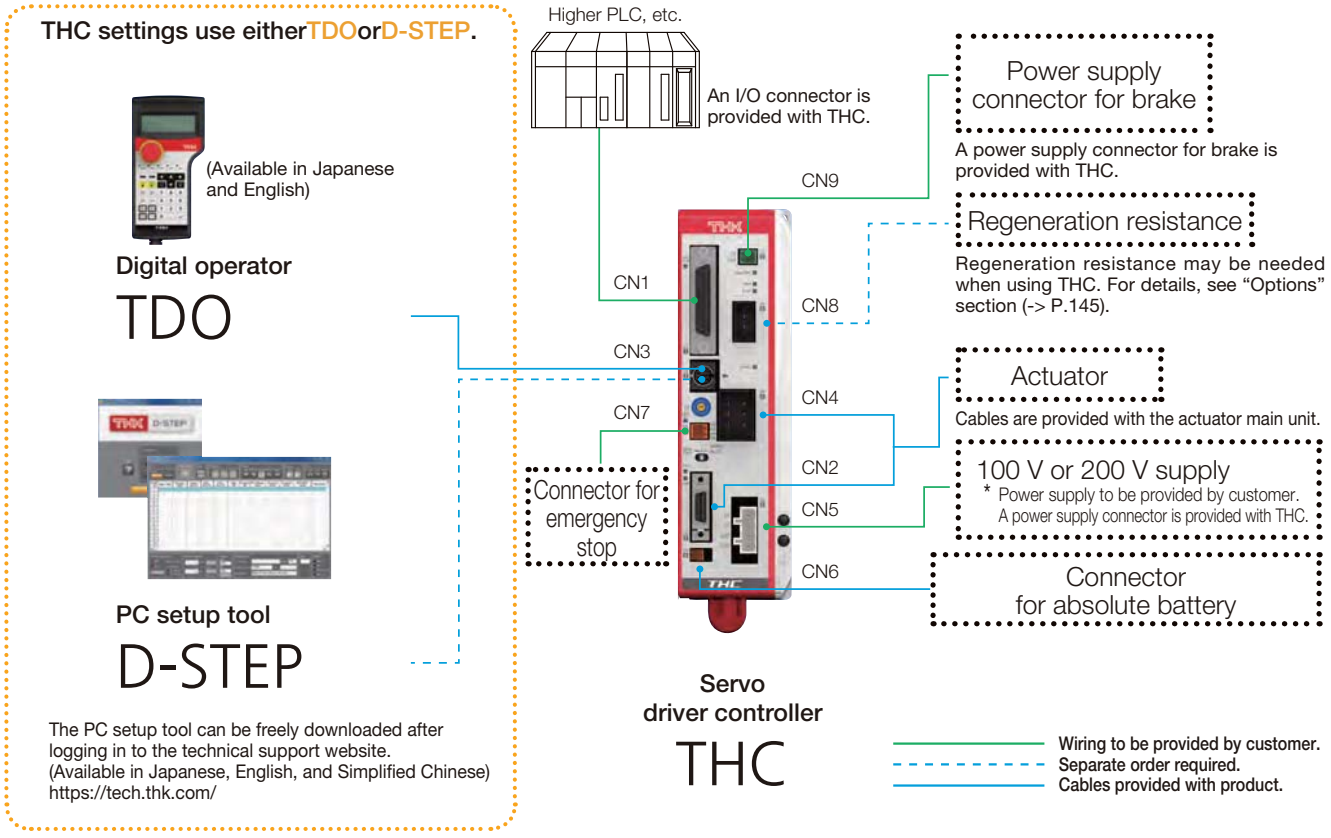
* Select from the above also for KSF-T/U.

