Caged Ball LM Guide Actuator

SKR

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THK CO., LTD.
TOKYO. JAPAN

CATALOG No.309-11E

Integrated LM Guide and Ball Screw
High-rigidity / High-precision Actuator

Caged Ball LM Guide Actuator Model SKR

Model No. SKR20 to 65

Ball Cage Effect

The early forms of ball bearings were full-ball types without ball cages. Friction between balls caused loud noise, made high-speed rotation impossible and shortened the service life. Twenty years later, a Caged Ball design was developed for ball bearings. The new design enabled high-speed rotation at a low noise level, and extended the service life despite the reduced number of balls used. It marked a major development in the history of ball bearings.
Similarly, the quality of needle bearings was significantly improved by the caged needle structure.
With cage-less, full-ball types of ball bearings, balls make metallic contact with one another and produce loud noise. In addition, they rotate in opposite directions, causing the sliding contact between two adjacent balls to occur at a speed twice the ball-spinning rate. It results in severe wear and shortens the service life.
In addition, without a cage, balls make point contact to increase bearing stress, thus facilitating breakage of the oil film. In contrast, each caged ball contacts the cage over a wide area. Therefore, the oil film does not break, the noise level is low and balls can rotate at a high speed, resulting in a long service life.

Contents

SKR

Caged Ball LM Guide Actuator Model SKR

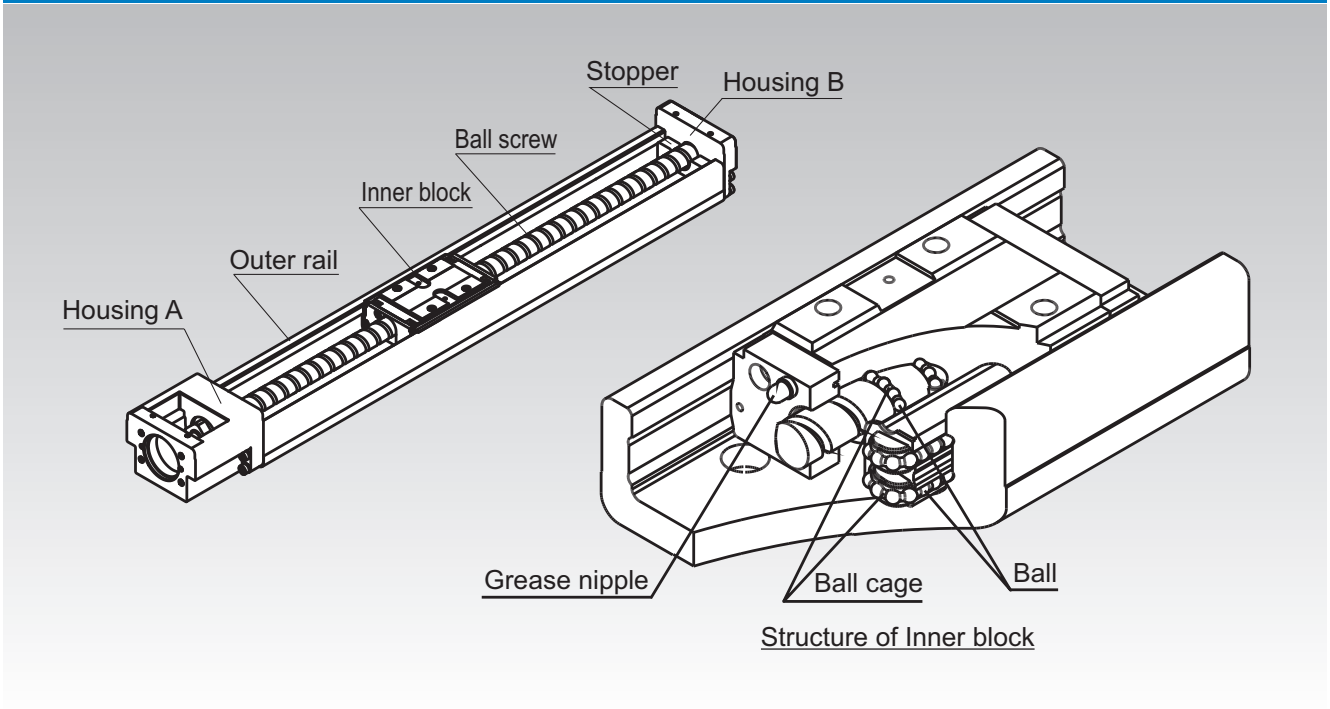


Fig.1 Structure of Caged Ball LM Guide Model SKR

Structure and Features

Caged Ball LM Guide Actuator model SKR is a compact actuator that has a inner block consisting of LM blocks and a ball screw nut integrated inside a U-shaped outer rail.
In addition, this model achieves high speed operation, lower noise and longer-term maintenance-free operation by using ball cages in the LM Guide units and the Ball Screw unit. (A ball cage is used only for the LM guide section of models SKR20 and SKR26 and the ball screws are fitted with QZ lubricators.)

[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 SKR can be used in any mounting orientation.

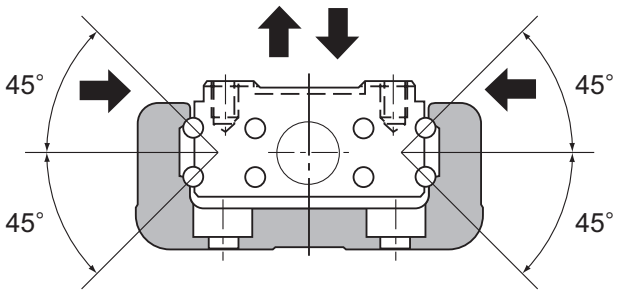


Fig.2 Load Capacity and Contact Angle of Model SKR

[High Rigidity]

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

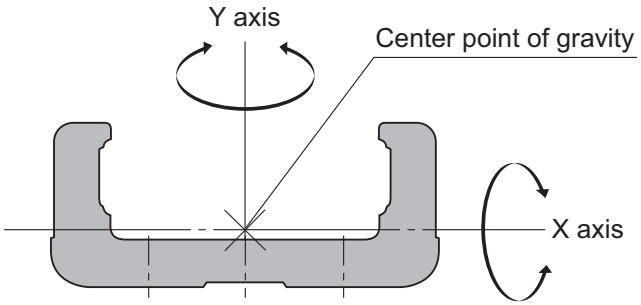


Fig.3 Cross Section of the Outer Rail

Table1 Cross-sectional Characteristics of the Outer rail Rail

Model No.	I_X[mm⁴]	I_Y[mm⁴]	Mass[kg/m]
SKR20	6.0×10^3	6.14×10^4	2.6
SKR26	1.66×10^4	1.48×10^5	3.9
SKR33	5.35×10^4	3.52×10^5	6.1
SKR46	2.05×10^5	1.45×10^6	12.6
SKR55	2.07×10^5	2.09×10^6	13.2
SKR65	4.51×10^5	5.73×10^6	22.1

I_X=geometrical moment of inertia around X axis
I_Y=geometrical moment of inertia around Y axis

[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.

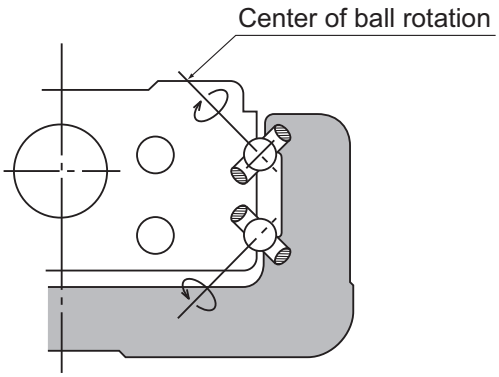


Fig.4 Contact Structure of SKR

[Space Saving]

Due to an integral structure where LM Guide units are placed on both side faces of the inner block and a Ball Screw unit is placed in the center of the inner block, a highly rigid and highly accurate actuator with a minimal space is achieved.

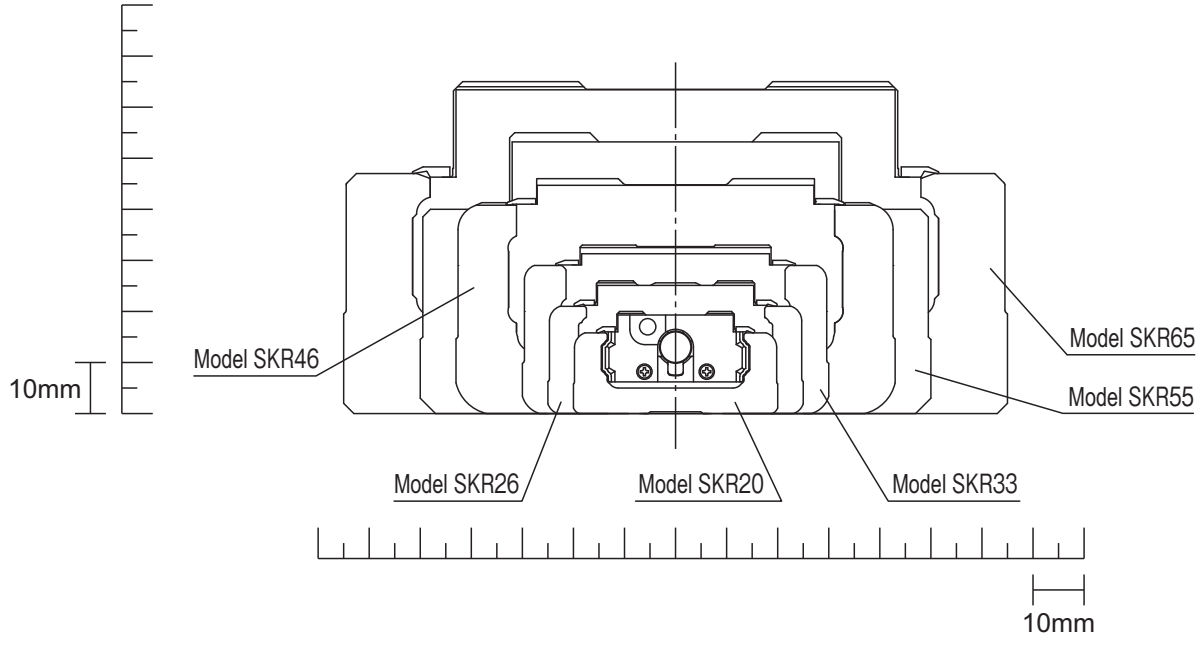


Fig.5 Cross Sectional Drawing

Caged Ball Technology

[High Speed]

Model SKR supports a latest high-rotation servomotor (6,000 min^{-1}) by using a ball cage and is capable of operating at higher speed than the full-ball type model KR.
Models SKR33/55/65 are available in more leads variations to achieve higher speed operation and high leads are available which was not feasible with the model KR.

Model No.	Lead	
	SKR	KR
33	6, 10, 20	6, 10
55	20, 30, 40	20
65	20, 25, 30, 50	25

[High Lubricity]

Model SKR uses ball cages to eliminate friction between balls and significantly improve torque characteristics. As a result, the torque fluctuation is reduced and superb lubricity is achieved.

Item	Description
Shaft diameter/lead	ϕ13/10mm
Shaft rotation speed	60min^{-1}

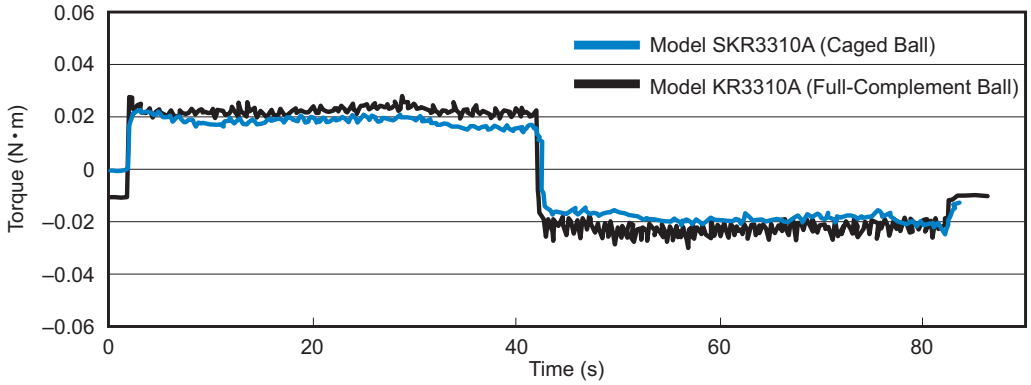


Fig.6 Comparison of Torque Fluctuation between Model SKR and Model KR

[Low Noise, Favorable Running Sound]

In model SKR, the use of a ball cage in the LM guide section and ball screw section (SKR33 and 46 only) has eliminated collision noise between the balls. As a result, low noise and favorable running sound are achieved.

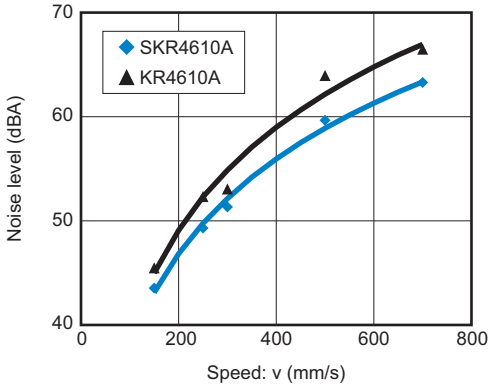


Fig.7 Comparison of Noise between Model SKR4610A and Model KR4610A

[Long-term Maintenance-free Operation]

With model SKR, the ball cage effect helps increase grease retention and achieve long-term maintenance-free operation.

[Long service life—3 times]

With model SKR, both the LM Guide unit and the Ball Screw unit have larger basic dynamic load ratings than the full-ball type model KR, and therefore a longer service lives are achieved.
The rated service life is calculated from the following equation.

LM guide unit

$L=(C/P)^3\times 50$

L : Nominal life (km)
C : Basic dynamic load rating (N)
P : Applied load (N)

Ball screw unit

$L=(Ca/Fa)^3\times 10^6$

L : Nominal life (rev)
Ca : Basic dynamic load rating (N)
Fa : Applied axial load (N)

As indicated in the equation above, the greater the basic dynamic load rating, the longer the service life of both the LM Guide unit and the Ball Screw unit.

Table2 Comparison of Basic Dynamic Load Rating between Model SKR and Model KR Unit: N

Basic dynamic load rating		SKR 20	KR 20	SKR 26	KR 26	SKR 33	KR 33	SKR 46	KR 46	SKR 55	KR 55	SKR 65	KR 65
LM guide unit C	Long type block	6010	3590	13000	7240	17000	11600	39500	27400	55400	38100	74400	50900
	Short type block	—	—	—	—	11300	4900	28400	14000	—	—	—	—
Ball screw unit Ca		660	660	2350	2350	2700	1760	4240	3040	10900	3620	12000	5680

Note) On the SKR20/26, only the LM guide section features a ball cage.

[Seal]

Model SKR is equipped with end seals and side seals for dust prevention as standard.

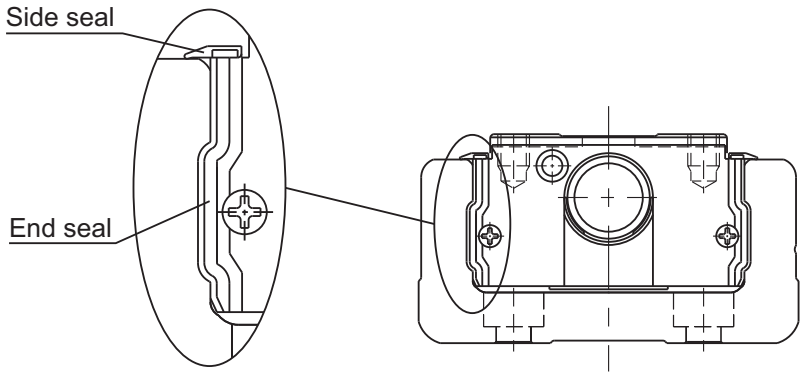


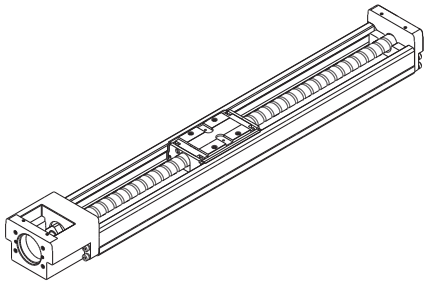
Table3 shows the rolling resistance and seal resistance per inner block (guide section).

Table3 Maximum Resistance Value Unit: N

Model No.	Rolling resistance value	Seal resistance value	Total
SKR20	4.0	0.8	4.8
SKR26	4.5	1.2	5.7
SKR33	3.0	1.7	4.7
SKR46	6.0	2.1	8.1
SKR55	14.0	3.8	17.8
SKR65	20.0	4.1	24.1

Model SKR-A (with a Single Long Type Block)

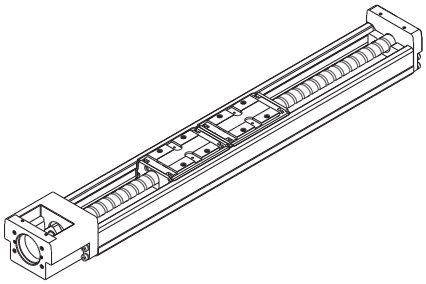
Basic model of SKR.



Model SKR-A

Model SKR-B (with Two Long Type Blocks)

Equipped with two inner blocks of model SKR-A, this model achieves higher rigidity and higher load carrying capacity.

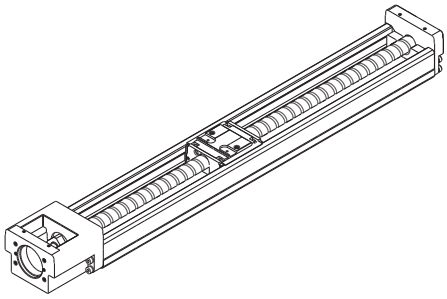


Model SKR-B

Model SKR-C (with a Single Short Type Block)

This model has a shorter inner block and a longer stroke than model SKR-A.

∗With model SKR3320, a short-block type is not available.

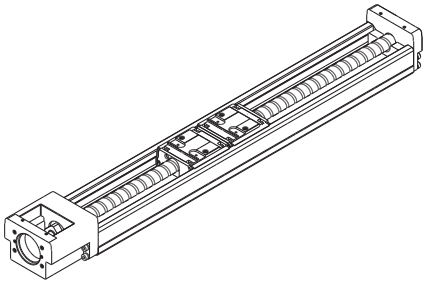


Model SKR-C

Model SKR-D (with Two Short Type Blocks)

Equipped with two inner blocks of model SKR-C, this design allows a span between blocks that suits the equipment, thus to achieve high rigidity.

∗With model SKR3320, a short-block type is not available.

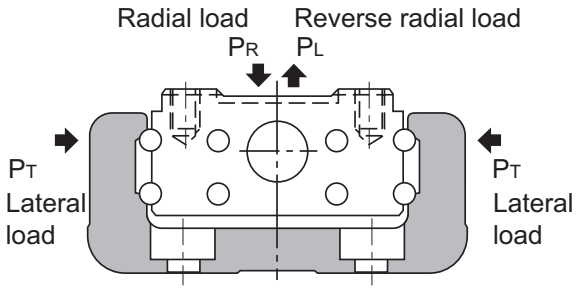


Model SKR-D

Load Ratings in All Directions and Static Permissible Moment

[Load Rating]

Caged Ball LM Guide Actuator Model SKR consists of an LM Guide, a Ball Screw and a support bearing.