## THC Specifications

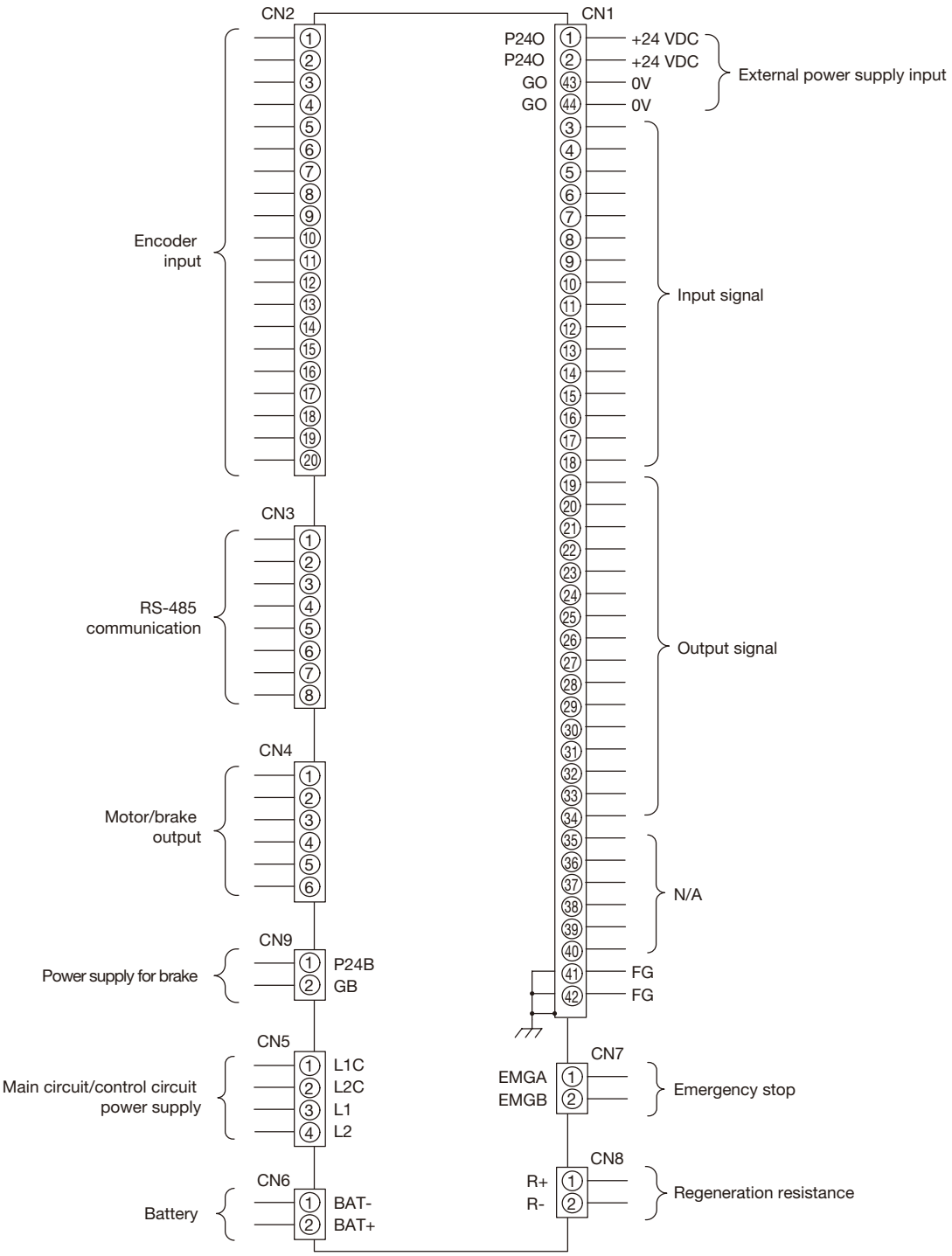
| Type of machine | Model | | THC | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Capacity | | 100V AC type | | | 200V AC type | | | |
| | | | 100W | 200W | 400W | 100W | 200W | 400W | 750W |
| Input power supply | Main circuit | | 100 VAC single phase, 50/60Hz (Permissible voltage: 90 to 120 V) | | | 200 VAC single phase, 50/60Hz (Permissible voltage: 170 to 250 V) | | | |
| | Control circuit | | 100 VAC single phase, 50/60Hz (Permissible voltage: 90 to 120 V) | | | 200 VAC single phase, 50/60Hz (Permissible voltage: 170 to 250 V) | | | |
| | Power supply [kVA] | | 0.5 | 0.9 | 1.3 | 0.5 | 0.9 | 1.6 | 2.4 |
| Control | Control axis | | 1 shaft | | | | | | |
| | Motor type | | AC servo motor | | | | | | |
| | Control method | | Feedback control (Semi-closed loop) | | | | | | |
| | Position detection method | | Absolute | | | | | | |
| | Acceleration/deceleration method | | Trapezoid acceleration, S-shape acceleration | | | | | | |
| Program | Function Mode | | 64-position | External unit input | 256-position | 512-position | Solenoid mode 1 | Solenoid mode 2 | |
| | Step data count | | 64 points | 64 points | 256 points | 512 points | 7 points | 3 points | |
| | Data input/output method | | PC setup tool D-STEP or digital operator TDO | | | | | | |
| Input/output | Dedicated input/output | Input point | 16 points (Start, Return to home position, Pause, Reset, Servo ON, Specify step number, etc.)* | | | | | | |
| | | Output point | 16 points (Return to home position completed, In position, Servo ready, Alarm, Battery alarm, etc.)* | | | | | | |
| | Input/output power supply | | 24 VDC ± 10% (This should be prepared by yourself.) | | | | | | |
| Communication | Serial communication | Connected device | Digital operator or PC software | | | | | | |
| | | Communication method | RS-485 | | | | | | |
| | | Port count | Mini DIN x 1 | | | | | | |
| Usage conditions | Operating/storage temperature | | 0 to 40°C (No freezing)/-20 to 85°C (No freezing) | | | | | | |
| | Operating humidity/Storage humidity | | 90% RH or below (No condensation) | | | | | | |
| | Ambient condition | | Indoor (Free from direct sunlight, corrosive gas, flammable gas, oil mist)No exposure to water, oil, or chemicals. | | | | | | |
| Applicable standards | CE Marking | | Low voltage directive: EN61800-5-1, EMC directive: EN61800-3 | | | | | | |
| General specifications | Protective function | | Overload, overvoltage, excessive position deviation, software limit over error, etc. | | | | | | |
| | Accessories | | Power supply connector x 1<br>I/O connector x 1 | | | | | | |
| | Options (sold separately) | | Digital operator TDO (cable length: 5m)<br>I/O cable 3m, 5m, 7m, 10m<br>Communication cable (mini DIN ⇔ USB) | | | | | | |
| | External dimensions [mm] | | 200 W or less: 58 mm (W) x 208.6 mm (H) x 120 mm (D)<br>400 W or more: 67.5 mm (W) x 208.6 mm (H) x 120 mm (D) | | | | | | |
| | Weight (not including battery) | | 1.3 kg or less | 1.3 kg or less | 1.3 kg or less | 1.3 kg or less | 1.3 kg or less | 1.3 kg or less | 1.5 kg or less |

* Varies depending on function mode.

## THC System Configuration Diagram



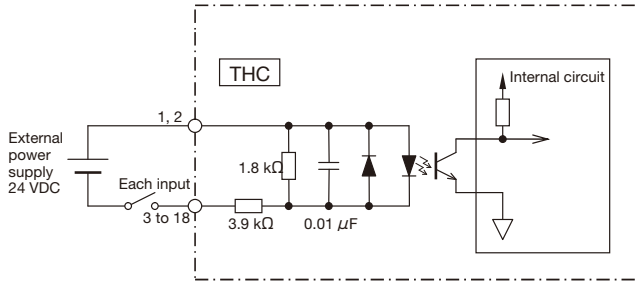
## THC Pin Assignment



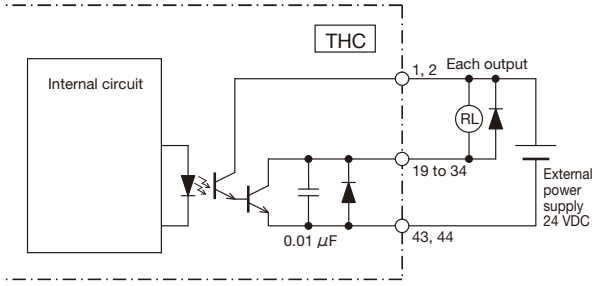

* For attached I/O connector pin numbers, see P.144.
* Customer provides 24 VDC power supply for input/output circuitry.

## Input/Output Circuitry for THC (CN1)

Input circuit




Output circuit



## Function Mode

Six modes are provided to support various requirements and purposes.

| Function Mode | | Overview | Step data count | Pressing operation |
|---|---|---|---|---|
| Multi-point positioning type | 0: 64-position | Multi-point positioning operation with 64 points<br>With area output, with P area output | 64 | ○ |
| | 1: External unit input | Multi-point positioning operation with 64 points<br>I/O-based external unit instruction mode<br>Without area output, with P area output | 64 | - |
| | 2: 256-position | Multi-point positioning operation with 256 points<br>Without area output, with P area output | 256 | ○ |
| | 3: 512-position | Multi-point positioning operation with 512 points<br>Without area output, without P area output | 512 | ○ |
| Electromagnetic valve type | 4: Solenoid mode 1 | Multi-point positioning operation with 7 points<br>Direct move command input<br>With area output, with P area output | 7 | ○ |
| | 5: Solenoid mode 2 | Multi-point positioning operation with 3 points<br>Direct move command input<br>With position sensor auto-switch output, area output and<br>P area output | 3 | - |