- **LM Guide Unit**

Model SKR 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 Table4.

- **Ball Screw Unit**

Since the inner block is incorporated with a ball screw nut, model SKR is capable of receiving an axial load. The basic load rating value is indicated in Table4.

- **Bearing Unit (Fixed Side)**

Since housing A contains an angular bearing, model SKR is capable of receiving an axial load. The basic load rating value is indicated in Table4.

[Equivalent Load (LM Guide Unit)]

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

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

P_E	:	Equivalent load : Radial direction : Reverse radial direction : Lateral directions	(N)
P_R	:	Radial load	(N)
P_L	:	Reverse radial load	(N)
P_T	:	Lateral load	(N)

Table4 Load Rating of Model SKR

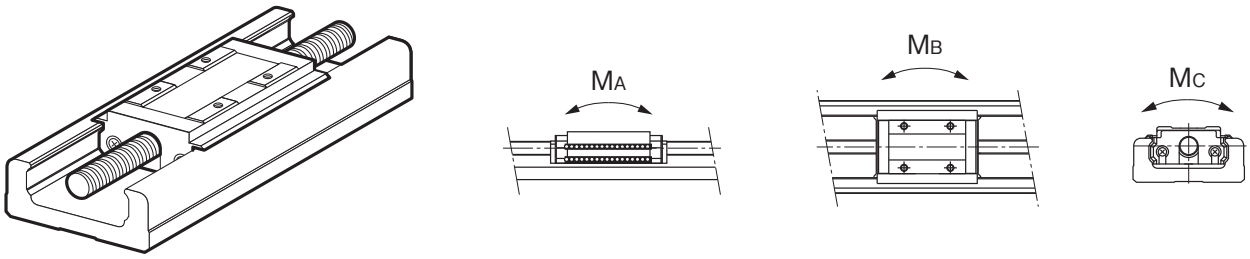
Model No.			SKR20		SKR26		SKR33*			
			SKR2001	SKR2006	SKR2602	SKR2606	SKR3306	SKR3310	SKR3320	
LM guide unit	Basic dynamic load rating C (N)	Long type block	6010		13000		17000			
		Short type block	—		—		11300		—	
	Basic static load rating C_0 (N)	Long type block	8030		16500		20400			
		Short type block	—		—		11500		—	
	Radial clearance (mm)	Normal grade, high accuracy grade	−0.004 to 0		−0.006 to 0		−0.004 to 0			
		Precision grade	−0.006 to −0.004		−0.007 to −0.006		−0.012 to −0.004			
Ball screw unit	Basic dynamic load rating Ca (N)	Normal grade, high accuracy grade	660	860	2350	1950	4400	2700	2620	
		Precision grade	660	1060	2350	2390				
	Basic static load rating C_0a (N)	Normal grade, high accuracy grade	1170	1450	4020	3510	6290	3780	3770	
		Precision grade	1170	1600	4020	3900				
	Screw shaft diameter (mm)		6		8		13			
	Ball Screw lead (mm)		1	6	2	6	6	10	20	
	Thread minor diameter (mm)		5.3	5.0	6.6	6.7	10.8			
	Ball center-to-center diameter (mm)		6.15	6.3	8.3	8.4	13.5			
Bearing unit (Fixed side)	Axial direction	Basic dynamic load rating Ca (N)	1150		2000		6250			
		Static permissible load P_0a (N)	735		1230		2700			

*For use in a special environment or where an axial load (25% or more of the basic dynamic load rating Ca) is applied, a special type is also available. Contact THK for details.
Note1) The load ratings in the LM Guide unit each indicate the load rating per inner block.
Note2) With model SKR3320, a short-block type is not available.

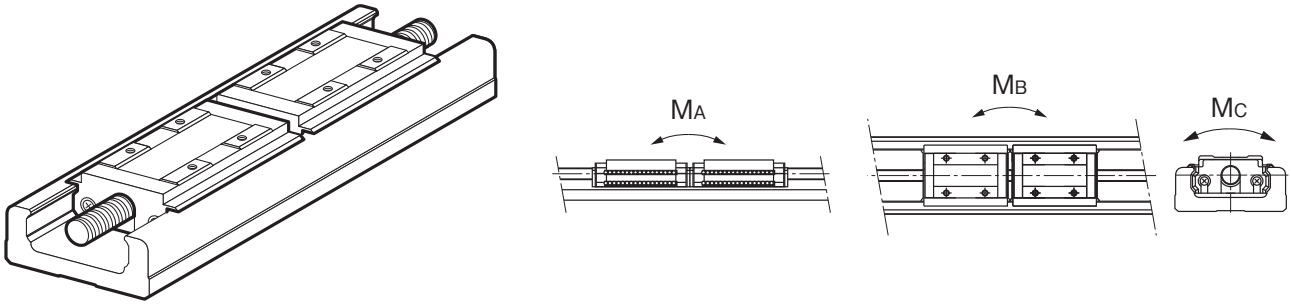
	SKR46*		SKR55			SKR65			
	SKR4610	SKR4620	SKR5520	SKR5530	SKR5540	SKR6520	SKR6525	SKR6530	SKR6550
	39500		55400			74400			
	28400		—			—			
	45900		62500			81600			
	28700		—			—			
	–0.006 to 0		–0.007 to 0			–0.008 to 0			
	–0.016 to –0.006		–0.019 to –0.007			–0.022 to –0.008			
	4350	4240	10900	7000	6800	12100	12000	8200	7600
	6990	7040	17600	11500	9900	21600	22000	14500	12600
	15		20			25			
	10	20	20	30	40	20	25	30	50
	12.5		17.1			22.1			
	15.75		20.75			25.75			
	6700		7600			13700			
	3330		3990			5830			

[Permissible Moment (LM Guide Unit)]

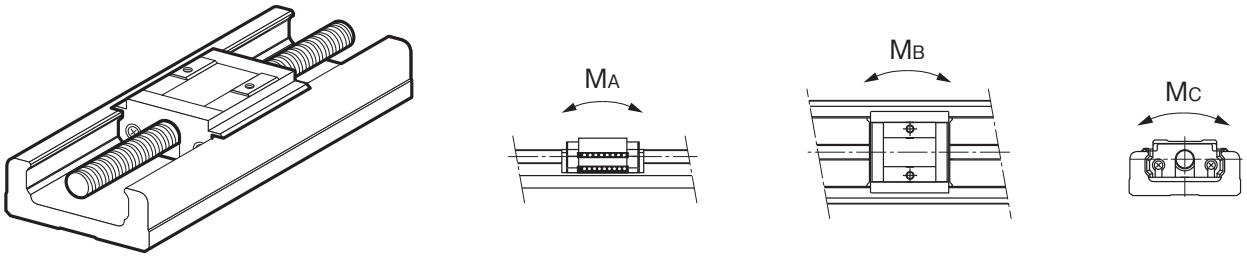
The Inner block is capable of receiving moment loads in all three (3) directions.
Table5 on page12 shows the permissible static moment in the M_A, M_B and M_C directions.



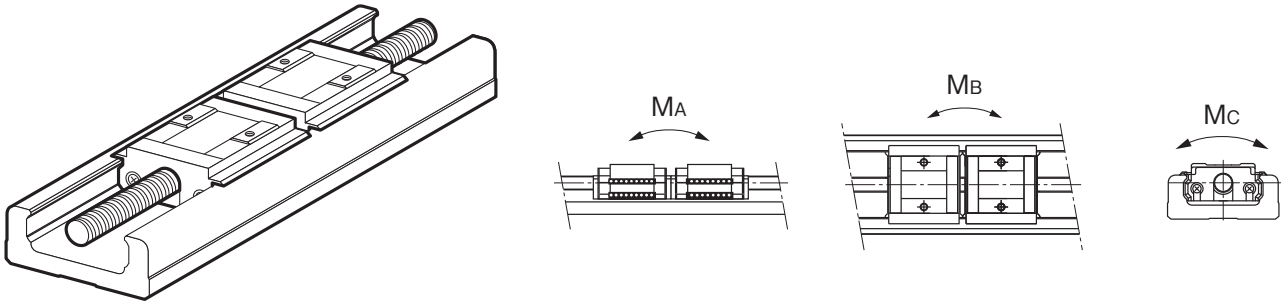
With a single long type block (Model SKR-A)



With double long type blocks (Model SKR-B)



With a single short type block (Model SKR-C)



With double short type blocks (Model SKR-D)

Table5 Static Permissible Moments of Model SKR

Unit: N·m

Model No.	Static permissible moment		
	M_A	M_B	M_C
SKR20-A	38	38	98
SKR20-B	207	207	197
SKR26-A	117	117	265
SKR26-B	589	589	530
SKR33-A	173	173	424
SKR33-B	990	990	848
SKR33-C	58	58	240
SKR33-D	390	390	480
SKR46-A	579	579	1390
SKR46-B	3240	3240	2780
SKR46-C	236	236	870
SKR46-D	1460	1460	1740
SKR55-A	923	923	2276
SKR55-B	5125	5125	4552
SKR65-A	1366	1366	3868
SKR65-B	7702	7702	7736

Note1) Symbols A, B, C or D in the end of each model number indicates the inner block size and the number of inner blocks used.
A: With a single long type block
B: With double long type blocks
C: With a single short type block
D: With double short type blocks
Note2) The values for models SKR-B/D indicate the values when double inner blocks are used in close contact with each other.
Note3) Static permissible moment is the maximum moment that can be permitted while the product is stationary.

Maximum Speeds with Different Strokes

Table6 Maximum speed

Model No.	Ball Screw lead (mm)	Stroke* (mm)		Outer rail length (mm)	Maximum speed (mm/s)	
		Long type block	Short type block		Long type block	Short type block
SKR20	1	30	—	100	100	—
		80	—	150	100	—
		130	—	200	100	—
	6	30	—	100	600	—
		80	—	150	600	—
		130	—	200	600	—
SKR26	2	60	—	150	200	—
		110	—	200	200	—
		160	—	250	200	—
		210	—	300	200	—
	6	60	—	150	600	—
		110	—	200	600	—
		160	—	250	600	—
		210	—	300	600	—
SKR33	6	45	70	150	600	
		95	120	200	600	
		195	220	300	600	
		295	320	400	600	
		395	420	500	600	
		495	520	600	550	500
		595	620	700	390	360
	10	45	70	150	1000	
		95	120	200	1000	
		195	220	300	1000	
		295	320	400	1000	
		395	420	500	1000	
		495	520	600	920	830
		595	620	700	650	600
	20	45	—	150	2000	—
		95	—	200	2000	—
		195	—	300	2000	—
		295	—	400	2000	—
		395	—	500	2000	—
		495	—	600	1780	—
		595	—	700	1270	—
SKR46	10	190	220	340	1000	
		290	320	440	1000	
		390	420	540	1000	
		490	520	640	1000	910
		590	620	740	730	660
		690	720	840	550	500
		790	820	940	430	400
	20	190	220	340	2000	
		290	320	440	2000	
		390	420	540	2000	
		490	520	640	1980	1770
		590	620	740	1430	1300
		690	720	840	1080	990
		790	820	940	840	780

*Indicates a stroke when one inner block is incorporated.
Note1) The maximum speed is the value restricted by the motor rotation speed (at 6,000 min^{-1}), or by the permissible rotation speed of the Ball Screw.
Note2) When considering the use of this model at speed higher than the maximum speed indicated above, contact THK.

Model No.	Ball Screw lead (mm)	Stroke* (mm)		Outer rail length (mm)	Maximum speed (mm/s)	
		Long type block	Short type block		Long type block	Short type block
SKR55	20	800	—	980	1100	—
		900		1080	880	
		1000		1180	730	
		1100		1280	610	
		1200		1380	520	
	30	800		980	1650	
		900		1080	1330	
		1000		1180	1100	
		1100		1280	920	
		1200		1380	780	
	40	800		980	2160	
		900		1080	1750	
		1000		1180	1440	
		1100		1280	1210	
		1200		1380	1030	
SKR65	20	790		980	1470	
		990		1180	970	
		1190		1380	690	
		1490		1680	450	
	25	790		980	1810	
		990		1180	1200	
		1190		1380	850	
		1490		1680	550	
	30	790		980	2210	
		990		1180	1460	
		1190		1380	1030	
		1490		1680	670	
	50	790		980	3000	
		990		1180	2350	
		1190		1380	1680	
		1490		1680	1100	

*Indicates a stroke when one inner block is incorporated.
Note1) The maximum speed is restricted by the permissible rotation speed of the ball screw, the permissible speed of the guide or 6,000 min^{-1} of motor speed.
Note2) When considering the use of this model at speed higher than the maximum speed indicated above, contact THK.

Lubrication

Table7 shows standard greases used in model SKR and grease nipple types.

Table7 Types of standard grease and grease nipples used

Model No.	Standard grease	Grease nipple used
SKR20	THK AFA Grease	PB107
SKR26	THK AFA Grease	PB107
SKR33	THK AFB-LF Grease	PB107
SKR46	THK AFB-LF Grease	A-M6F
SKR55	THK AFB-LF Grease	A-M6F
SKR65	THK AFB-LF Grease	A-M6F

Static Safety Factor

Caged Ball LM Guide Actuator Model SKR consists of an LM Guide, a Ball Screw and a support bearing. The static safety factor and the service life of each component can be obtained from the basic load rating indicated in “Rated load of model SKR” (see Table4 on page10).

[Calculating the Static Safety Factor]

- **LM Guide Unit**

To calculate a load applied to the LM Guide of model SKR, the average load required for calculating the service life and the maximum load needed for calculating the static safety factor must be obtained first. In particular, if the system starts and stops frequently, or if a large moment caused by an overhung load is applied to the system, it may receive an unexpectedly large load.
When selecting a model number, make sure that the desired model is capable of receiving the required maximum load (whether stationary or in motion).

$$f_s = \frac{C_0}{P_{max}}$$

f_S : Static safety factor
C_0 : Basic static load rating (N)
P_{max} : Maximum applied load (N)

*The basic static load rating is a static load with a constant direction and magnitude whereby the sum of the permanent deformation of the rolling element and that of the raceway on the contact area under the maximum stress is 0.0001 times the rolling element diameter.

● **Ball Screw Unit/Bearing Unit(Fixed Side)**

If an unexpected external force is applied in the axial direction as a result of an inertia caused by an impact or start and stop while model SKR is stationary or operating, it is necessary to take into account the static safety factor.

$$f_s = \frac{C_{0a}}{F_{max}}$$

f_S : Static safety factor
C_{0a} : Basic static load rating (N)
F_{max} : Maximum applied load (N)

[Standard Values for the Static Safety Factor (f_S)]

Machine type	Load conditions	Minimum Static Safety Factor (f_S)
General industrial machinery	Without vibration or impact	1.0 to 3.5
	With vibration or impact	2.0 to 5.0

*The standard value of the static safety factor may vary depending on the load conditions as well as environment, lubrication status, mounting accuracy, and/or rigidity.

Service Life

[LM Guide Unit]

● **Nominal Life**

The nominal life (L) means the total travel distance that 90% of a group of units of the same LM Guide model can achieve without flaking (scale-like pieces on the metal surface) after individually running under the same conditions.
The nominal life of the LM Guide is obtained using the following equation.

$$L = \left(\frac{f_C \cdot C}{f_W \cdot P_C}\right)^3 \times 50$$

L : Nominal life (km)
C : Basic dynamic load rating (N)
P_C : Calculated applied load (N)
f_W : Load factor (see Table8 on page17)
f_C : Contact factor (see Table9 on page18)

● If a moment is applied, calculate the equivalent load by multiplying the applied moment by the equivalent factor indicated in Table10 on page 18.

$$P_m = K \cdot M$$

P_m : Equivalent load (per inner block) (N)
K : Equivalent moment factor
M : Applied moment (N·mm)
(If planning to use the product with a wide inner block span, contact THK.)
If moment Mc is applied to model SKR-B/D

$$P_m = \frac{K_C \cdot M_C}{2}$$

● If a radial load (P) and a moment are simultaneously applied to model SKR

$$P_E = P_m + P$$

P_E : Overall equivalent radial load (N)
Perform a nominal life calculation using the above data.

● Service Life Time

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

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

L_h : Service life time (h)
ℓ_s : Stroke length (mm)
n_1 : Number of reciprocations per minute (min^{-1})

[Ball Screw Unit/Bearing Unit(Fixed Side)]

● Nominal Life

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.
The nominal life of the Ball Screw unit/bearing unit (fixed side) is obtained using the following equation.

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

L : Nominal life (rev)
C_a : Basic dynamic load rating (N)
F_a : Axial load (N)
f_w : Load factor (see Table8)

Table8 Load Factor (f_w)

Vibrations/impact	Speed(V)	f_w
Faint	Very low V≦0.25m/s	1 to 1.2
Weak	Slow 0.25m/s<V≦1m/s	1.2 to 1.5
Medium	Medium 1m/s<V≦2m/s	1.5 to 2
Strong	High V>2m/s	2 to 3.5

● Service Life Time

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

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

L_h : Service life time (h)
ℓ_s : Stroke length (mm)
n_1 : Number of reciprocations per minute (min^{-1})
ℓ : Ball Screw lead (mm)

■f_C: Contact Factor

If two inner blocks are used in close contact with each other with model SKR-B/D, multiply the basic load rating by the corresponding contact factor indicated in Table9.

Table9 Contact Factor (f_C)

Block type	Contact factor f_C
Model SKR-B Model SKR-D	0.81

■f_W: Load Factor

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

■K: Moment Equivalent Factor (LM Guide Unit)

When model SKR 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 Table10.

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

Table10 Equivalent moment factor(K)

Model No.	K_A	K_B	K_C
SKR20-A	2.34×10^{-1}	2.34×10^{-1}	8.07×10^{-2}
SKR20-B	4.38×10^{-2}	4.38×10^{-2}	8.07×10^{-2}
SKR26-A	1.59×10^{-1}	1.59×10^{-1}	6.17×10^{-2}
SKR26-B	3.18×10^{-2}	3.18×10^{-2}	6.17×10^{-2}
SKR33-A	1.42×10^{-1}	1.42×10^{-1}	5.05×10^{-2}
SKR33-B	2.47×10^{-2}	2.47×10^{-2}	5.05×10^{-2}
SKR33-C	2.39×10^{-1}	2.39×10^{-1}	5.05×10^{-2}
SKR33-D	3.54×10^{-2}	3.54×10^{-2}	5.05×10^{-2}
SKR46-A	9.51×10^{-2}	9.51×10^{-2}	3.46×10^{-2}
SKR46-B	1.70×10^{-2}	1.70×10^{-2}	3.46×10^{-2}
SKR46-C	1.46×10^{-1}	1.46×10^{-1}	3.46×10^{-2}
SKR46-D	2.36×10^{-2}	2.36×10^{-2}	3.46×10^{-2}
SKR55-A	8.12×10^{-2}	8.12×10^{-2}	2.88×10^{-2}
SKR55-B	1.46×10^{-2}	1.46×10^{-2}	2.88×10^{-2}
SKR65-A	7.16×10^{-2}	7.16×10^{-2}	2.21×10^{-2}
SKR65-B	1.27×10^{-2}	1.27×10^{-2}	2.21×10^{-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.
Note) The values for models SKR-B/D indicate the values when double inner blocks are used in close contact with each other.