## Pin Assignment by Function Mode

| I/O | CN1 Pin Number | Signal name | | | | | |
|---|---|---|---|---|---|---|---|
| | | Function mode “0” | Function mode “1” | Function mode “2” | Function mode “3” | Function mode “4” | Function mode “5” |
| | | 64-position | External unit input | 256-position | 512-position | Solenoid mode 1 | Solenoid mode 2 |
| Input | 3 | PI 0 | PI 0 | PI 0 | PI 0 | ST 0 | ST 0 |
| | 4 | PI 1 | PI 1 | PI 1 | PI 1 | ST 1 | ST 1 |
| | 5 | PI 2 | PI 2 | PI 2 | PI 2 | ST 2 | ST 2 |
| | 6 | PI 3 | PI 3 | PI 3 | PI 3 | ST 3 | - |
| | 7 | PI 4 | PI 4 | PI 4 | PI 4 | ST 4 | - |
| | 8 | PI 5 | PI 5 | PI 5 | PI 5 | ST 5 | - |
| | 9 | - | MODE | PI 6 | PI 6 | ST 6 | - |
| | 10 | - | JOG/INCHING | PI 7 | PI 7 | - | - |
| | 11 | - | JOG P | - | PI 8 | - | - |
| | 12 | BKRL | JOG N | BKRL | BKRL | BKRL | BKRL |
| | 13 | STRT | STRT/PWRT | STRT | STRT | - | - |
| | 14 | MANU | MANU | MANU | MANU | MANU | MANU |
| | 15 | HOME | HOME | HOME | HOME | HOME | HOME |
| | 16 | PAUSE | PAUSE | PAUSE | PAUSE | PAUSE | PAUSE |
| | 17 | REST | REST | REST | REST | REST | REST |
| | 18 | SV-ON | SV-ON | SV-ON | SV-ON | SV-ON | SV-ON |
| Output | 19 | PO 0 | PO 0 | PO 0 | PO 0 | PE 0 | LS 0 |
| | 20 | PO 1 | PO 1 | PO 1 | PO 1 | PE 1 | LS 1 |
| | 21 | PO 2 | PO 2 | PO 2 | PO 2 | PE 2 | LS 2 |
| | 22 | PO 3 | PO 3 | PO 3 | PO 3 | PE 3 | - |
| | 23 | PO 4 | PO 4 | PO 4 | PO 4 | PE 4 | - |
| | 24 | PO 5 | PO 5 | PO 5 | PO 5 | PE 5 | - |
| | 25 | MOVE | MOVE | PO 6 | PO 6 | PE 6 | - |
| | 26 | AREA | MODES | PO 7 | PO 7 | AREA | AREA |
| | 27 | P AREA | P AREA | P AREA | PO 8 | P AREA | P AREA |
| | 28 | MANU S | MANU S | MANU S | MANU S | MANU S | MANU S |
| | 29 | HEND | HEND | HEND | HEND | HEND | HEND |
| | 30 | INPS | INPS | INPS | INPS | INPS | - |
| | 31 | LOAD/TRQS | WEND | LOAD/TRQS | LOAD/TRQS | LOAD/TRQS | - |
| | 32 | SVRDY | SVRDY | SVRDY | SVRDY | SVRDY | SVRDY |
| | 33 | BALM | BALM | BALM | BALM | BALM | BALM |
| | 34 | ALM | ALM | ALM | ALM | ALM | ALM |

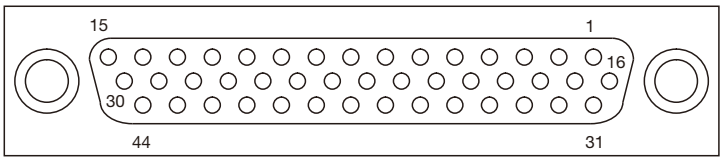
## Detailed Specifications of Input Signal Functions

| Input | | |
|---|---|---|
| Signal name | Description | Remarks |
| MANU | Operation mode | Switches AUTO/MANUAL from I/O. MANUAL when signal is on, AUTO when off. |
| STRT | Start | Start signal of program step. Program starts when signal is on. |
| PI0~PI8 | Instruction position number | Input for specifying position numbers. Specifies programs at each signal level. Selects a program step and starts a program with “STRT” signal. |
| PAUSE | Pause | Temporarily interrupts the operation. PAUSE input status when signal is off. (N.C. connection specification) |
| HOME | Return to home position | Starts the return to home position operation. Returning to home position is started when signal is on. It stops when it is off. |
| SV-ON | Servo on | Turns the servo ON and OFF. Servo ON when signal is on, and servo OFF when signal is off. |
| REST | Alarm reset | Resets alarm. Resets remaining travel distance during pause. Resets when it is on. |
| BKRL | Brake release | Forcibly releases brake. Releases brake when it is on. |
| MODE | External unit input instruction mode | Enters the instruction mode when signal is on. Instruction mode when signal is on. |
| PWRT | Current position write with external unit input instruction | During the instruction mode, the position is written when this signal is greater than 20ms with the position for writing specified. |
| JOG/INCHING | Manual operation switch with external unit input instruction | Switching of manual operation during the instruction mode. Selects inching operation when it is on, and jog operation when it is off. |
| JOG P | Moving direction + with external unit input instruction | Operating direction and operation start signal during the instruction mode. Moves in + direction to the soft limit when signal is on. Decelerates and stops when it is off while moving. |
| JOG N | Moving direction - with external unit input instruction | Operating direction and operation start signal during the instruction mode. Moves in - direction to the soft limit when signal is on. Decelerates and stops when it is off while moving. |
| ST0~6 | Cylinder type START | Program start signal for position numbers from “ST0” to “ST6”. Can select either Level or Edge for signal using parameter 13 “move” command. Note that when more than two positions are on at the same time, the lowest-number signal takes precedence. |

## Detailed Specifications of Output Signal Functions

| Output | | |
|---|---|---|
| Signal name | Description | Remarks |
| MANU S | Operation mode status | Operation mode status outputs (AUTO/MANUAL). MANUAL when signal is on, AUTO when off. |
| PO1~PO8 | End position number | Outputs the position number arrived after positioning is completed (binary outputs). |
| MOVE | Moving | Outputs signal during motor operation. |
| INPS | Positioning completed | Outputs when motor comes within the positioning completed width. |
| SVRDY | Operation preparations completed | Outputs signal when servo is on. |
| ALM | Alarm | Alarm output signal. |
| MODES | Operation mode status | Output signal for judging instruction mode or regular operation mode. Instruction mode when signal is on. Regular operation mode when it is off. |
| WEND | Writing completed | Signal is off after switching to the regular mode, and it is on for 30ms when writing of the PWRT signal is completed. |
| HEND | Return to home position completed | Outputs signal when returning to home position is completed. |
| AREA | Upper/lower area limit | On when the current position of actuator is within a range specified by the parameter. |
| P AREA | Position area | On when the current position of actuator is within a range specified by the program step. |
| BALM | Voltage reduction in battery | Off when the battery voltage is reduced. |
| LOAD | Load output judgment status | On when a directive torque exceeds the threshold over a certain period within a judgment range. |
| TRQS | Torque level status | On when the load threshold is reached while moving. Off while the load remains under the threshold. |
| PE0~PE6 | Cylinder type arrival completed output | Signal generated after operation for position number is completed. |
| LS0~LS2 | Cylinder type position detection output | Outputs when the current position comes within the positioning width for each of the three points. |

## I/O Connector Pin Numbers



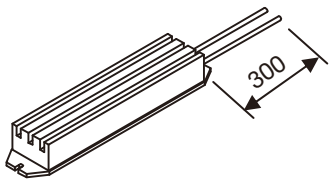

* This is the arrangement of the connectors mounted on the controller viewed from the panel front.