Accuracy Standards

The accuracy standard of model SKR is defined in positioning repeatability, positioning accuracy, running parallelism (vertical direction) and backlash.

[Positioning Repeatability]

Command the position to a given arbitrary point. Measure the position and repeat seven times from the same direction. Record the difference between the largest and smallest values. Conduct the same test at three points: the middle of the stroke, and at both the approximate maximum and minimum positions of travel. Express the maximum difference value of the three measurements divided by 2 with a “±” sign.

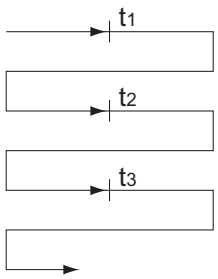


Fig.8 Positioning Repeatability

[Positioning Accuracy]

Using the maximum stroke as the reference length, express the maximum error between the actual distance traveled from the reference point and the command value in an absolute value as positioning accuracy.

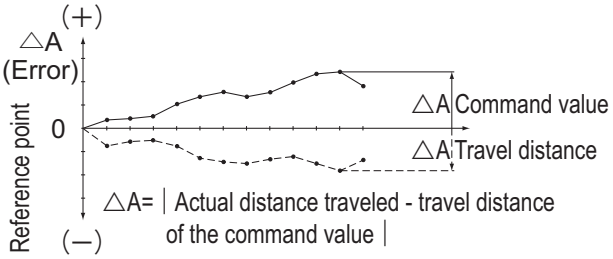


Fig.9 Positioning Accuracy

[Running of Parallelism (Vertical direction)]

Place a straightedge on the surface table where model SKR is mounted, measure almost throughout the travel distance of the inner block using a test indicator. Use the maximum difference among the readings within the travel distance as the running parallelism measurement.

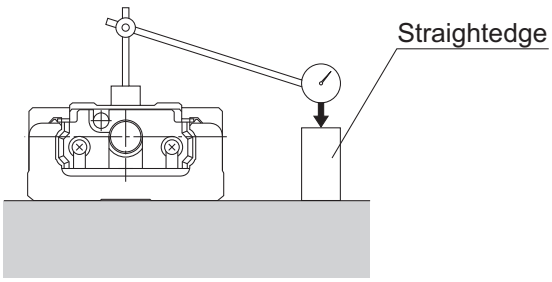


Fig.10 Running of Parallelism

[Backlash]

Feed and slightly move the inner block and read the measurement on the test indicator as the reference value. Subsequently, apply a load to the inner block from the same direction (table feed direction), and then release the inner block from the load. Use the difference between the reference value and the return as the backlash measurement.

Perform this measurement in the center and near both ends, and use the maximum value as the measurement value.

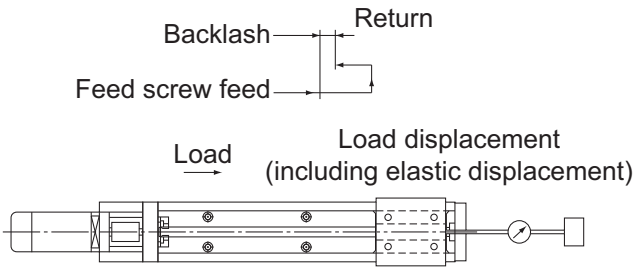


Fig.11 Backlash

The accuracies of model SKR are classified into normal grade (no symbol), high accuracy grade (H) and precision grade (P). Tables below show standards for all the accuracies.

Table11 Normal Grade (No Symbol)

Unit: mm

Model No.	Stroke*	Outer rail length	Positioning Repeatability	Positioning Accuracy	Running Parallelism (Vertical Direction)	Backlash	Starting torque (N·cm)
SKR20	30	100	±0.01	No standard defined	No standard defined	0.02	0.5
	80	150					
	130	200					
SKR26	60	150	±0.01	No standard defined	No standard defined	0.02	1.5
	110	200					
	160	250					
	210	300					
SKR33	45	150	±0.01	No standard defined	No standard defined	0.02	7
	95	200					
	195	300					
	295	400					
	395	500					
	495	600					
	595	700					
SKR46	190	340	±0.01	No standard defined	No standard defined	0.02	10
	290	440					
	390	540					
	490	640					
	590	740					
	690	840					
	790	940					
SKR55	800	980	±0.01	No standard defined	No standard defined	0.05	12
	900	1080					
	1000	1180					
	1100	1280					
	1200	1380					
SKR65	790	980	±0.01	No standard defined	No standard defined	0.05	12
	990	1180					
	1190	1380					
	1490	1680	±0.012				15

*Indicates stroke length when one long-type inner block is incorporated.
Note1) The evaluation method for accuracy standards complies with THK standards.
Note2) The starting torque represents the value when the following grease is used.
Models SKR20 and SKR26 : THK AFA Grease
Models SKR33, SKR46, SKR55 and SKR65 : THK AFB-LF Grease
Note3) If highly viscous grease such as vacuum grease and clean room grease is used, the actual starting torque may exceed the corresponding value in the table. Use much care in selecting a motor.
Note4) Contact THK for accuracy information of units longer than the standard length.

Table12 High Accuracy Grade (H)

Unit: mm

Model No.	Stroke*	Outer rail length	Positioning Repeatability	Positioning Accuracy	Running of Parallelism (Vertical direction)	Backlash	Starting torque (N·cm)
SKR20	30	100	±0.005	0.06	0.025	0.01	0.5
	80	150					
	130	200					
SKR26	60	150	±0.005	0.06	0.025	0.01	1.5
	110	200					
	160	250					
	210	300					
SKR33	45	150	±0.005	0.06	0.025	0.02	7
	95	200					
	195	300					
	295	400					
	395	500		0.10	0.035		
	495	600					
	595	700		0.12	0.04		
SKR46	190	340	±0.005	0.10	0.035	0.02	10
	290	440					
	390	540					
	490	640					
	590	740		0.12	0.04		
	690	840					
	790	940		0.15	0.05		
SKR55	800	980	±0.005	0.18	0.05	0.05	12
	900	1080					
	1000	1180		0.25			
	1100	1280					
	1200	1380					
SKR65	790	980	±0.008	0.18	0.05	0.05	12
	990	1180		0.2			
	1190	1380					
	1490	1680		0.28	0.055		15

*Indicates stroke length when one long-type inner block is incorporated.

Table13 Precision Grade (P)

Unit: mm

Model No.	Stroke*	Outer rail length	Positioning Repeatability	Positioning Accuracy	Running of Parallelism (Vertical direction)	Backlash	Starting torque (N·cm)
SKR20	30	100	±0.003	0.02	0.01	0.003	1.2
	80	150					
	130	200					
SKR26	60	150	±0.003	0.02	0.01	0.003	4
	110	200					
	160	250					
	210	300					
SKR33	45	150	±0.003	0.02	0.01	0.003	15
	95	200					
	195	300					
	295	400					
	395	500		0.025	0.015		
	495	600					
	595	700		0.03	0.02		
SKR46	190	340	±0.003	0.025	0.015	0.003	15
	290	440					
	390	540					
	490	640					17
	590	740		0.03	0.02		
SKR55	800	980	±0.005	0.035	0.025	0.003	17
	900	1080					
	1000	1180		0.04	0.03		20
SKR65	790	980	±0.005	0.035	0.025	0.005	20
	990	1180					
	1190	1380		0.04	0.03		22

*Indicates stroke length when one long-type inner block is incorporated.
Note1) The evaluation method for accuracy standards complies with THK standards.
Note2) The starting torque represents the value when the following grease is used.
Models SKR20 and SKR26 : THK AFA Grease
Models SKR33, SKR46, SKR55 and SKR65 : THK AFB-LF Grease
Note3) If highly viscous grease such as vacuum grease and clean room grease is used, the actual starting torque may exceed the corresponding value in the table. Use much care in selecting a motor.
Note4) Contact THK for accuracy information of units longer than the standard length.

Model Number Coding

Model No.	Ball Screw Lead	Inner block type		Stroke		Accuracy
SKR33	10	A	-	0195	-	P
①	②	③		④		⑤

①	②	③	④	⑤
SKR20	01 : 1mm	A	0025 : 25mm	No symbol: normal grade
SKR26	02 : 2mm	B	0050 : 50mm	H : High accuracy grade
SKR33	06 : 6mm	C	≀	P : Precision Grade
SKR46	10 : 10mm	D	1490 : 1490mm	
SKR55	20 : 20mm			
SKR65	25 : 25mm			
	30 : 30mm			
	40 : 40mm			
	50 : 50mm			

If "2" (with Bellows) was selected for the cover ⑦, specify a stroke incorporating the bellows(→page82).

The available ball screw leads differ depending on the model.
SKR20 : "01", "06"
SKR26 : "02", "06"
SKR33 : "06", "10", "20" (20 mm is available for inner block type A and B only)
SKR46 : "10", "20"
SKR55 : "20", "30", "40"
SKR65 : "20", "25", "30", "50"

	With/without a motor		Cover	Sensor	Housing A/ Intermediate Flange
	0	-	1	B	AQ
	⑥		⑦	⑧	⑨

⑥ With/without a motor
0: Direct-coupled (without a motor)
R1: Motor wrap type, opposed to datum side. (No motor)
R2: Motor wrap type, datum side. (No motor)
R3: Motor wrap type, Bottom side. (No motor)
1: Direct-coupled (with a motor, specified by the customer)
R4: Motor wrap type, opposed to datum side. (with a motor, specified by the customer)
R5: Motor wrap type, datum side. (with a motor, specified by the customer)
R6: Motor wrap type, bottom side. (with a motor, specified by the customer)

⑦ Cover
0: without a cover
1: with a cover
2: with a bellows

⑧ Sensor
0: none
1
2
6
7
B
E
H
L
J
M

⑨ See below

Direct motor mount type : ●◇ Example) AQ
(Motor type
「0」,「1」
●:Housing A
◇:Intermediate Flange

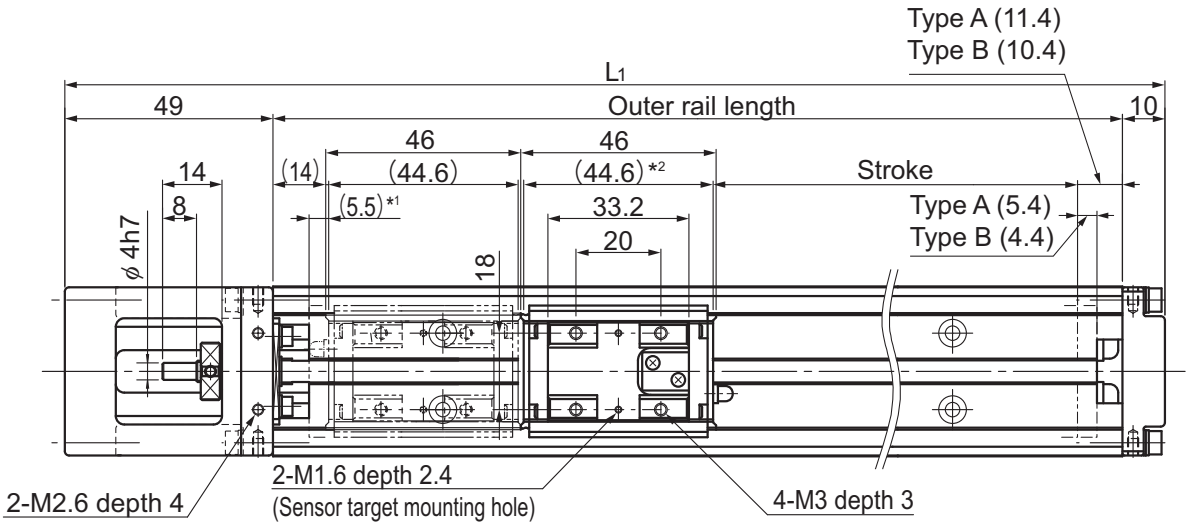
Motor Wrap Type : W□—▲○ Example) WQ-08D
(With or without motor/ Controller type
「R1」,「R2」,「R3」
「R4」,「R5」,「R6」
□:Intermediate Flange・Motor mount plate
▲:Motor Shaft Diameter
○:Pulley mounting methoed

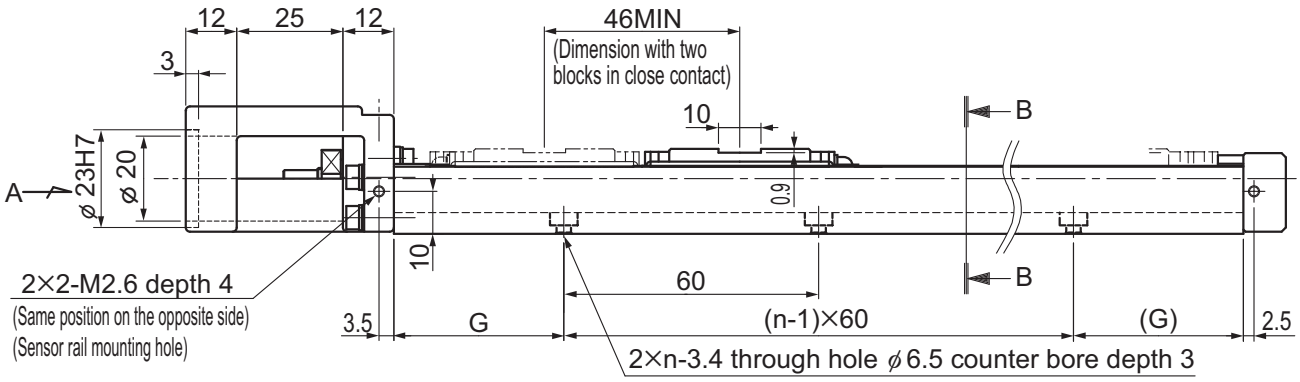
Shaft coupling is not included with sperifying "0". Incase coupling is required, please indicate necessary coupling type.
Motors are installed with selecting「1」,「R4」,「R5」or「R6」.
Select housing A and intermidiate flanges according to used motor type.
Please select coupling, driver and controller accordingly

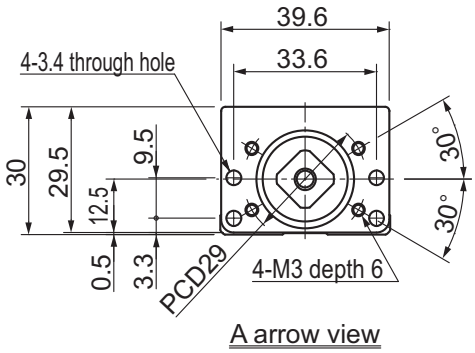
Motors from various manufacturers can be mounted. Contact THK for details.

Model SKR20 (without a Cover)

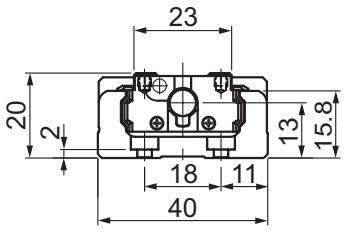
Model SKR20□□A (with a Single Long Type Block)
Model SKR20□□B (with Two Long Type Blocks)
For model number coding, see page23.







A arrow view



B-B cross section

*1 Distance between the mechanical stopper and the stroke starting position.
*2 Indicates the inner block length when calculating the available stroke range.
The length in model SKR-B (with two long-type inner blocks) is 90.6 mm.

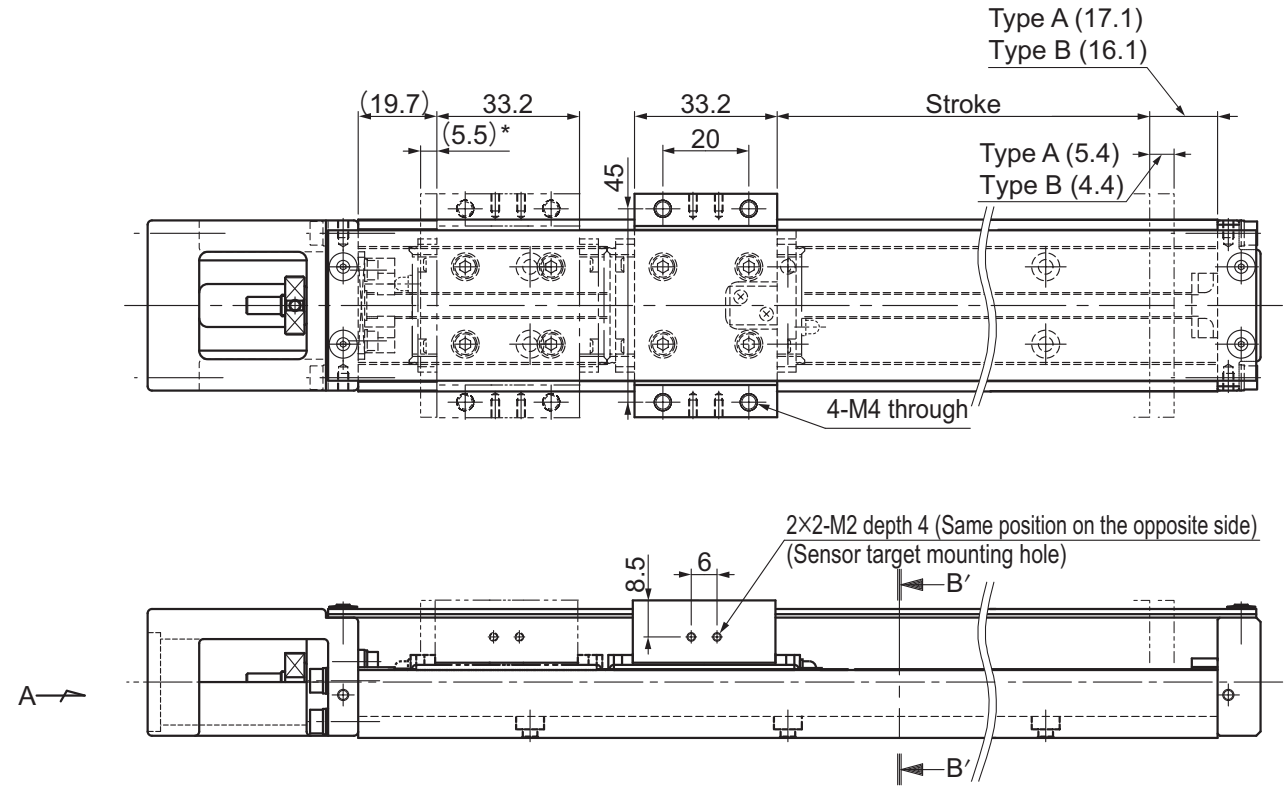
Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	G (mm)	n	Overall main unit mass (kg)	
Type A	Type B*					Type A	Type B
30(40.9)	—	159	100	20	2	0.45	—
80(90.9)	35(44.9)	209	150	15	3	0.58	0.66
130(140.9)	85(94.9)	259	200	40	3	0.72	0.8

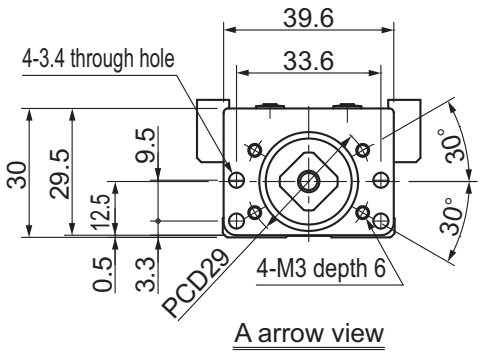
*Indicates a value when two inner blocks are in close contact with each other.

To download a desired data, search for the corresponding model number in the Technical site. https://tech.thk.com

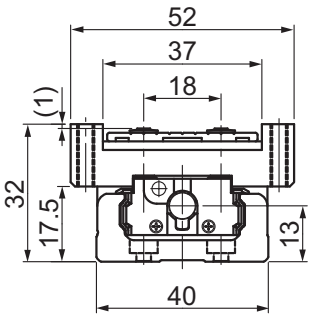
Model SKR20 (with a Cover)

Model SKR20□□A (with a Single Long Type Block)
Model SKR20□□B (with Two Long Type Blocks)
For model number coding, see page23.





A arrow view



B′-B′ cross section

* Distance between the mechanical stopper and the stroke starting position.

Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	Overall main unit mass (kg)	
Type A	Type B*			Type A	Type B
30(40.9)	—	159	100	0.5	—
80(90.9)	35(44.9)	209	150	0.64	0.76
130(140.9)	85(94.9)	259	200	0.79	0.91

*Indicates a value when two inner blocks are in close contact with each other.

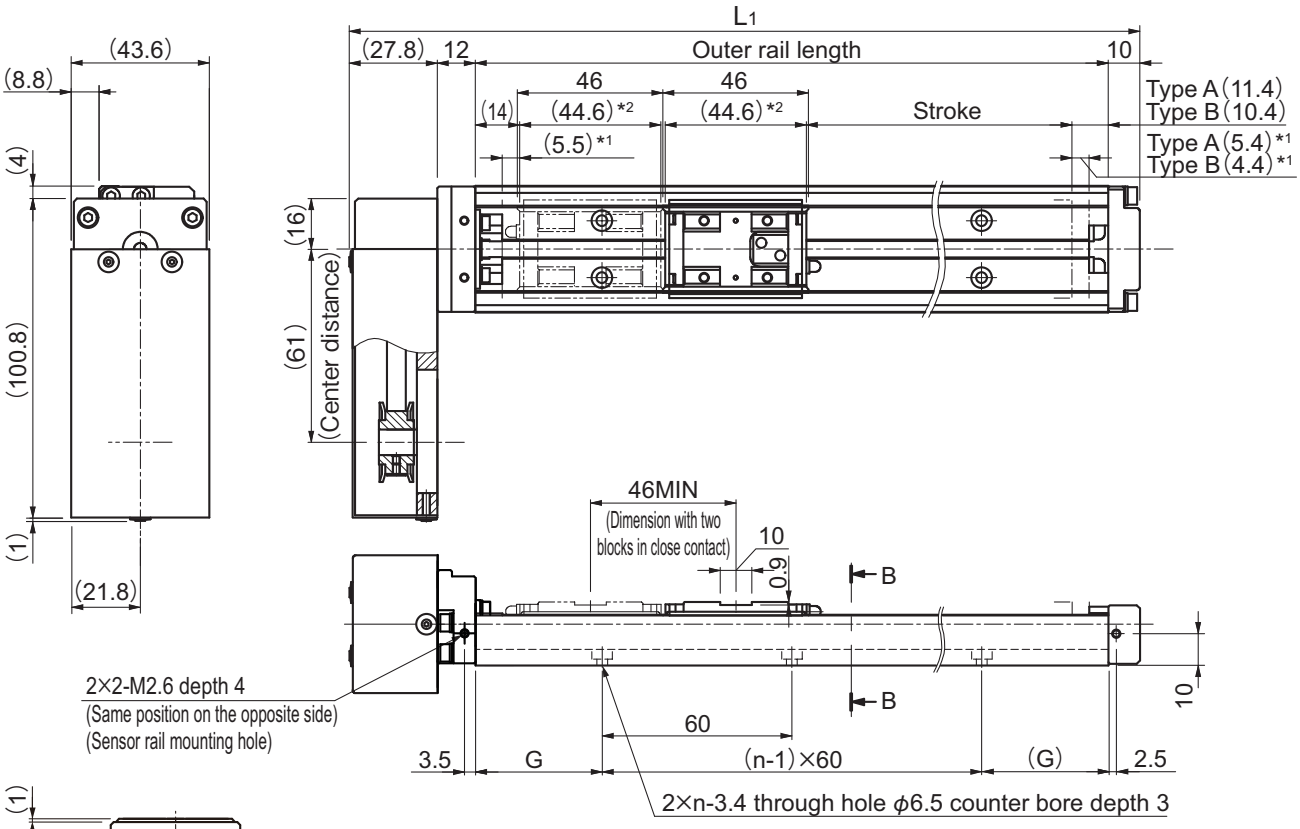
Options⇒page60

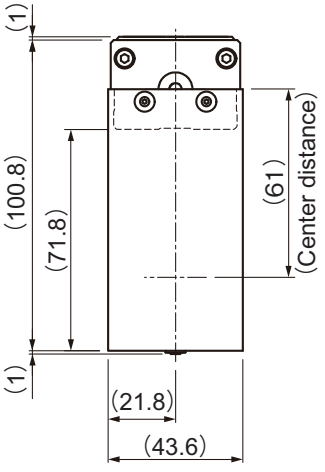
Model SKR20 Motor wrap, (without a Cover)

Model SKR20□□A (with a Single Long Type Block)

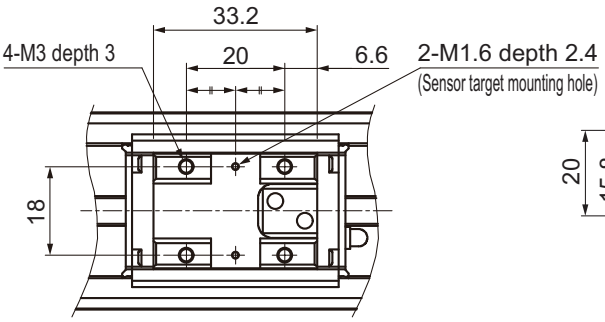
Model SKR20□□B (with Two Long Type Blocks)

For model number coding, see page23.

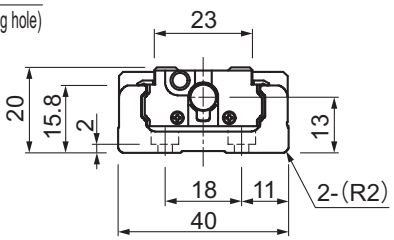




Motor wrap type, Bottom side



Detail, inner block



B-B cross section

*1 Distance between the mechanical stopper and the stroke starting position.
*2 Indicates the inner block length when calculating the available stroke range. The length in model SKR-B (with two long-type inner blocks) is 90.6 mm.

Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	G (mm)	n	Overall main unit mass(kg)	
Type A	Type B*					Type A	Type B
30(40.9)	—	149.8	100	20	2	0.71	0.79
80(90.9)	35(44.9)	199.8	150	15	3	0.84	0.92
130(140.9)	85(94.9)	249.8	200	40	3	0.98	1.06

*Indicates a value when two inner blocks are in close contact with each other.

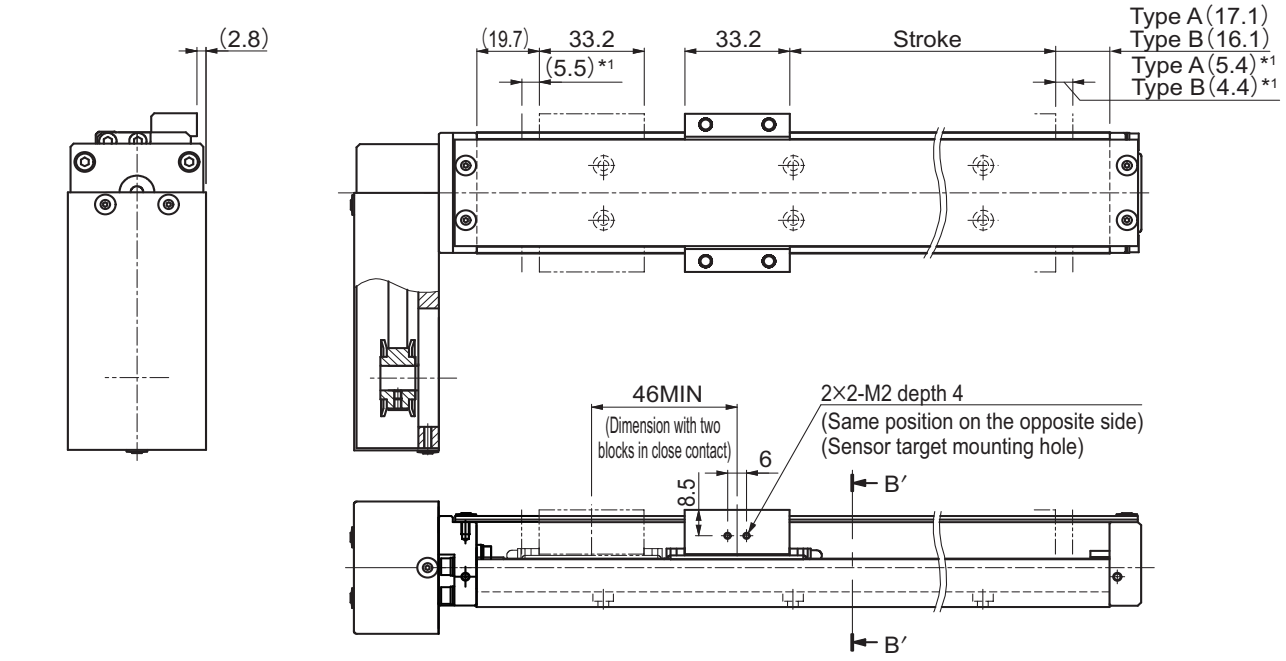
To download a desired data, search for the corresponding model number in the Technical site. https://tech.thk.com

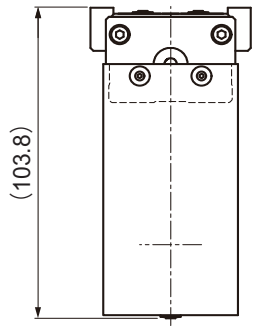
Model SKR20 Motor wrap (with a Cover)

Model SKR20□□A (with a Single Long Type Block)

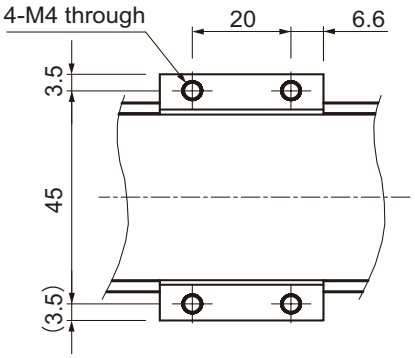
Model SKR20□□B (with Two Long Type Blocks)

For model number coding, see page23.

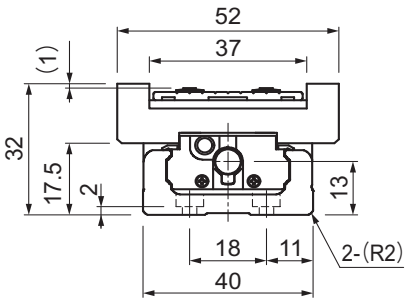




Motor wrap type, Bottom side



Detail, Top table



B′-B′ cross section

*1 Distance between the mechanical stopper and the stroke starting position.

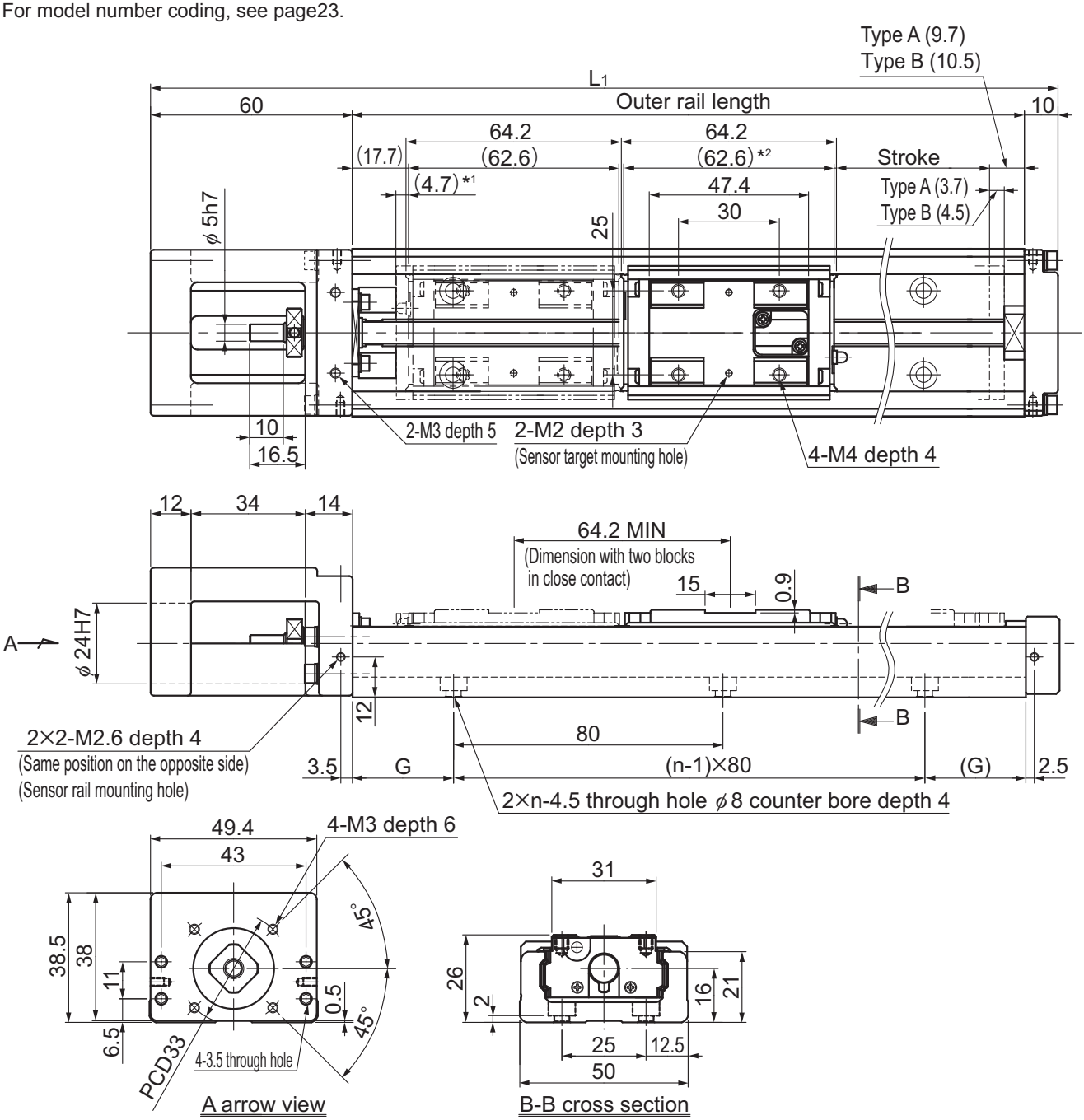
Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	Overall main unit mass(kg)	
Type A	Type B*			Type A	Type B
30(40.9)	—	149.8	100	0.76	0.88
80(90.9)	35(44.9)	199.8	150	0.9	1.02
130(140.9)	85(94.9)	249.8	200	1.05	1.17

*Indicates a value when two inner blocks are in close contact with each other.

Options⇒page60

Model SKR26 (without a Cover)

Model SKR26□□A (with a Single Long Type Block)
Model SKR26□□B (with Two Long Type Blocks)
For model number coding, see page23.



*1 Distance between the mechanical stopper and the stroke starting position.
*2 Indicates the inner block length when calculating the available stroke range. The length in model SKR-B (with two long-type inner blocks) is 126.8 mm.

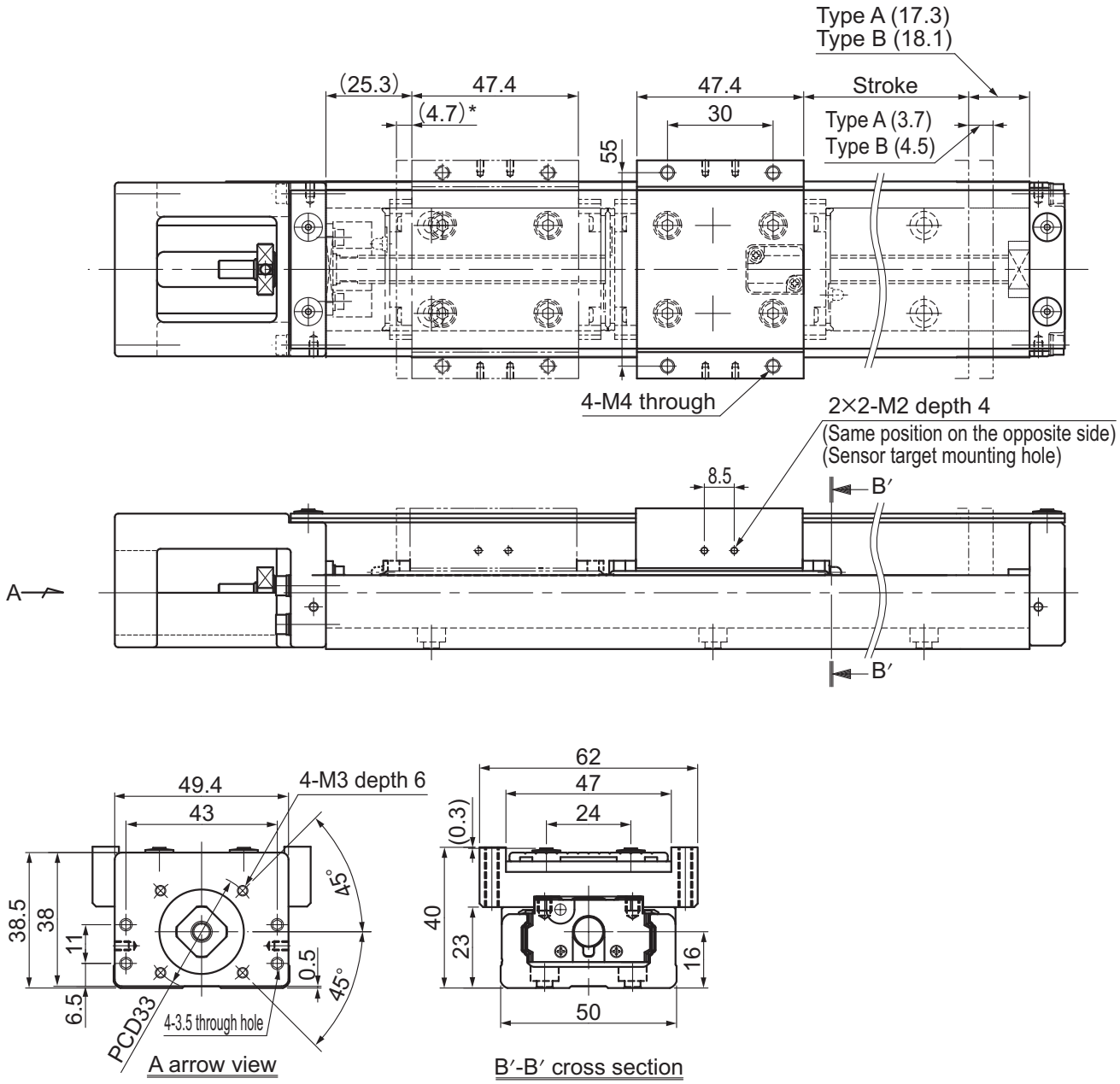
Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	G (mm)	n	Overall main unit mass (kg)	
Type A	Type B*					Type A	Type B
60(68.4)	—	220	150	35	2	0.99	—
110(118.4)	45(54.2)	270	200	20	3	1.2	1.38
160(168.4)	95(104.2)	320	250	45	3	1.41	1.59
210(218.4)	145(154.2)	370	300	30	4	1.62	1.8

*Indicates a value when two inner blocks are in close contact with each other.