# Optional (Regeneration Resistance)

## Regeneration resistance

To make electrical actuator operate via the THC controller series, a regeneration resistance may be necessary depending on the operating conditions. The following table lists the required number of regeneration resistances just for reference. The customer should provide the required number of them.
It is recommended that you use regeneration resistances manufactured by Iwaki Musen Kenkyusho Co.,LTD.
THK supplies regeneration resistance connection cables. The customer can order them separately as necessary.

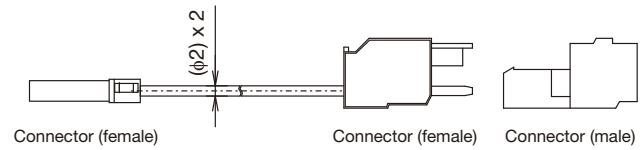
### ■ Regeneration resistance (Power-type cement resistor)




| | Name of item | Manufacturer |
|---|---|---|
| A | RH150 100Ω J | Iwaki Musen Kenkyusho Co.,LTD. |
| B | RH150 50Ω J | |

| THC capacity | Orientation | |
|---|---|---|
| | Horizontal mount | Vertical mount |
| 100W | A x 1 | A x 1 |
| 200W | A x 1 | A x 1 |
| 400W | B x 2 | B x 2 |
| 750W | B x 2 | B x 2 |

### ■ Regeneration resistance connection cable (CBL-REG00-01F)




Connector (female)
F32FSS-02V-KY
(J.S.T. Mfg. Co., Ltd.)

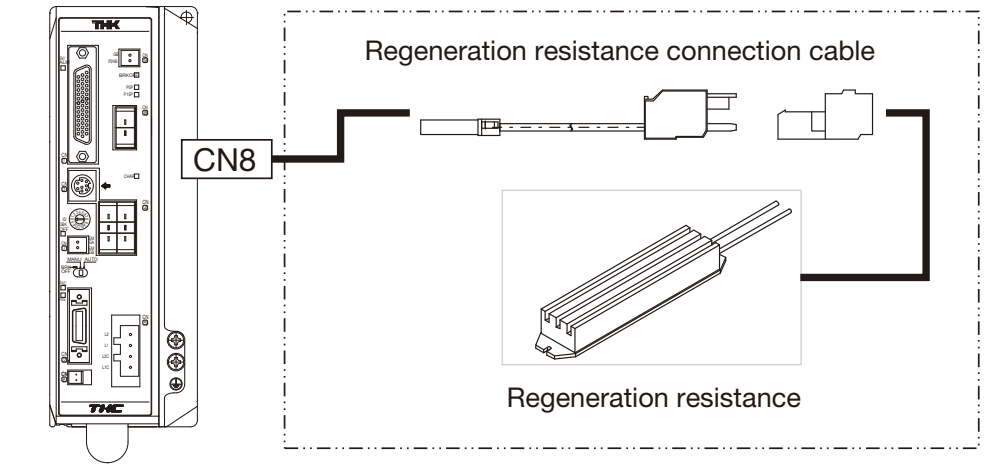
Connector (female)
8EDGK-5.0-02P
(DEGSON)

Connector (male)
8EDGKR-5.0-02P
(DEGSON)

* Cable insertion jig (DG010-01P-19-00AH) is provided.
(The customer does not have to provide special tools)

| | Model | Length | Manufacturer |
|---|---|---|---|
| 1 | CBL-REG00-01F | 1m | THK Co., Ltd. |

## Configuration Diagram

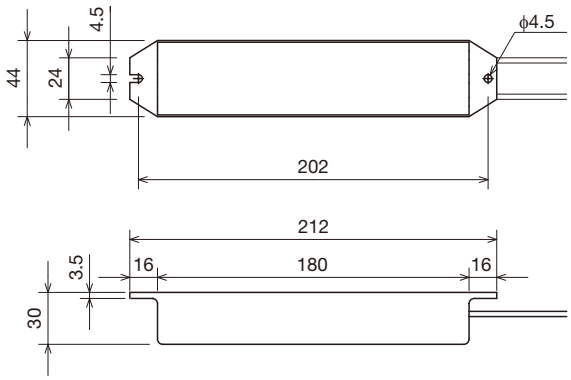



Controller series THC

* There is no polarity in wiring.

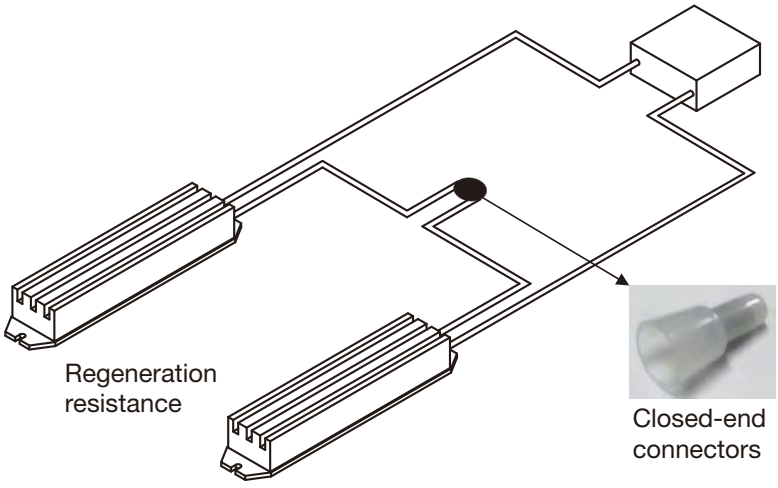
## Regeneration Resistance External Drawing

**RH150 (90W, 100Ω) / (90W, 50Ω) common**




## Wiring Example (Using Two Regeneration Resistances)

When you use two regeneration resistances, connect them in series.




Connector (male)
8EDGKR-5.0-02P
(DEGSON)