To download a desired data, search for the corresponding model number in the Technical site. https://tech.thk.com

Model SKR26 (with a Cover)

Model SKR26□□A (with a Single Long Type Block)
Model SKR26□□B (with Two Long Type Blocks)
For model number coding, see page23.



* Distance between the mechanical stopper and the stroke starting position.

Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	Overall main unit mass (kg)	
Type A	Type B*			Type A	Type B
60(68.4)	—	220	150	1.1	—
110(118.4)	45(54.2)	270	200	1.32	1.57
160(168.4)	95(104.2)	320	250	1.54	1.79
210(218.4)	145(154.2)	370	300	1.76	2.01

*Indicates a value when two inner blocks are in close contact with each other.

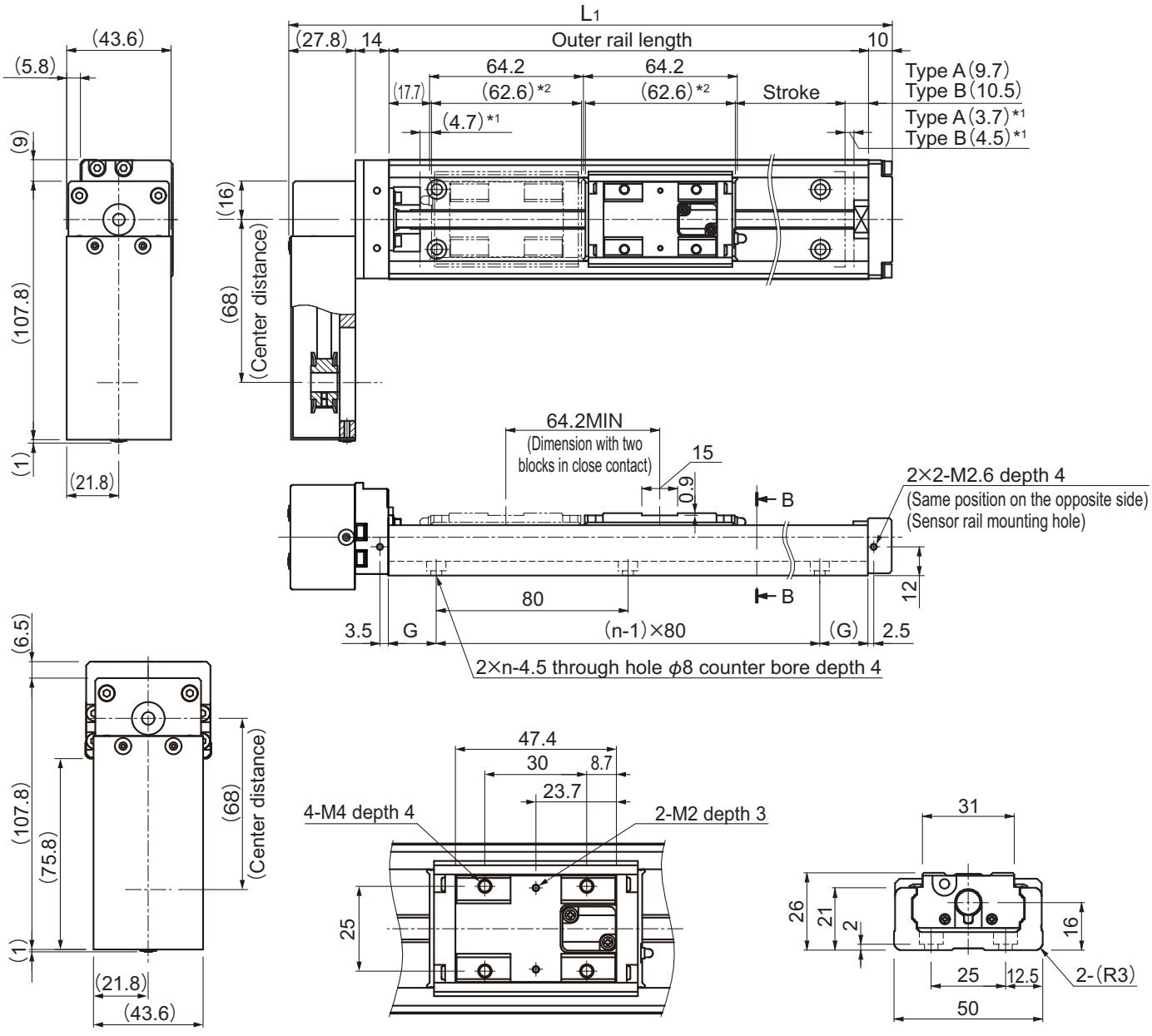
Options⇒page60

Model SKR26 Motor wrap, (without a Cover)

Model SKR26□□A (with a Single Long Type Block)

Model SKR26□□B (with Two Long Type Blocks)

For model number coding, see page23.



Motor wrap type, Bottom side

Detail, inner block

B-B cross section

*1 Distance between the mechanical stopper and the stroke starting position.
*2 Indicates the inner block length when calculating the available stroke range. The length in model SKR-B (with two long-type inner blocks) is 126.8 mm.

Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	G (mm)	n	Overall main unit mass(kg)	
Type A	Type B*					Type A	Type B
60(68.4)	—	201.8	150	35	2	1.21	1.39
110(118.4)	45(54.2)	251.8	200	20	3	1.42	1.6
160(168.4)	95(104.2)	301.8	250	45	3	1.63	1.81
210(218.4)	145(154.2)	351.8	300	30	4	1.84	2.02

*Indicates a value when two inner blocks are in close contact with each other.

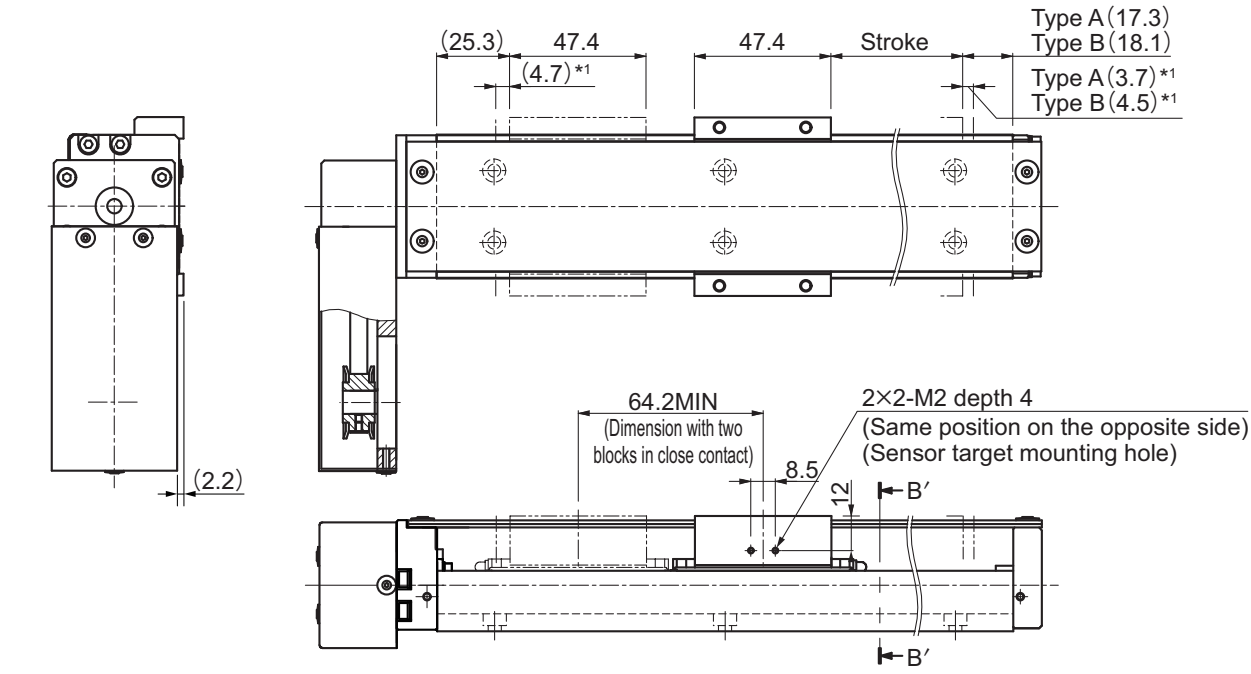
To download a desired data, search for the corresponding model number in the Technical site. https://tech.thk.com

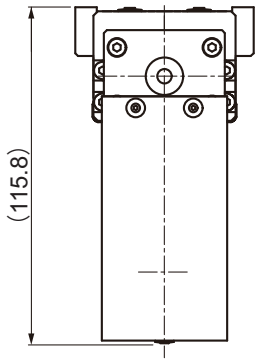
Model SKR26 Motor wrap (with a Cover)

Model SKR26□□A (with a Single Long Type Block)

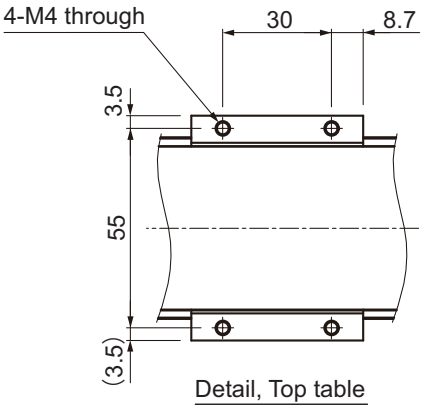
Model SKR26□□B (with Two Long Type Blocks)

For model number coding, see page23.

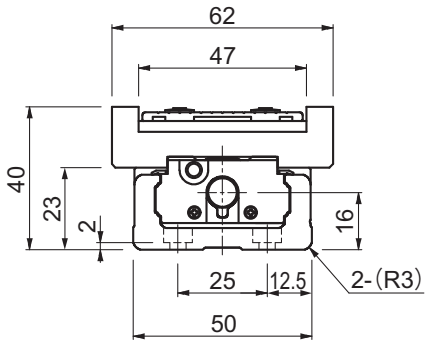




Motor wrap type, Bottom side



Detail, Top table



B′-B′ cross section

*1 Distance between the mechanical stopper and the stroke starting position.

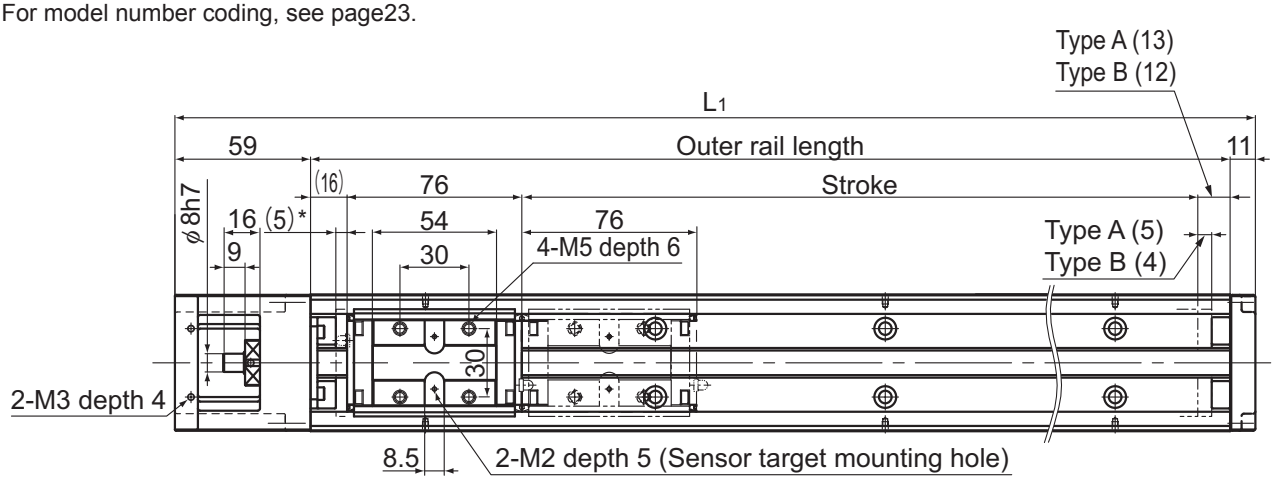
Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	Overall main unit mass(kg)	
Type A	Type B*			Type A	Type B
60(68.4)	—	201.8	150	1.32	1.57
110(118.4)	45(54.2)	251.8	200	1.54	1.79
160(168.4)	95(104.2)	301.8	250	1.76	2.01
210(218.4)	145(154.2)	351.8	300	1.98	2.23

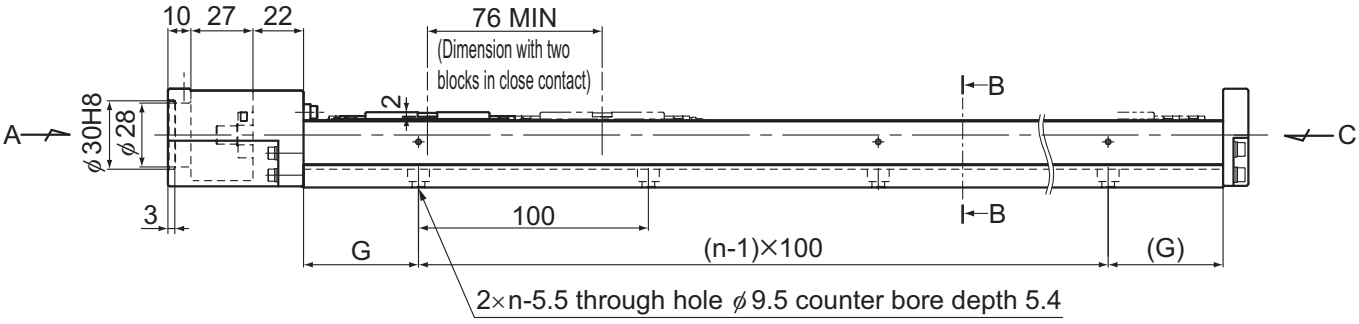
*Indicates a value when two inner blocks are in close contact with each other.

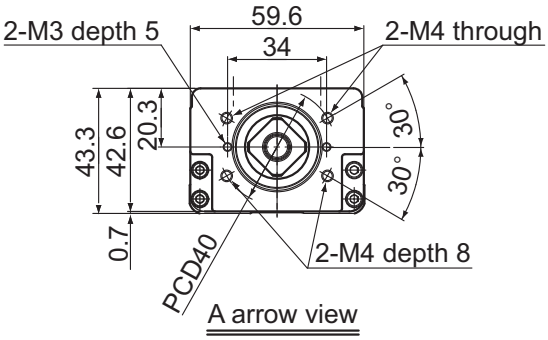
Options⇒page60

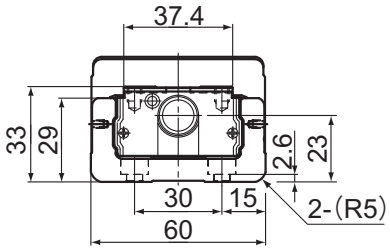
Model SKR33 (without a Cover)

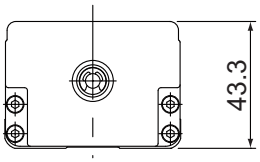
Model SKR33□□A (with a Single Long Type Block)
Model SKR33□□B (with Two Long Type Blocks)
For model number coding, see page23.











* Distance between the mechanical stopper and the stroke starting position.

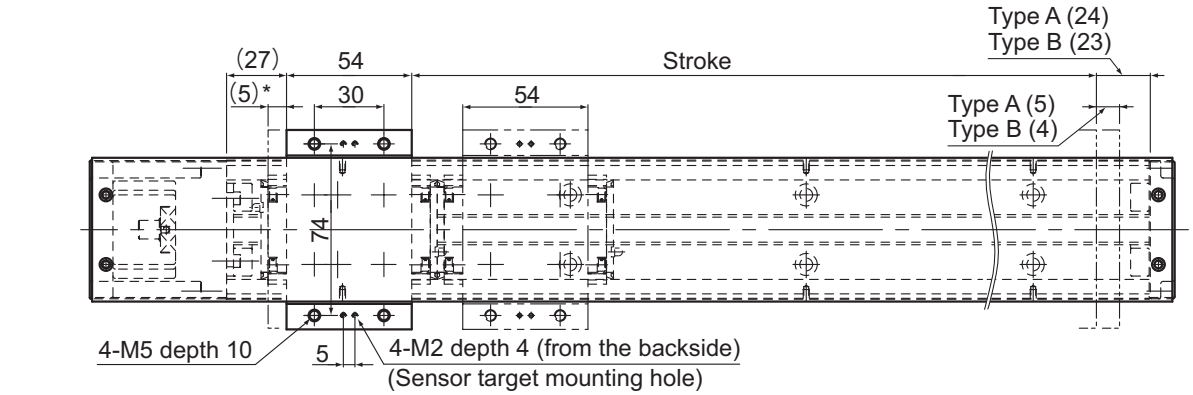
Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	G (mm)	n	Overall main unit mass (kg)	
Type A	Type B*					Type A	Type B
45(55)	—	220	150	25	2	1.7	—
95(105)	—	270	200	50	2	2.1	—
195(205)	120(129)	370	300	50	3	2.8	3.1
295(305)	220(229)	470	400	50	4	3.5	3.8
395(405)	320(329)	570	500	50	5	4.2	4.5
495(505)	420(429)	670	600	50	6	5.0	5.3
595(605)	520(529)	770	700	50	7	5.7	6.0

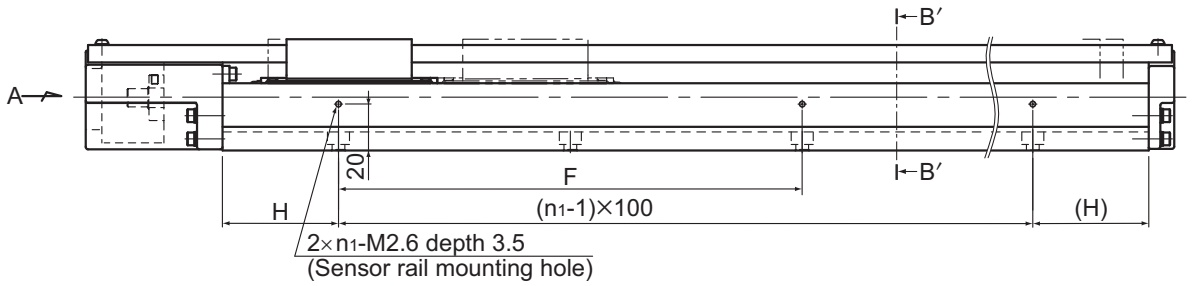
*Indicates a value when two inner blocks are in close contact with each other.