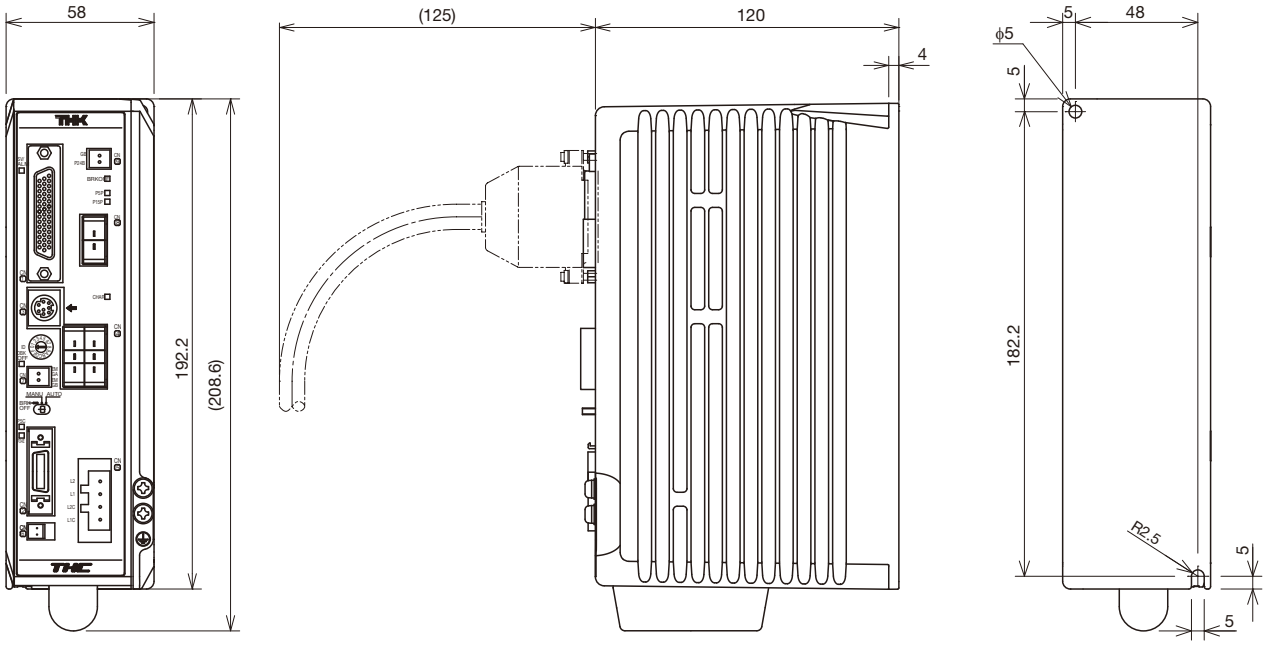


Closed-end connectors

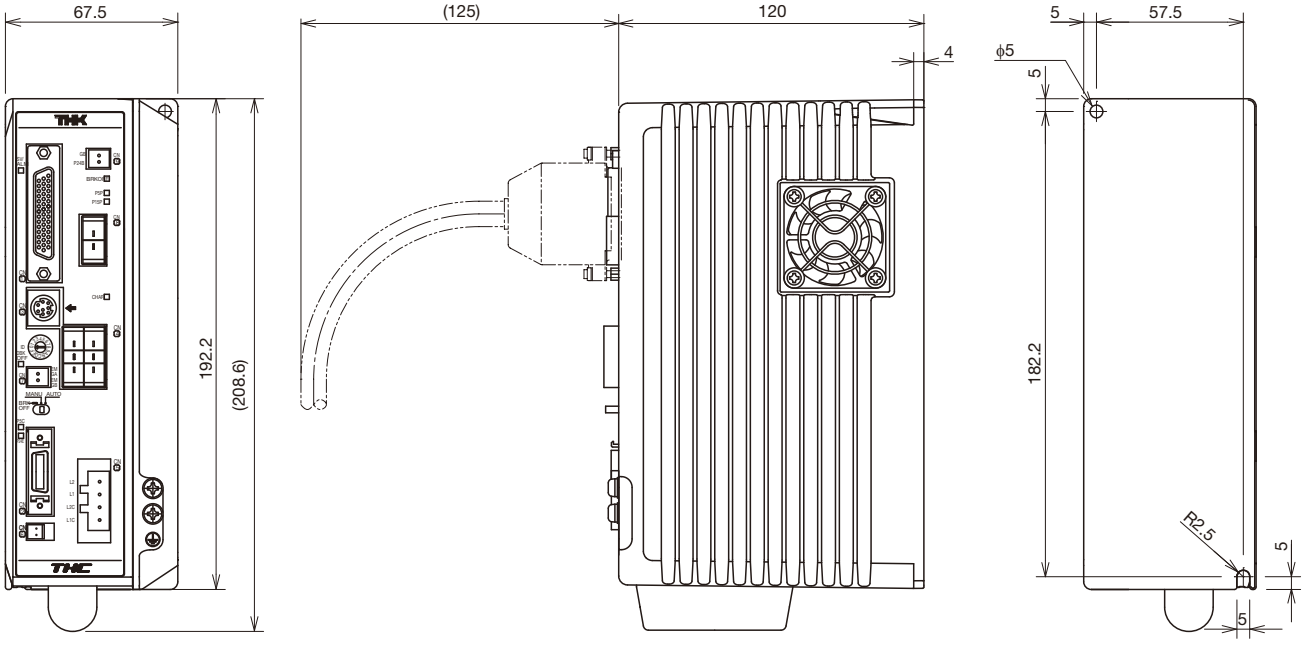
Wires should be connected using closed-end connectors.

## Dimensional Drawing of Controller

### THC (100W, 200W)



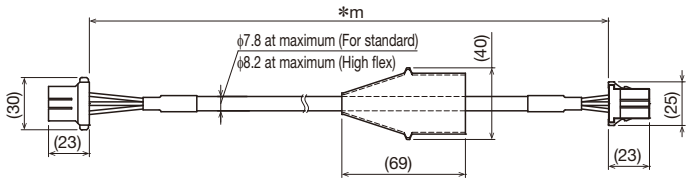

### THC (400W, 750W)



## Actuator Cable

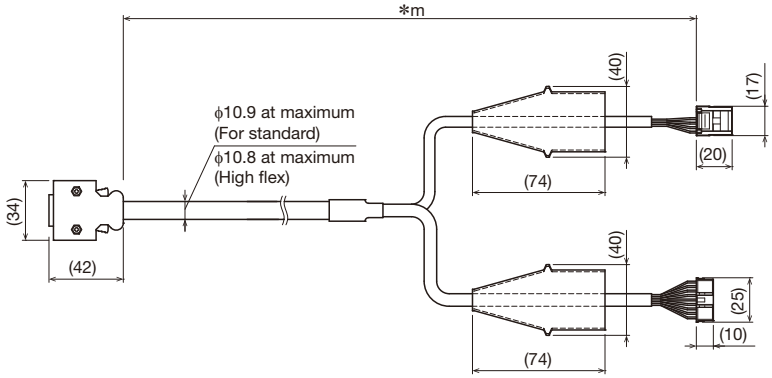
Motor brake cable for THC: CBL-THC-ACP-＊＊F (For standard)
CBL-THC-ACP-＊＊R (High flex)

＊＊ indicates cable length: 03 (3m), 05 (5m), or 10 (10m).



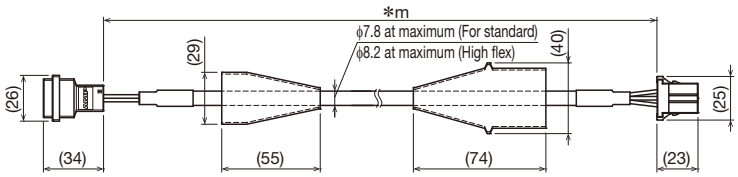

Encoder sensor cable for THC: CBL-THC-ACS-＊＊F (For standard)
CBL-THC-ACS-＊＊R (High flex)

＊＊ indicates cable length: 03 (3m), 05 (5m), or 10 (10m).