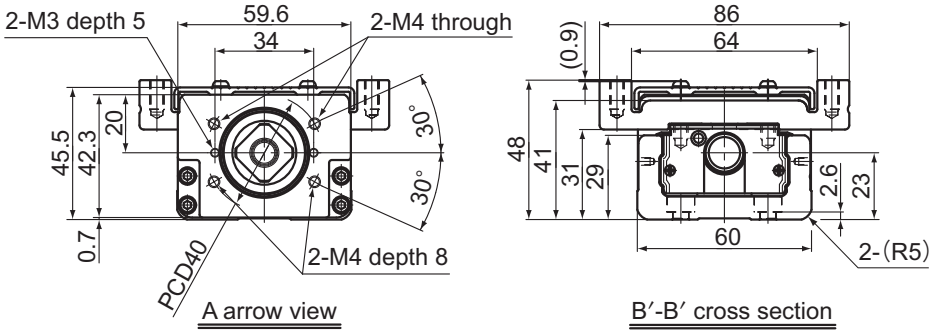
To download a desired data, search for the corresponding model number in the Technical site. https://tech.thk.com

Model SKR33 (with a Cover)

Model SKR33□□A (with a Single Long Type Block)
Model SKR33□□B (with Two Long Type Blocks)
For model number coding, see page23.







* Distance between the mechanical stopper and the stroke starting position.

Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	H (mm)	F (mm)	n_1	Overall main unit mass (kg)	
Type A	Type B*						Type A	Type B
45(55)	—	220	150	25	100	2	1.9	—
95(105)	—	270	200	50	100	2	2.3	—
195(205)	120(129)	370	300	50	200	2	3.1	3.5
295(305)	220(229)	470	400	100	200	2	3.8	4.2
395(405)	320(329)	570	500	50	200	3	4.6	5.0
495(505)	420(429)	670	600	100	200	3	5.3	5.7
595(605)	520(529)	770	700	50	200	4	6.1	6.5

*Indicates a value when two inner blocks are in close contact with each other.

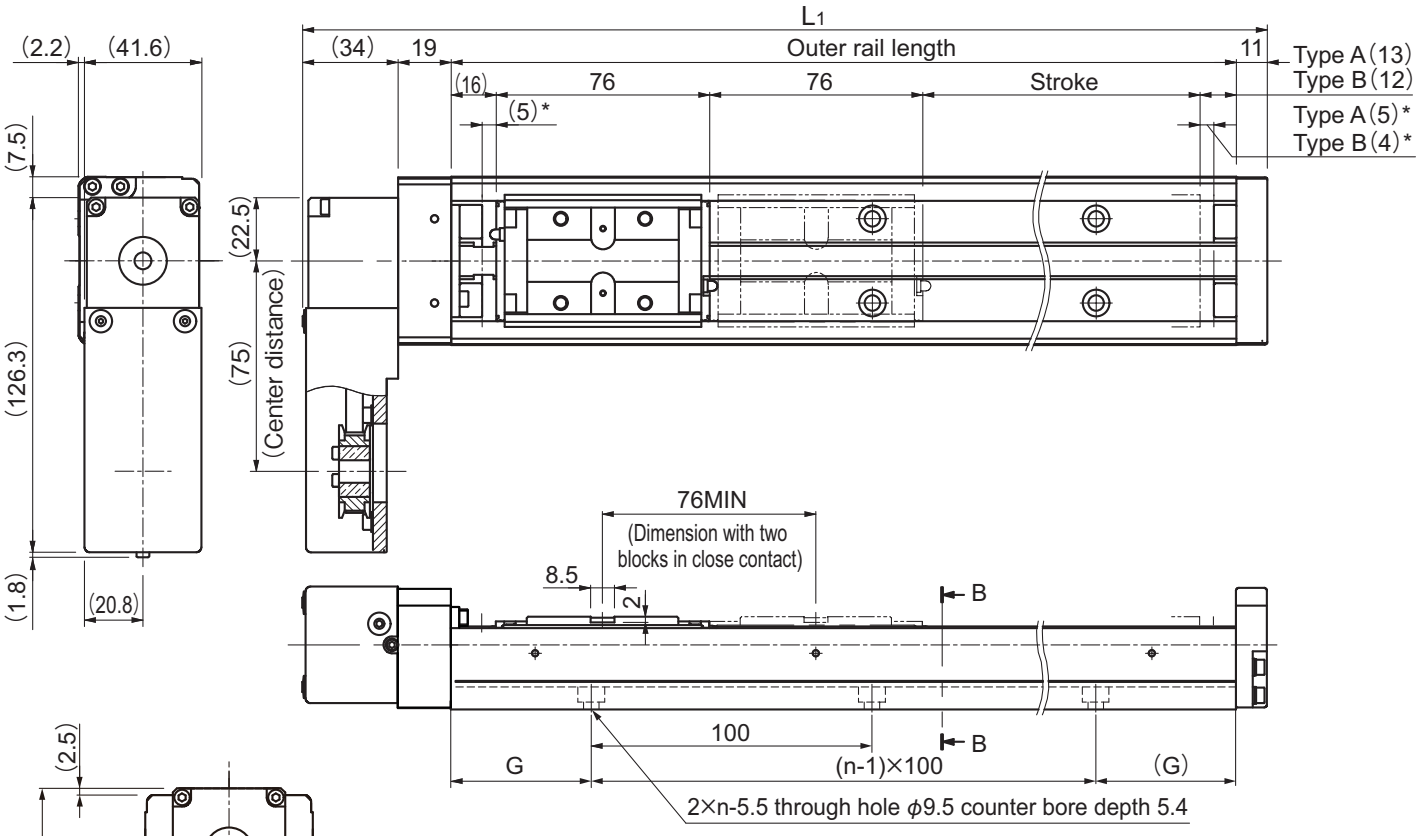
Options⇒page60

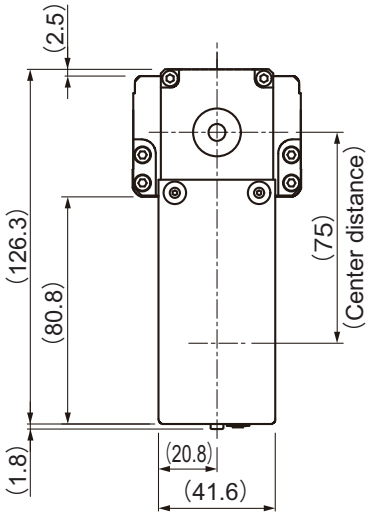
Model SKR33 Motor wrap, (without a Cover)

Model SKR33□□A (with a Single Long Type Block)

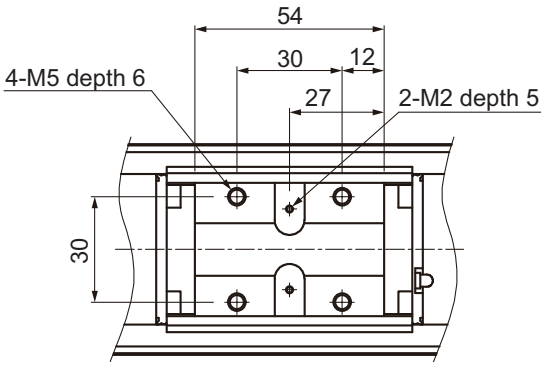
Model SKR33□□B (with Two Long Type Blocks)

For model number coding, see page23.

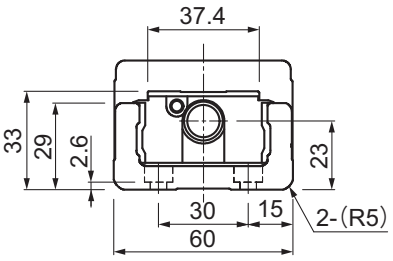




Motor wrap type, Bottom side



Detail, inner block



B-B cross section

* Distance between the mechanical stopper and the stroke starting position.

Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	G (mm)	n	Overall main unit mass(kg)	
Type A	Type B*					Type A	Type B
45(55)	—	214	150	25	2	2	2.3
95(105)	—	264	200	50	2	2.4	2.7
195(205)	120(129)	364	300	50	3	3.1	3.4
295(305)	220(229)	464	400	50	4	3.8	4.1
395(405)	320(329)	564	500	50	5	4.5	4.8
495(505)	420(429)	664	600	50	6	5.3	5.6
595(605)	520(529)	764	700	50	7	6	6.3

*Indicates a value when two inner blocks are in close contact with each other.

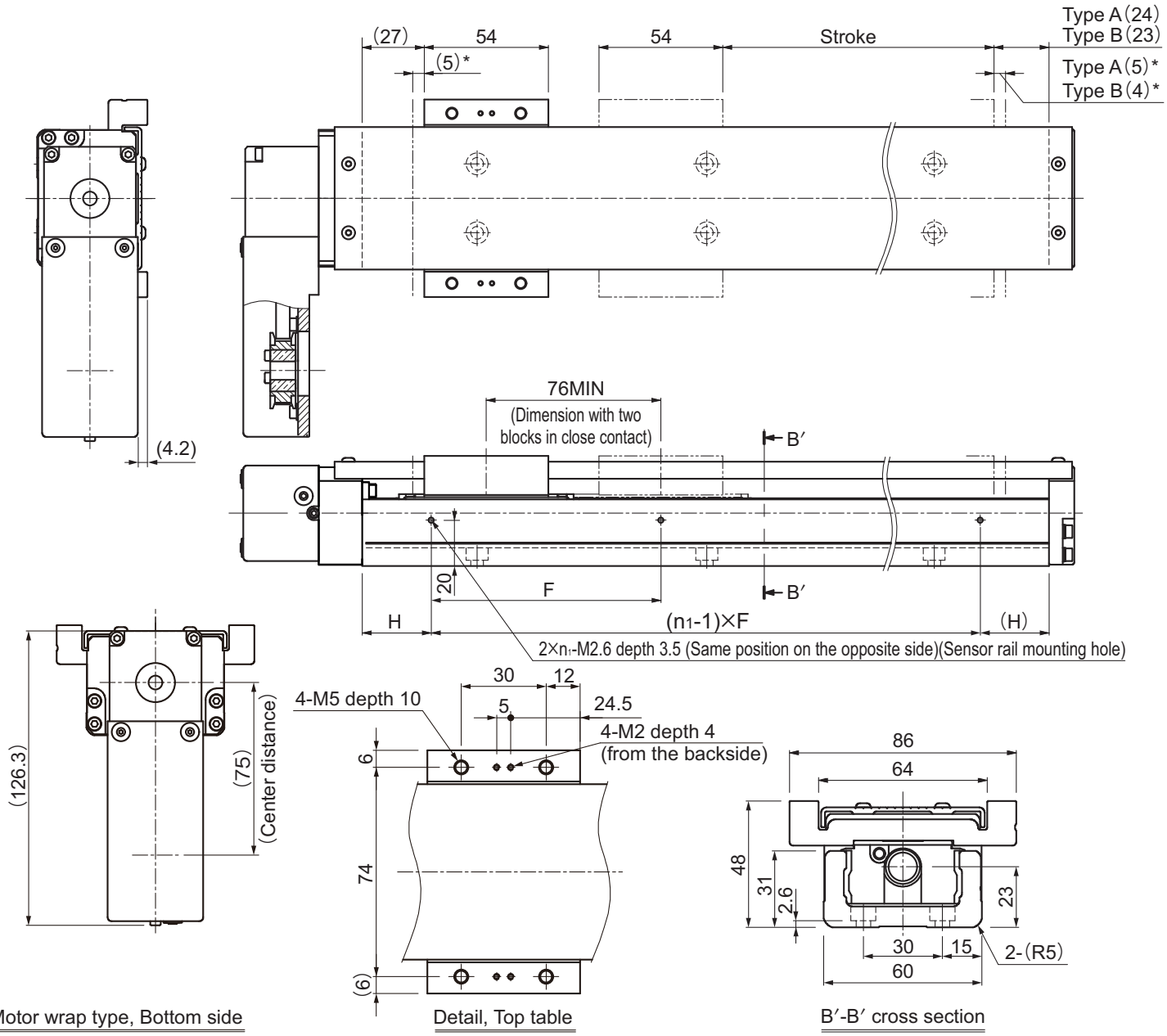
To download a desired data, search for the corresponding model number in the Technical site. https://tech.thk.com

Model SKR33 Motor wrap (with a Cover)

Model SKR33□□A (with a Single Long Type Block)

Model SKR33□□B (with Two Long Type Blocks)

For model number coding, see page23.



Motor wrap type, Bottom side

Detail, Top table

B′-B′ cross section

* Distance between the mechanical stopper and the stroke starting position.

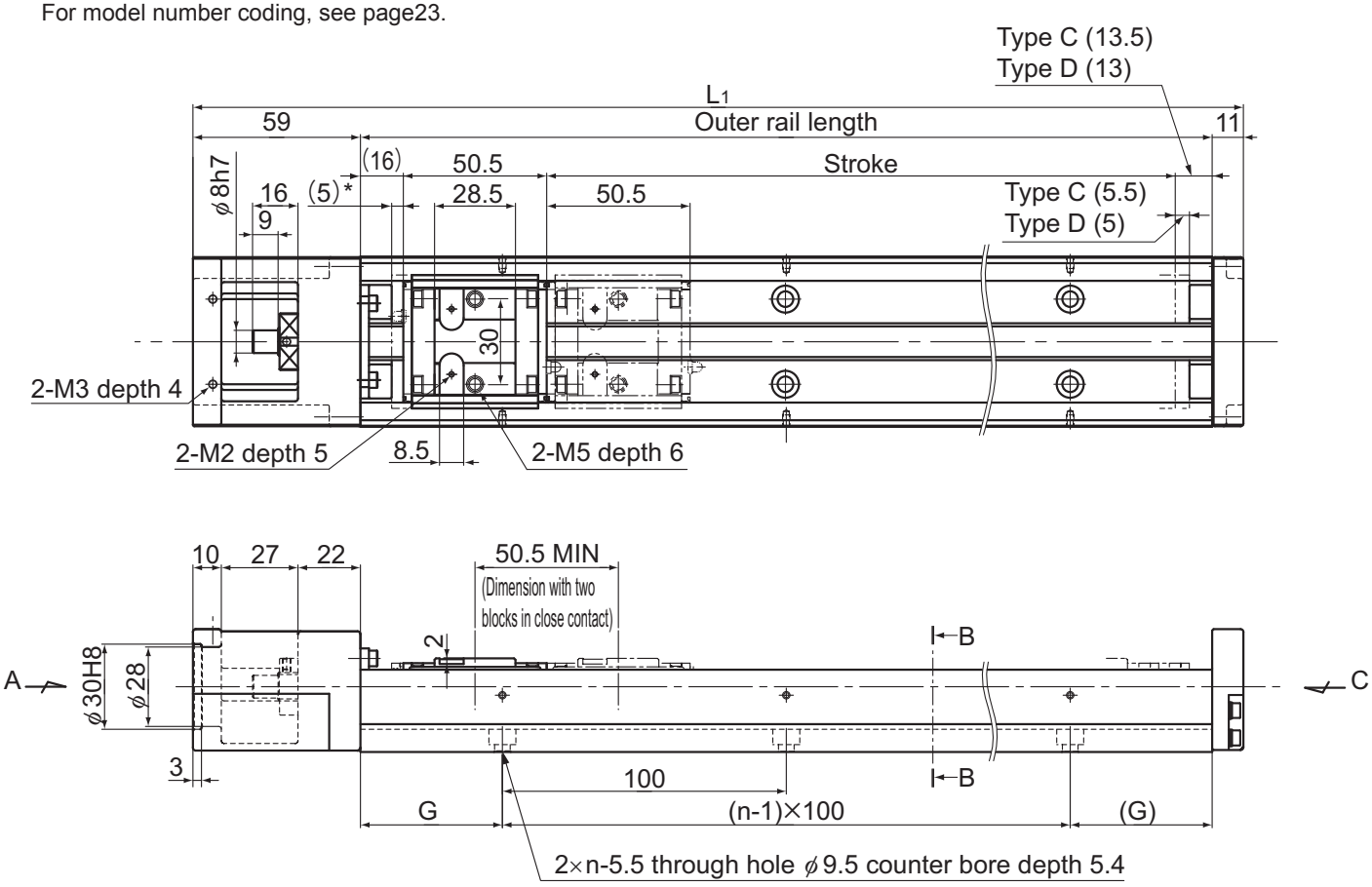
Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	H (mm)	F (mm)	n_1	Overall main unit mass(kg)	
Type A	Type B*						Type A	Type B
45(55)	—	214	150	25	100	2	2.2	2.6
95(105)	—	264	200	50	100	2	2.6	3
195(205)	120(129)	364	300	50	200	2	3.4	3.8
295(305)	220(229)	464	400	100	200	2	4.1	4.5
395(405)	320(329)	564	500	50	200	3	4.9	5.3
495(505)	420(429)	664	600	100	200	3	5.6	6
595(605)	520(529)	764	700	50	200	4	6.4	6.8

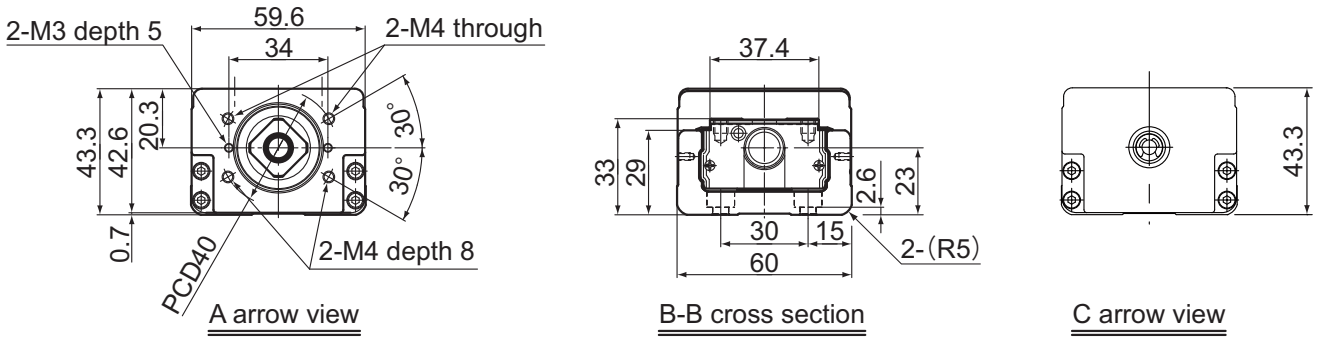
*Indicates a value when two inner blocks are in close contact with each other.

Options⇒page60

Model SKR33 (without a Cover)

Model SKR33□□C (with a Single Short Type Block)
Model SKR33□□D (with Two Short Type Blocks)
For model number coding, see page23.





* Distance between the mechanical stopper and the stroke starting position.