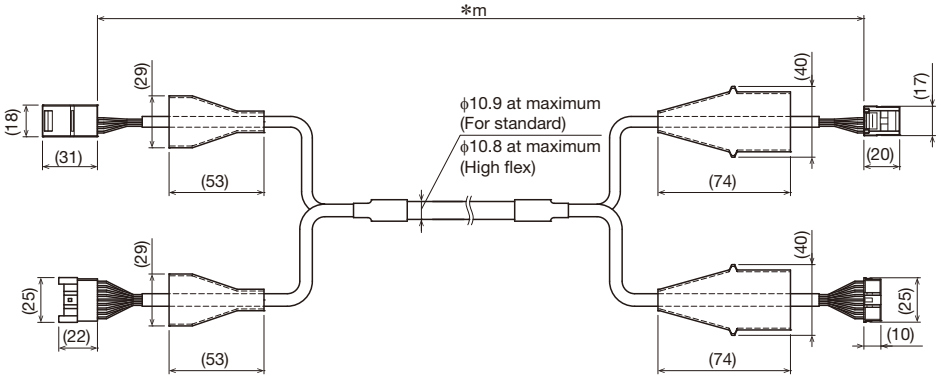

Motor brake extension cable for THC: CBL-ACP-EXT01-＊＊F (For standard)
CBL-ACP-EXT01-＊＊R (High flex)

＊＊ indicates cable length: 01 (1m), 03 (3m), or 05 (5m).




Encoder sensor extension cable for THC: CBL-ACS-EXT02-＊＊F (For standard)
CBL-ACS-EXT02-＊＊R (High flex)

＊＊ indicates cable length: 01 (1m), 03 (3m), or 05 (5m).




Note 1) For use involving moving elements, select high flex cable type. The recommended bending radius at the core of cable is R95 or greater. (For use involving other than moving elements, R50 or greater is recommended.)

Note 2) When using the THC servo driver controller, motor brake cable and encoder sensor cable should be no longer than 16 m. Up to two extension cables can be connected.

## TDO Digital operator Please arrange separately

### Features

Simple, quick operations and settings of TSC, TLC and THC are possible without using a PC.

### Simple Operation

Key sheet with a straightforward design, LC with backlight (20 digits x 4 lines).

### Model Configuration

| Model | | Type |
|---|---|---|
| TDO | - | N |
| (1) | | (2) |
| TDO | | N: Category 2*1 Compliant Type |

*1 ISO 13849-1

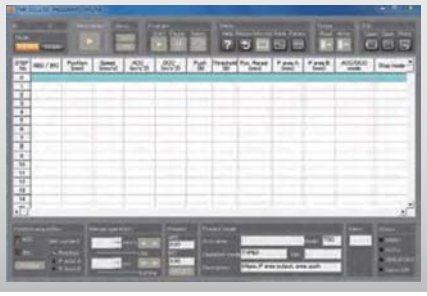
### Functions

- Checking and editing step data and parameters
- Operation of actuator
  (Return to home position, Jog operation, Inching operation, Program execution, Servo ON/OFF, Electromagnetic brake ON/OFF)
- Monitor (I/O, Current position, Position command, Current command, Version display)
- Alarm (History display, Clear history, Interrupt display on occurrence, Alarm reset)
- Settings (Backlight luminance, LCD contrast, Beep tone, Automatic turn off of backlight)
- Enable switch (3 positions) · Protective structure IP54 (excluding cable connector) · Display language (Japanese / English)

External dimensions: 110 mm (W) × 218.3 mm (H) × 66.6 mm (D) *Excluding protrusions
Body weight: 400 g *Excluding the cable Cable length: 5m
* TLC/THC is supported with Version 1.03 or later.
* TNU is supported with Version 1.10 or later.

## D-STEP PC setup tool

Three languages supported


User-friendly interface

### Features

Supports multifunctional TSC/TLC/THC with user-friendly interface.

### Simple Operation

Operations and settings of TSC, TLC and THC are possible using a PC. Equipped with functions useful for maintenance, such as backing up data or logging operating states.

### Functions

- Checking, editing, backing up, or offline-editing of step data
- Checking, editing, backing up, or offline-editing of parameters
- Operations of actuator (Return to home position, Jog operation, Inching operation, Program execution, Servo ON/OFF)
- Monitor (I/O, Current position, Position command, Current command) · Logging (Speed and current waveform display)
- Alarm (History display, Clear history, Alarm reset) · Display language (Japanese / English / Chinese (simplified))

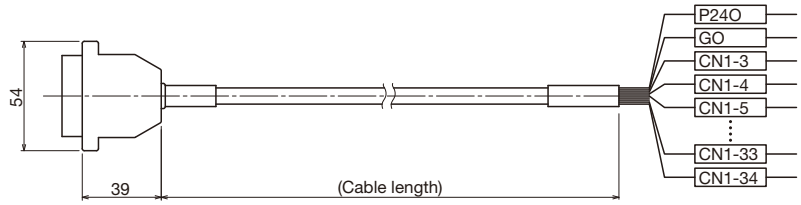
Supported OS: Windows XP / Windows Vista / Windows 7
D-STEP can be freely downloaded from the THK technical support website. (http://www.ea-thk.com/)
* TLC/THC/TNU is supported with Version 1.10 or later.

## Cable

I/O cable: CBL-CON-IO-＊＊ (＊＊ indicates cable length: 03 (3 m), 05 (5 m), or 10 (10 m))

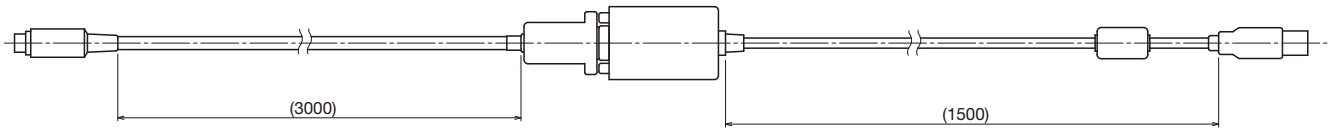
(Optional)

* Can be used with the dedicated driver controllers TSC/TLC/THC.
* Cables are shipped with the discrete wire side terminals unprocessed.




PC communications cable: CBL-COM-03

(Optional)



## Controller Series Network Unit

# TNU/TJU

**Multiple-axis connection fieldbus compatible**

## Less Wiring Required

Connecting to a PLC through a fieldbus network requires less wiring than an I/O cable connection.
In addition, the network unit and each driver controller can be connected with a single dedicated cable.

CC-Link EtherCAT EtherNet/IP DeviceNet

## Up to 16 Axes Can Be Connected

Up to 16 axes of mixed THK driver controllers (TSC, TLC, and THC) can be connected using one TNU and TJU (branch unit) in combination.

## Direct Numerical Control Supported (Version 1.2 or later)

Position, speed, and acceleration commands can be made directly from the PLC. As well, information such as the current position can be monitored.
* TSC is supported with Version 1.22, TLC/THC with Version 1.07 or later.