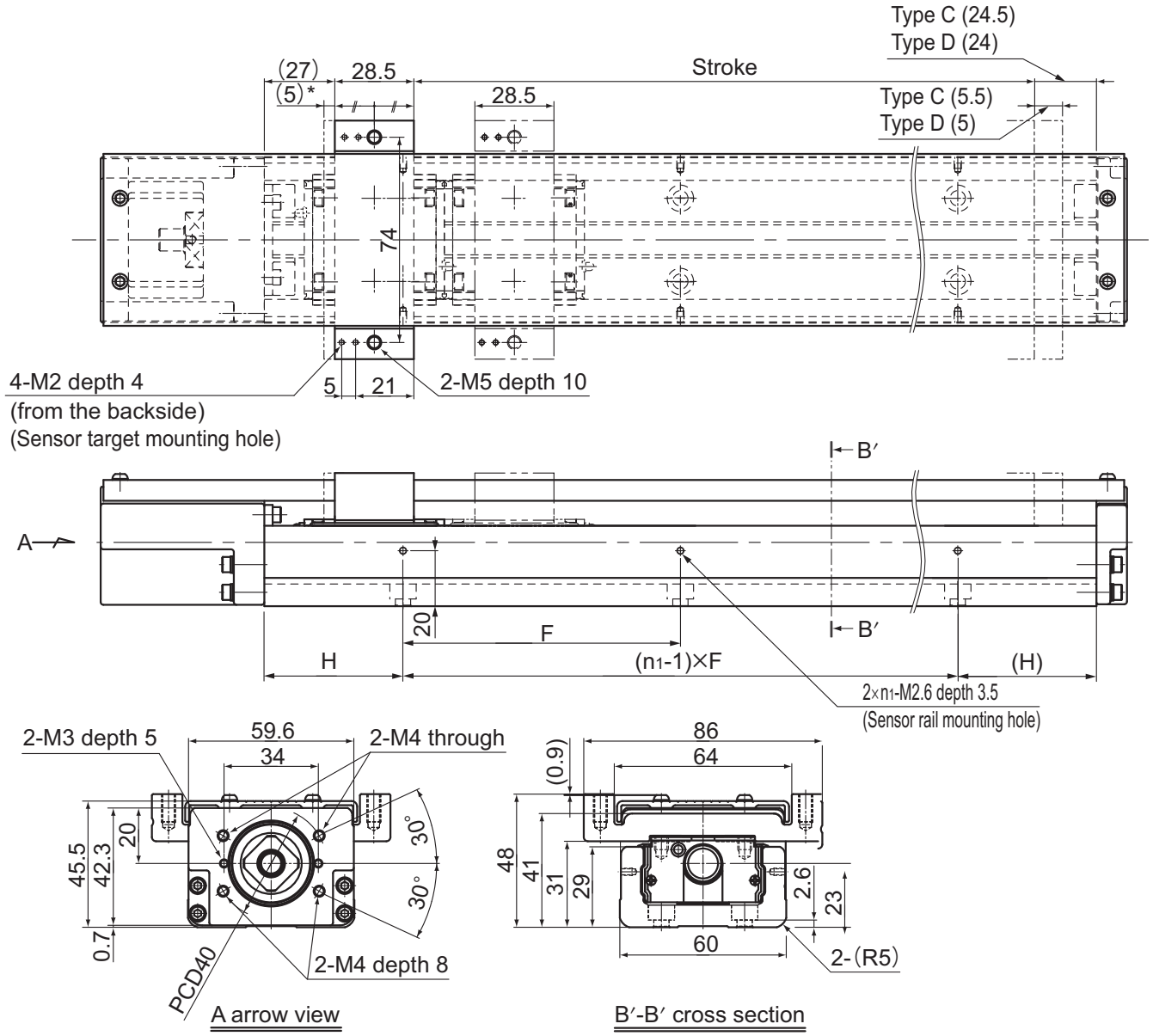
Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	G (mm)	n	Overall main unit mass (kg)	
Type C	Type D*					Type C	Type D
70(80.5)	20(30)	220	150	25	2	1.6	1.8
120(130.5)	70(80)	270	200	50	2	2.0	2.1
220(230.5)	170(180)	370	300	50	3	2.7	2.8
320(330.5)	270(280)	470	400	50	4	3.4	3.6
420(430.5)	370(380)	570	500	50	5	4.1	4.3
520(530.5)	470(480)	670	600	50	6	4.8	5.0
620(630.5)	570(580)	770	700	50	7	5.5	5.7

*Indicates a value when two inner blocks are in close contact with each other.

To download a desired data, search for the corresponding model number in the Technical site. https://tech.thk.com

Model SKR33 (with a Cover)

Model SKR33□□C (with a Single Short Type Block)
Model SKR33□□D (with Two Short Type Blocks)
For model number coding, see page23.



* Distance between the mechanical stopper and the stroke starting position.

Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	H (mm)	F (mm)	n_1	Overall main unit mass (kg)	
Type C	Type D*						Type C	Type D
70(80.5)	20(30)	220	150	25	100	2	1.8	2.0
120(130.5)	70(80)	270	200	50	100	2	2.2	2.3
220(230.5)	170(180)	370	300	50	200	2	2.9	3.1
320(330.5)	270(280)	470	400	100	200	2	3.7	3.8
420(430.5)	370(380)	570	500	50	200	3	4.4	4.6
520(530.5)	470(480)	670	600	100	200	3	5.2	5.3
620(630.5)	570(580)	770	700	50	200	4	5.9	6.1

*Indicates a value when two inner blocks are in close contact with each other.

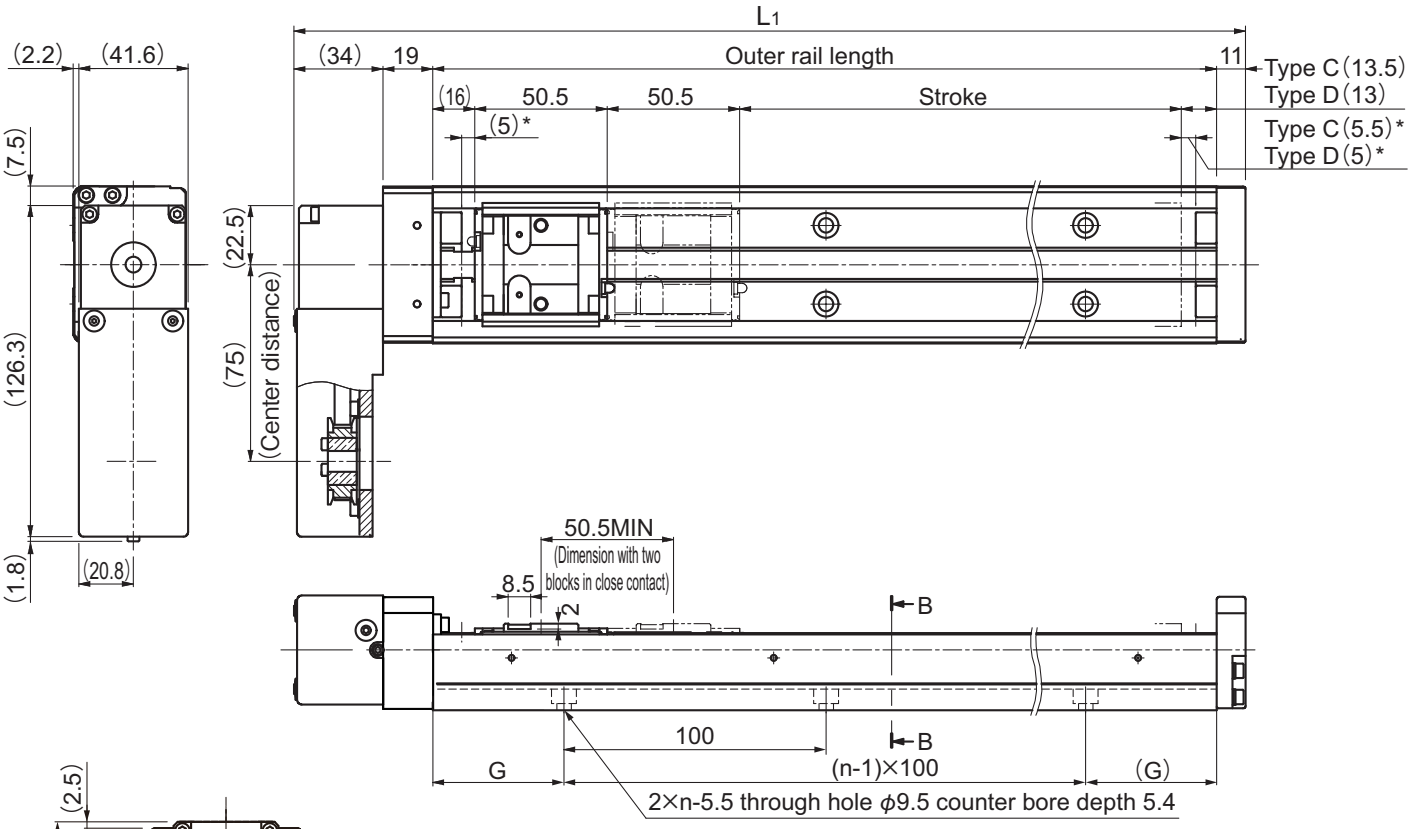
Options⇒page60

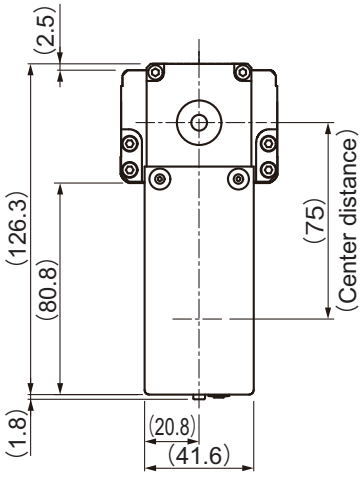
Model SKR33 Motor wrap, (without a Cover)

Model SKR33□□C (with a Single Short Type Block)

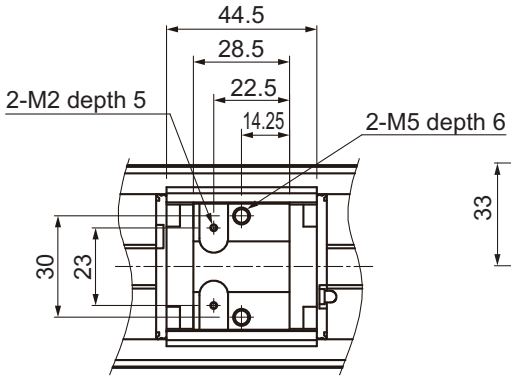
Model SKR33□□D (with Two Short Type Blocks)

For model number coding, see page23.

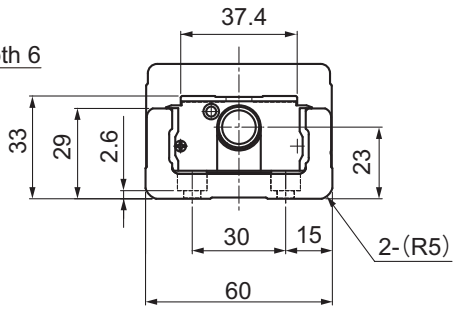




Motor wrap type, Bottom side



Detail, inner block



B-B cross section

* Distance between the mechanical stopper and the stroke starting position.

Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	G (mm)	n	Overall main unit mass(kg)	
Type C	Type D*					Type C	Type D
70(80.5)	20(30)	214	150	25	2	1.9	2.1
120(130.5)	70(80)	264	200	50	2	2.3	2.5
220(230.5)	170(180)	364	300	50	3	3	3.2
320(330.5)	270(280)	464	400	50	4	3.7	3.9
420(430.5)	370(380)	564	500	50	5	4.4	4.6
520(530.5)	470(480)	664	600	50	6	5.1	5.3
620(630.5)	570(580)	764	700	50	7	5.8	6

*Indicates a value when two inner blocks are in close contact with each other.

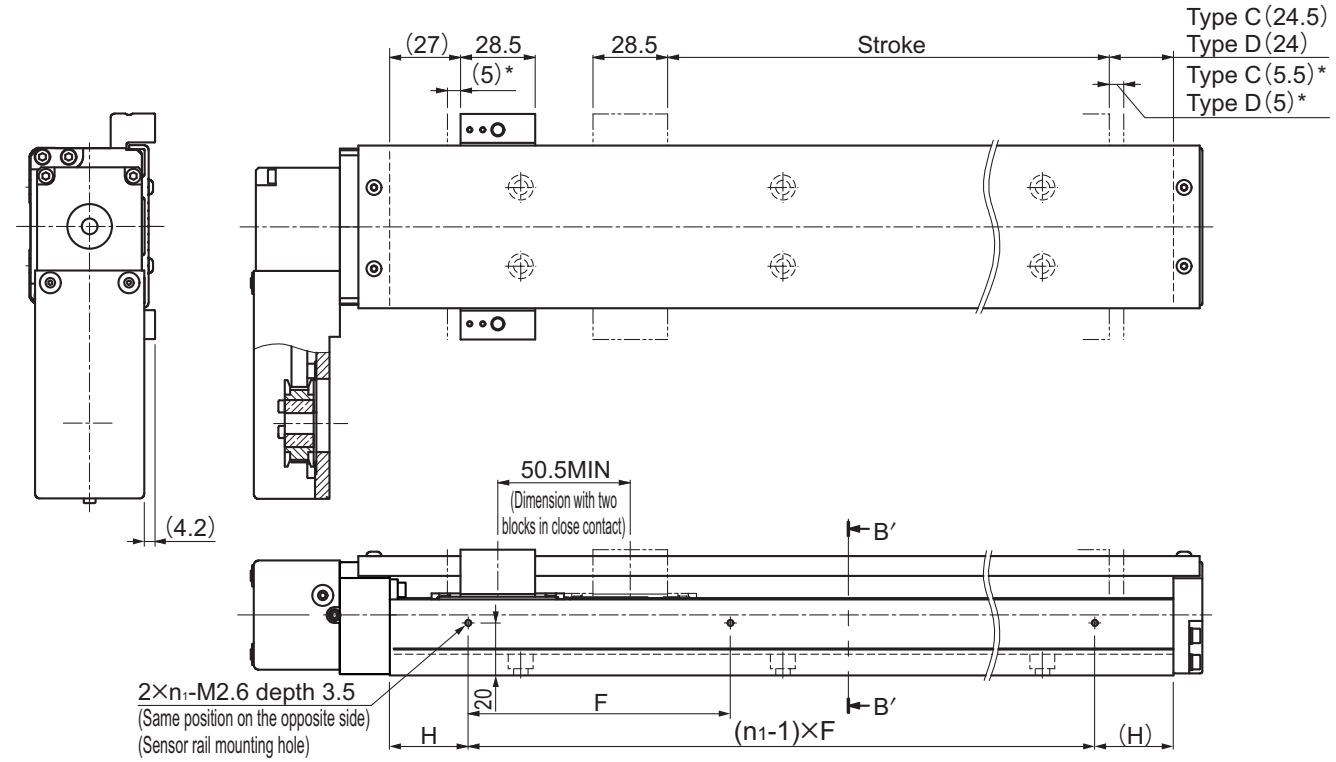
To download a desired data, search for the corresponding model number in the Technical site. https://tech.thk.com

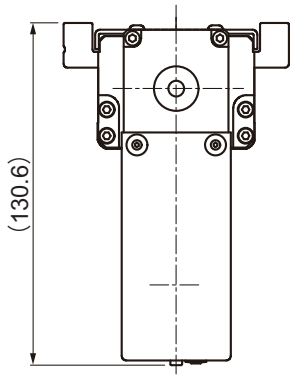
Model SKR33 Motor wrap (with a Cover)

Model SKR33□□C (with a Single Short Type Block)

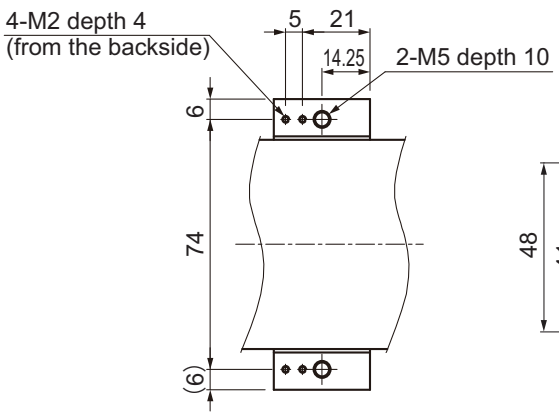
Model SKR33□□D (with Two Short Type Blocks)

For model number coding, see page23.

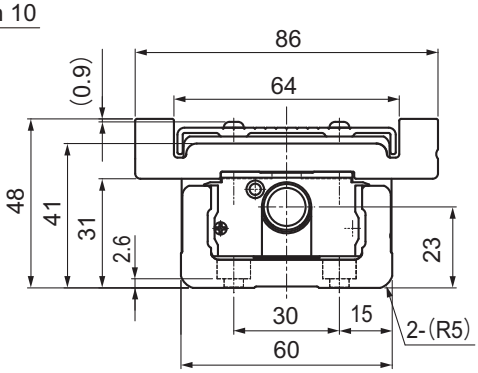




Motor wrap type, Bottom side



Detail, Top table



B′-B′ cross section

* Distance between the mechanical stopper and the stroke starting position.

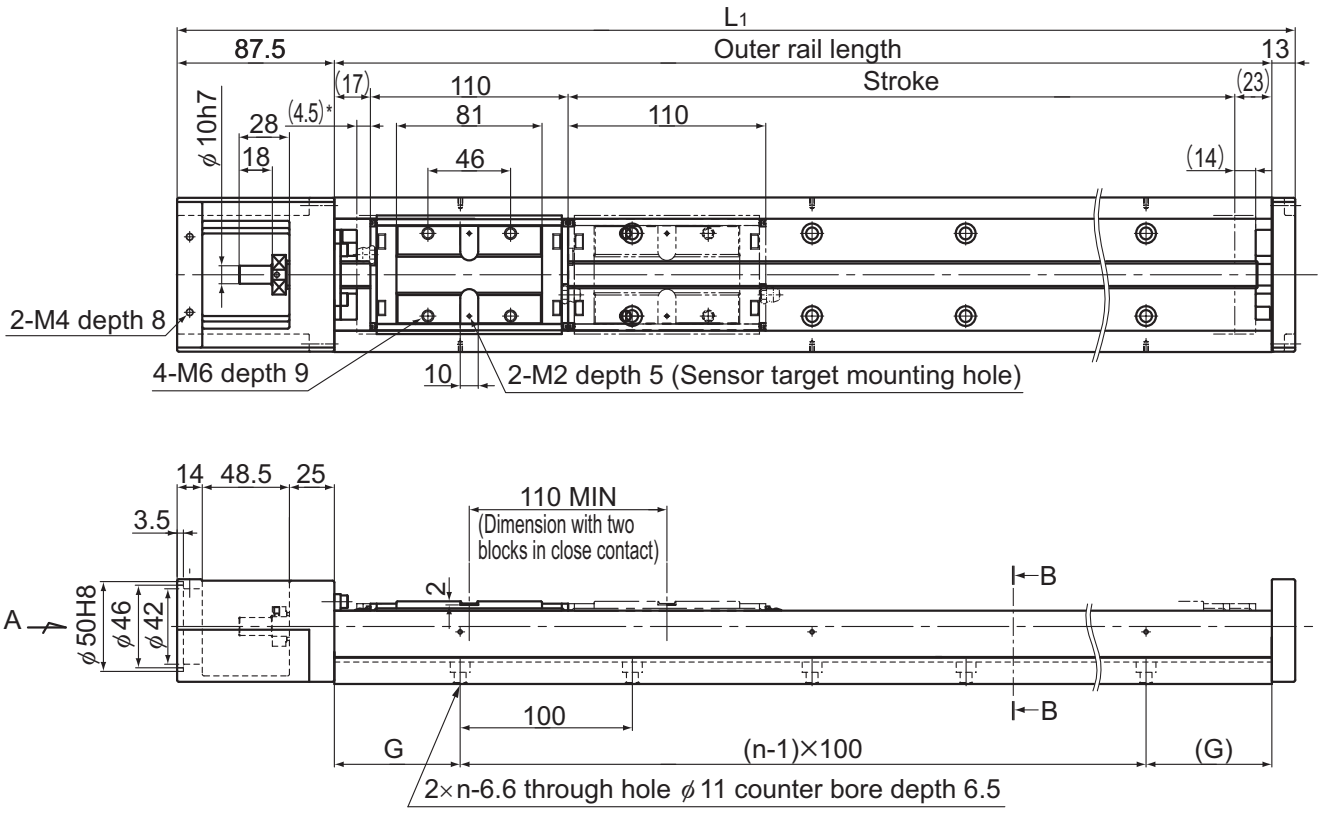
Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	H (mm)	F (mm)	n_1	Overall main unit mass(kg)	
Type C	Type D*						Type C	Type D
70(80.5)	20(30)	214	150	25	100	2	2.1	2.4
120(130.5)	70(80)	264	200	50	100	2	2.5	2.8
220(230.5)	170(180)	364	300	50	200	2	3.2	3.5
320(330.5)	270(280)	464	400	100	200	2	4	4.3
420(430.5)	370(380)	564	500	50	200	3	4.7	5
520(530.5)	470(480)	664	600	100	200	3	5.5	5.8
620(630.5)	570(580)	764	700	50	200	4	6.2	6.5

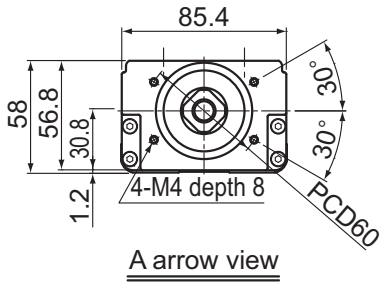
*Indicates a value when two inner blocks are in close contact with each other.