## Model Configuration

● Network unit

| Model | | Network type |
|---|---|---|
| TNU | - | CC |
| (1) | | (2) |
| TNU | | CC: CC-Link |
| | | DV: DeviceNet |
| | | EC: EtherCAT |
| | | EP: EtherNet/IP |

● Branch unit

| Model |
|---|
| TJU |
| (1) |
| TJU |

● TACnet cable (between TJU and driver controller)

| Model | | Type | | Cable length |
|---|---|---|---|---|
| CBL | - | NW | - | 01 |
| (1) | | (2) | | (3) |
| CBL | | NW | | 01:1 m |
| | | | | 03:3 m |

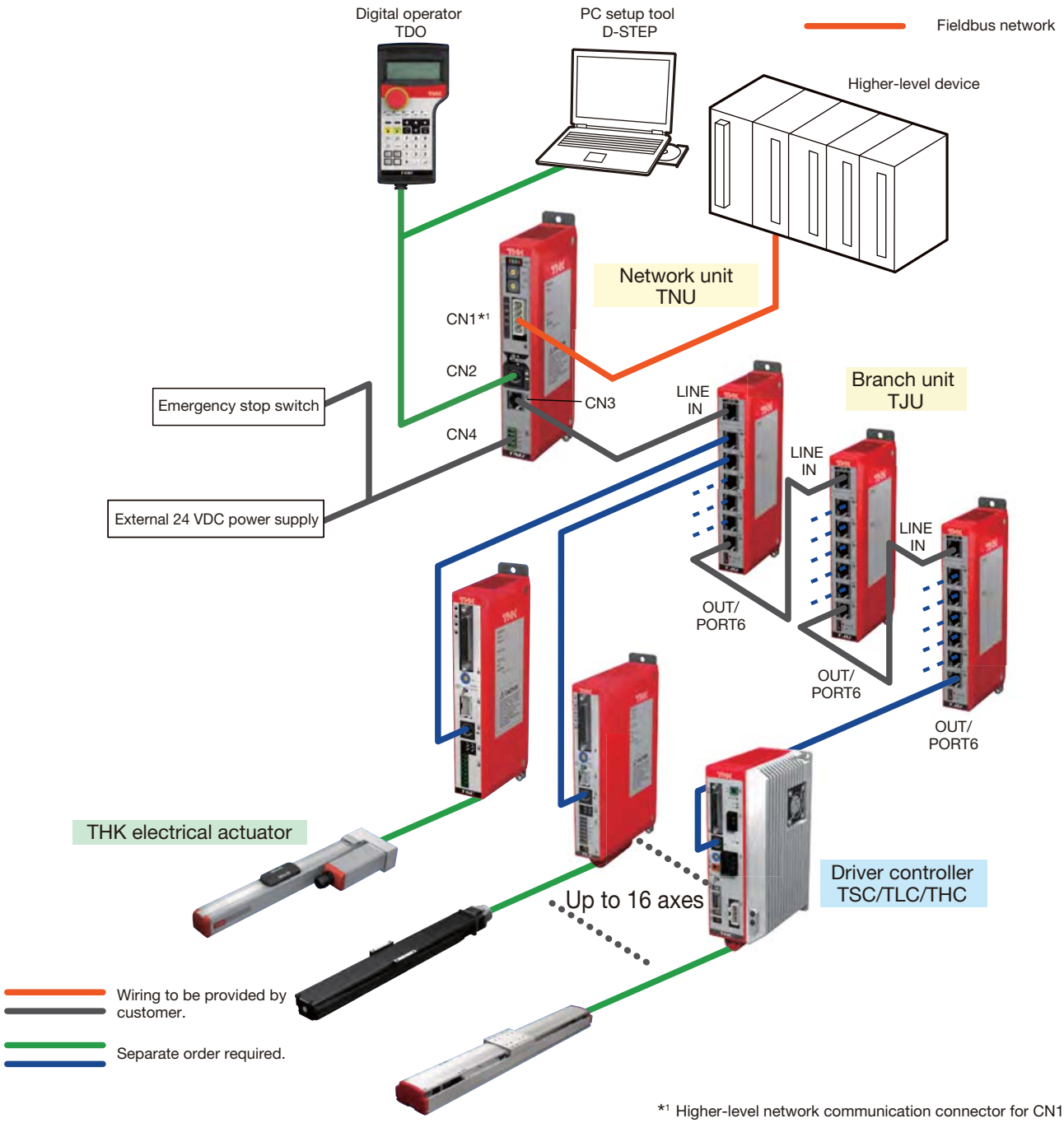
Use an industrial Ethernet cable between TNU and TJU, and between TJUs.

## Specifications

| Model | | TNU-CC | | TNU-DV | TNU-EC | TNU-EP |
|---|---|---|---|---|---|---|
| Fieldbus | Communication standard | CC-Link Ver1.10 | CC-Link Ver2.00 | DeviceNet | EtherCAT | EtherNet/IP |
| | Communication speed | 10Mbps/5Mbps/2.5Mbps/625kbps/156kbps | | 500kbps/250kbps/125kbps | 100M | 10M/100M |
| | Number of occupied stations | Remote device stations | Remote device stations | Number of occupied nodes: 1<br>Number of occupied channels*: Input 128 CH, Output 128 CH | - | - |
| | | 4 stations | 1 station, 2 stations, 3 stations, 4 stations | | | |
| Applicable controller | | TSC/TLC/THC | | | | |
| THK network | Transmission channel type | RS-485 | | | | |
| | Communication speed [bps] | 38.4k/57.6k/115.2k | | | | |
| | Communication method | Half duplex | | | | |
| | Maximum trunk length[m] | 20 | | | | |
| | Maximum number of connectable axes | 16 | | | | |
| Input power supply | | 24 VDC ±10%, up to 0.3A | | | | |
| Operating/storage temperature | | 0 to 55°C (No freezing)/-20 to 85°C (No freezing) | | | | |
| Ambient condition | | Indoor (Free from direct sunlight, corrosive gas, flammable gas, oil mist) | | | | |
| Protective function | | Higher-level network communication error, communication error, system error | | | | |
| Weight[g] | | 240 (TJU:220) | | | | |

* The number of occupied channel numbers is fixed. If using master devices with 128 or fewer input occupied channels or 128 or fewer output occupied channels, contact THK.

## System Configuration




*1 Higher-level network communication connector for CN1 is provided with TNU. (for TNU-CC and TNU-DV)

* For details, see the THK Technical Support website (https://tech.thk.com/) or the THK Electrical Actuator General Catalog (Chapter 7).

KSF technical materials

# 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 | ϕ10 | 257 | ϕ6h7 |
| | 900 | | | 1107 | |
| KSF5 | 50 | 10 | ϕ13 | 274 | ϕ8h7 |
| | 900 | | | 1124 | |
| | 50 | 20 | ϕ13 | 274 | ϕ8h7 |
| | 900 | | | 1124 | |
| KSF6 | 50 | 20 | ϕ15 | 328 | ϕ9h7 |
| | 1300 | | | 1578 | |
| | 50 | 30 | ϕ15 | 328 | ϕ9h7 |
| | 1300 | | | 1578 | |
| KSF8 | 100 | 20 | ϕ20 | 446 | ϕ12h7 |
| | 1500 | | | 1846 | |
| | 100 | 40 | ϕ20 | 446 | ϕ12h7 |
| | 1500 | | | 1846 | |
| KSF10 | 100 | 25 | ϕ25 | 485 | ϕ15h7 |
| | 1500 | | | 1885 | |
| | 100 | 50 | ϕ25 | 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 |

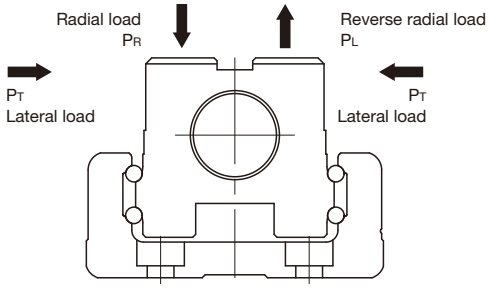
## Recommended Coupling

| 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]

● 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

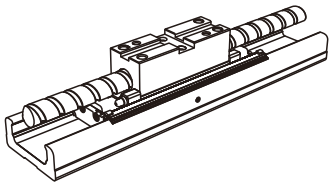
Since the inner block is incorporated with a ball screw nut, model KSF is capable of receiving an axial load. The basic load rating value is indicated in Table: KSF Rated Loads.

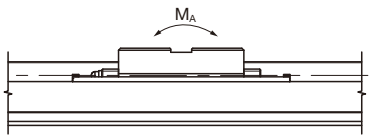
● Bearing Unit (Fixed Side)

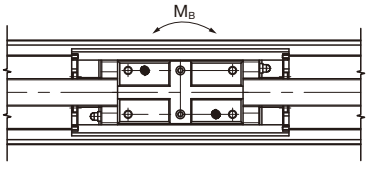
Since housing A contains an angular bearing, model KSF is capable of receiving an axial load. The basic load rating value is indicated in Table: KSF Rated Loads.

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 | |





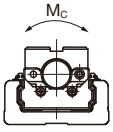




Table: Static Permissible Moment

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]
$\ell_S$ : Stroke length [mm]
$n_1$ : Number of reciprocations per minute [$min^{-1}$]

## Ball Screw Unit/Bearing Unit(Fixed Side)

### [Nominal Life]

$$L = \left(\frac{Ca}{f_W \cdot Fa}\right)^3 \times 10^6$$

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]
$\ell_S$ : Stroke length [mm]
$n_1$ : Number of reciprocations per minute [$min^{-1}$]
$\ell$ : 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 diffi cult 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 signifi cant, divide the basic load rating (C) by an empirically obtained load factor.

Table: Load Factor ($f_W$)

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

### [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: Equivalent Moment Factors (K)

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

$K_A$: 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.

# MEMO

# 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.

# THK ELECTRIC ACTUATORS Compact Series KSF

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# THK CO., LTD.

Head Office 3-11-6 Nishigotanda, Shinagawa-ku, Tokyo 141-8503 JAPAN
International Sales Department Phone:+81-3-5434-0351 Fax:+81-3-5434-0353
Global site : http://www.thk.com/

NORTH AMERICA
THK America,Inc.
●HEADQUARTERS
Phone:+1-847-310-1111 Fax:+1-847-310-1271
●CHICAGO OFFICE
Phone:+1-847-310-1111 Fax:+1-847-310-1182
●NORTH EAST OFFICE
Phone:+1-631-244-1565 Fax:+1-631-244-1565
●ATLANTA OFFICE
Phone:+1-770-840-7990 Fax:+1-770-840-7897
●LOS ANGELES OFFICE
Phone:+1-949-955-3145 Fax:+1-949-955-3149
●SAN FRANCISCO OFFICE
Phone:+1-925-455-8948 Fax:+1-925-455-8965
●DETROIT OFFICE
Phone:+1-248-858-9330 Fax:+1-248-858-9455
●TORONTO OFFICE
Phone:+1-905-820-7800 Fax:+1-905-820-7811

SOUTH AMERICA
THK BRAZIL INDUSTRIA E COMERCIO LTDA.
Phone:+55-11-3767-0100 Fax:+55-11-3767-0101

EUROPE
THK GmbH
●EUROPEAN HEADQUARTERS
Phone:+49-2102-7425-555 Fax:+49-2102-7425-556
●DÜSSELDORF OFFICE
Phone:+49-2102-7425-0 Fax:+49-2102-7425-299
●STUTTGART OFFICE
Phone:+49-7141-4988-500 Fax:+49-7141-4988-888
●U.K. OFFICE
Phone:+44-1384-47-1550 Fax:+44-1384-47-1551
●ITALY OFFICE
Phone:+39-02-9901-1801 Fax:+39-02-9901-1881
●SWEDEN OFFICE
Phone:+46-8-445-7630 Fax:+46-8-445-7639
●AUSTRIA OFFICE
Phone:+43-7229-51400 Fax:+43-7229-51400-79
●SPAIN OFFICE
Phone:+34-93-652-5740 Fax:+34-93-652-5746
●TURKEY OFFICE
Phone:+90-216-362-4050 Fax:+90-216-569-7150
●PRAGUE OFFICE
Phone:+420-2-41025-100 Fax:+420-2-41025-199
●MOSCOW OFFICE
Phone:+7-495-649-80-47 Fax:+7-495-649-80-44
THK Europe B.V.
●EINDHOVEN OFFICE
Phone:+31-040-290-9500 Fax:+31-040-290-9599
THK France S.A.S.
●PARIS OFFICE
Phone:+33-1-7425-3800 Fax:+33-1-7425-3799

CHINA
THK (CHINA) CO.,LTD.
●HEADQUARTERS
Phone:+86-411-8733-7111 Fax:+86-411-8733-7000
●SHANGHAI OFFICE
Phone:+86-21-6219-3000 Fax:+86-21-6219-9890
●BEIJING OFFICE
Phone:+86-10-8441-7277 Fax:+86-10-6590-3557
●CHENGDU OFFICE
Phone:+86-28-8526-8025 Fax:+86-28-8525-6357
●GUANGZHOU OFFICE
Phone:+86-20-8523-8418 Fax:+86-20-3801-0456
●SHENZHEN OFFICE
Phone:+86-755-2642-9587 Fax:+86-755-2642-9604
●XIAN OFFICE
Phone:+86-29-8834-1712 Fax:+86-29-8834-1710
THK (SHANGHAI) CO.,LTD.
Phone:+86-21-6275-5280 Fax:+86-21-6219-9890

TAI AN
THK TAIWAN CO.,LTD.
●TAIPEI HEAD OFFICE
Phone:+886-2-2888-3818 Fax:+886-2-2888-3819
●TAICHUNG OFFICE
Phone:+886-4-2359-1505 Fax:+886-4-2359-1506
●TAINAN OFFICE
Phone:+886-6-289-7668 Fax:+886-6-289-7669

OREA
SEOUL REPRESENTATIVE OFFICE
Phone:+82-2-3468-4351 Fax:+82-2-3468-4353

SINGAPORE
THK LM System Pte. Ltd.
Phone:+65-6884-5500 Fax:+65-6884-5550

THAI AND
THK RHYTHM(THAILAND) CO., LTD. LM System Division
●Bangkok Branch
Phone:+66-2751-3001 Fax:+66-2751-3003

INDIA
THK India Pvt. Ltd.
●HEADQUARTERS & Bangalore Branch
Phone:+91-80-2340-9934 Fax:+91-80-2340-9937
●Pune Branch
Phone:+91-20-4120-8742
●Chennai Branch
Phone:+91-44-4042-3132
●Ahmedabad Branch
Phone:+91-79-6134-4925
●Delhi Branch
Phone:+91-12-4676-8695


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