Options⇒page60

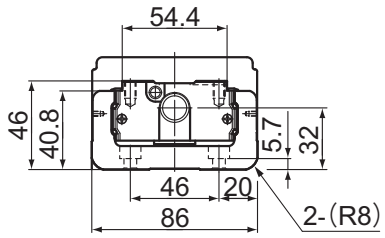
Model SKR46 (without a Cover)

Model SKR46□□A (with a Single Long Type Block)
Model SKR46□□B (with Two Long Type Blocks)
For model number coding, see page23.





A arrow view



B-B cross section

* Distance between the mechanical stopper and the stroke starting position.

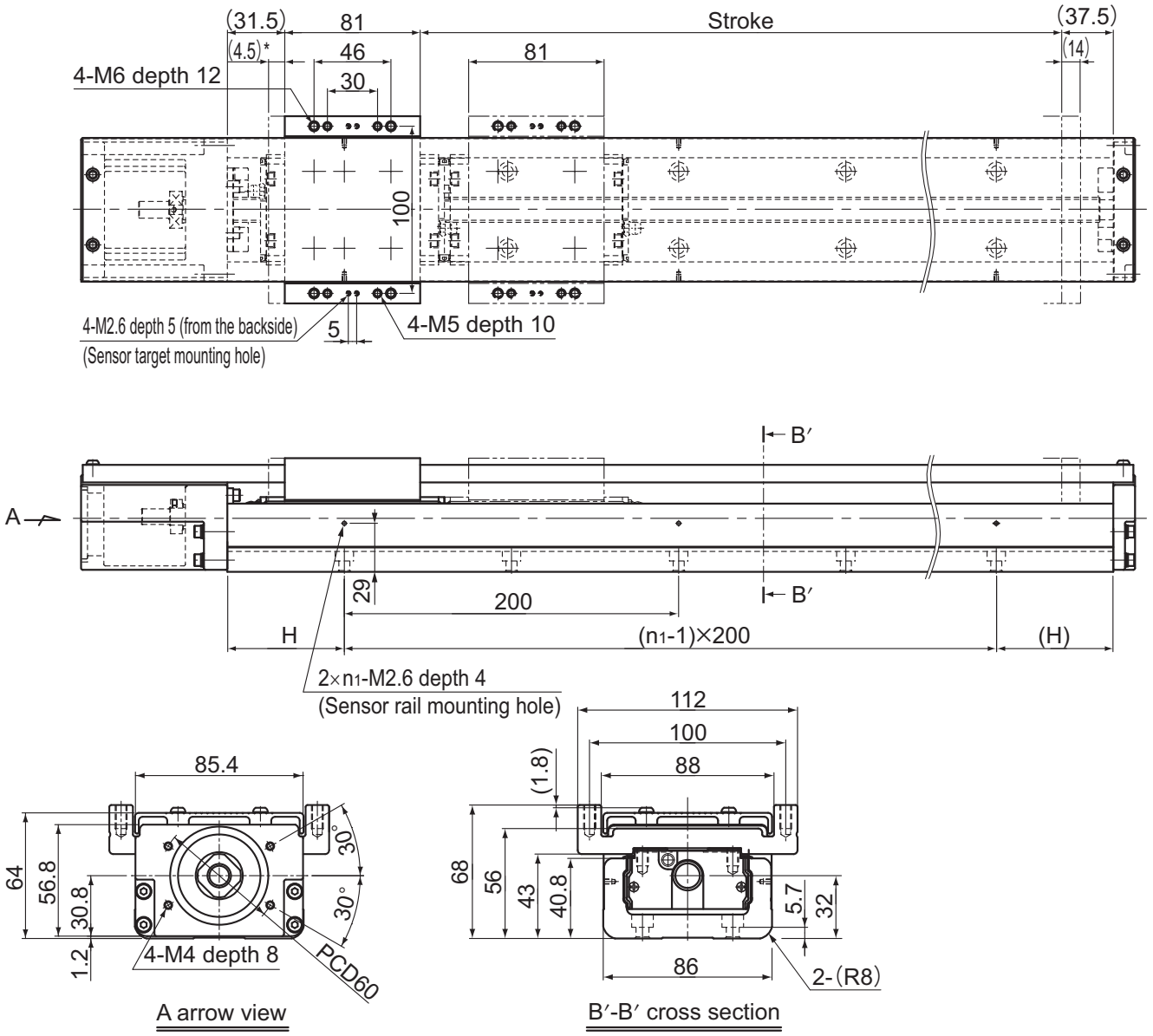
Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	G (mm)	n	Overall main unit mass (kg)	
Type A	Type B*					Type A	Type B
190(208.5)	80(98.5)	440.5	340	70	3	6.4	7.4
290(308.5)	180(198.5)	540.5	440	70	4	7.8	8.7
390(408.5)	280(298.5)	640.5	540	70	5	9.2	10.1
490(508.5)	380(398.5)	740.5	640	70	6	10.6	11.5
590(608.5)	480(498.5)	840.5	740	70	7	12.0	12.9
690(708.5)	580(598.5)	940.5	840	70	8	13.4	14.4
790(808.5)	680(698.5)	1040.5	940	70	9	14.8	15.7

*Indicates a value when two inner blocks are in close contact with each other.

To download a desired data, search for the corresponding model number in the Technical site. https://tech.thk.com

Model SKR46 (with a Cover)

Model SKR46□□A (with a Single Long Type Block)
Model SKR46□□B (with Two Long Type Blocks)
For model number coding, see page23.



* Distance between the mechanical stopper and the stroke starting position.

Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	H (mm)	n_1	Overall main unit mass (kg)	
Type A	Type B*					Type A	Type B
190(208.5)	80(98.5)	440.5	340	70	2	7.1	8.3
290(308.5)	180(198.5)	540.5	440	20	3	8.6	9.8
390(408.5)	280(298.5)	640.5	540	70	3	10.0	11.3
490(508.5)	380(398.5)	740.5	640	20	4	11.5	12.7
590(608.5)	480(498.5)	840.5	740	70	4	13.0	14.2
690(708.5)	580(598.5)	940.5	840	20	5	14.5	15.7
790(808.5)	680(698.5)	1040.5	940	70	5	16.0	17.2

*Indicates a value when two inner blocks are in close contact with each other.

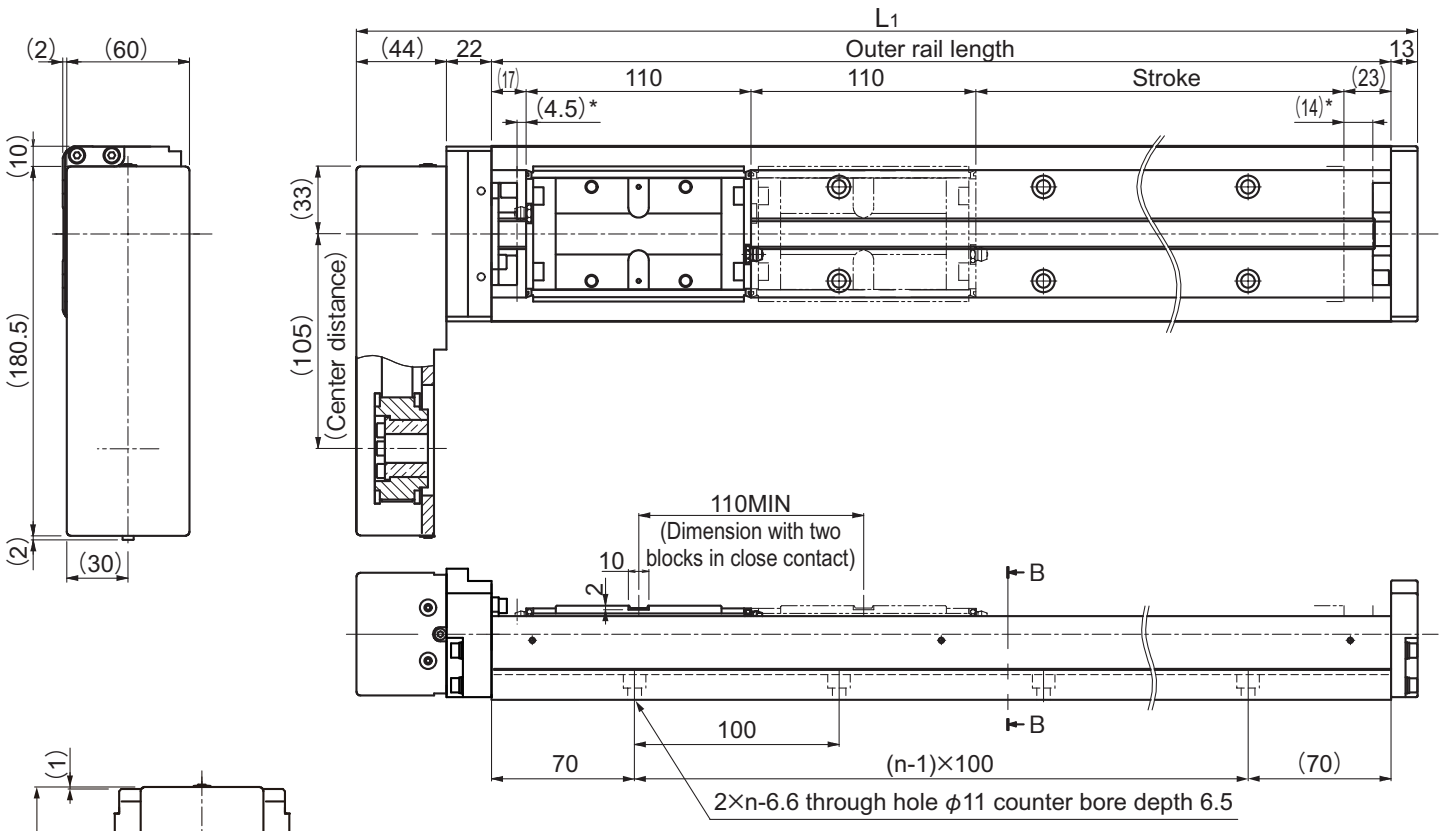
Options⇒page60

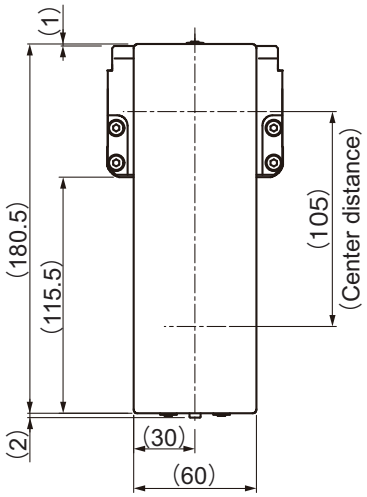
Model SKR46 Motor wrap, (without a Cover)

Model SKR46□□A (with a Single Long Type Block)

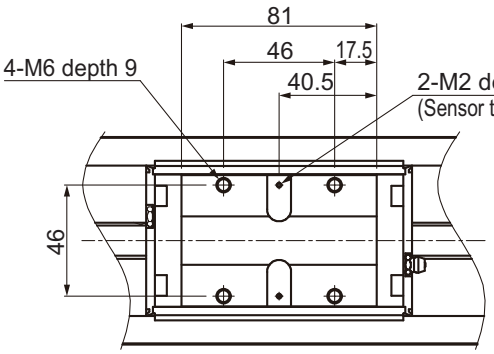
Model SKR46□□B (with Two Long Type Blocks)

For model number coding, see page23.

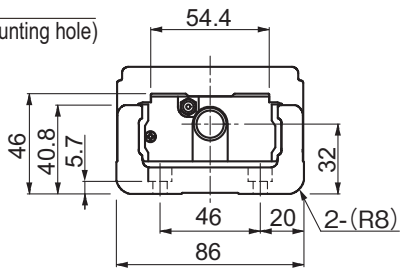




Motor wrap type, Bottom side



Detail, inner block



B-B cross section

* Distance between the mechanical stopper and the stroke starting position.

Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	n	Overall main unit mass(kg)	
Type A	Type B*				Type A	Type B
190(208.5)	80(98.5)	419	340	3	7.4	8.4
290(308.5)	180(198.5)	519	440	4	8.8	9.8
390(408.5)	280(298.5)	619	540	5	10.2	11.2
490(508.5)	380(398.5)	719	640	6	11.6	12.6
590(608.5)	480(498.5)	819	740	7	13	14
690(708.5)	580(598.5)	919	840	8	14.4	15.4
790(808.5)	680(698.5)	1019	940	9	15.8	16.8

*Indicates a value when two inner blocks are in close contact with each other.

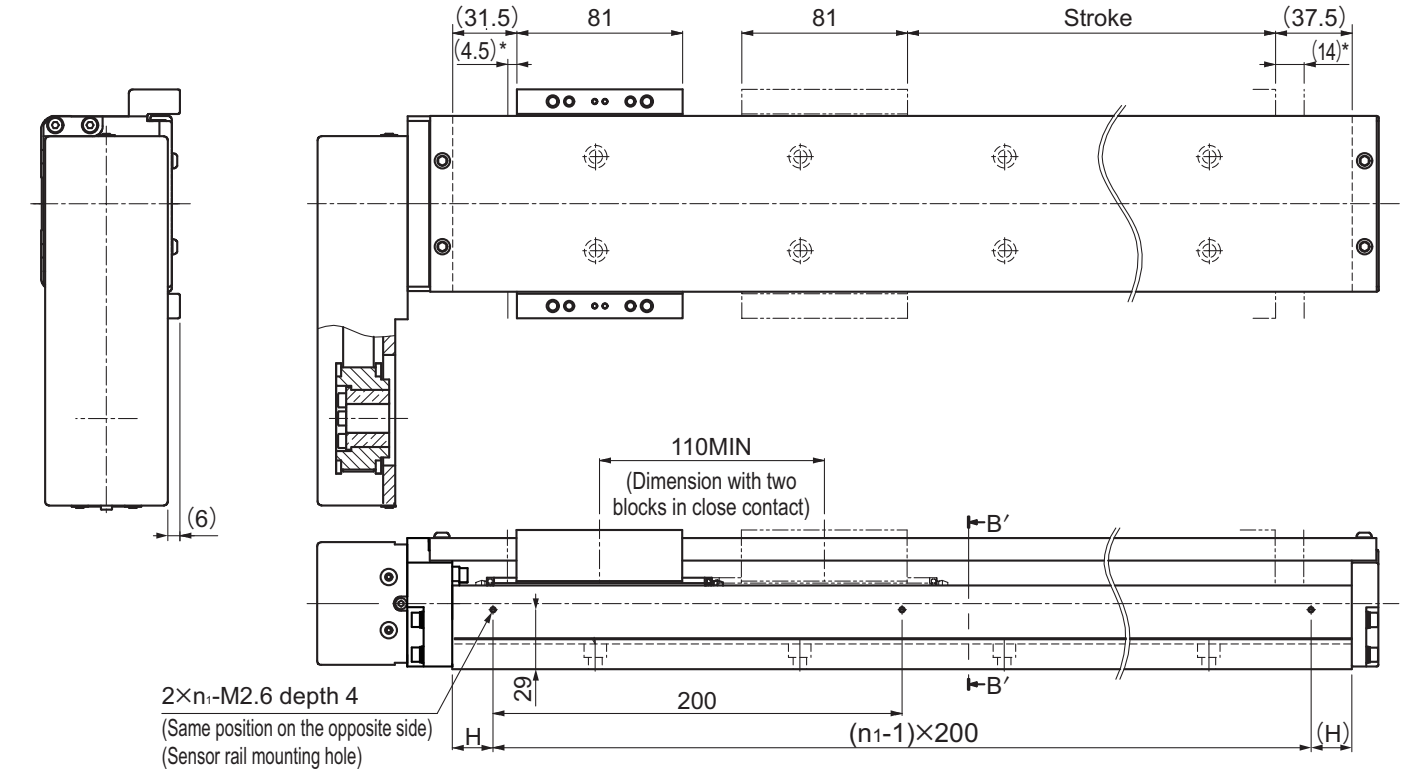
To download a desired data, search for the corresponding model number in the Technical site. https://tech.thk.com

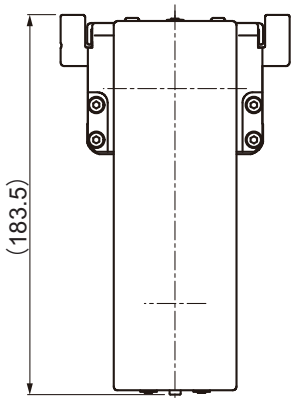
Model SKR46 Motor wrap (with a Cover)

Model SKR46□□A (with a Single Long Type Block)

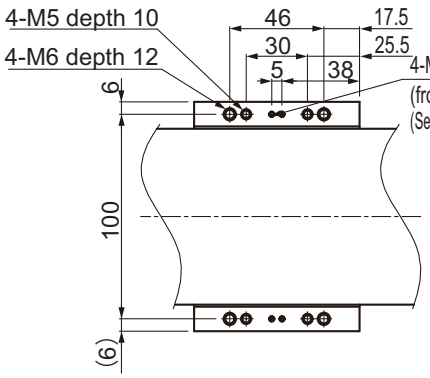
Model SKR46□□B (with Two Long Type Blocks)

For model number coding, see page23.

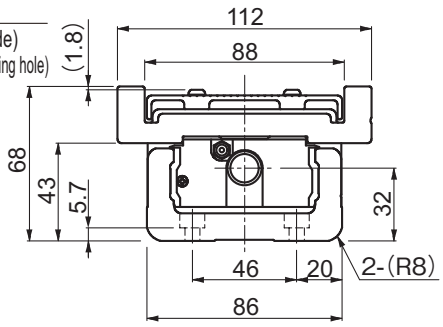




Motor wrap type, Bottom side



Detail, Top table



B′-B′ cross section

* Distance between the mechanical stopper and the stroke starting position.

Stroke (mm) (stroke between mechanical stoppers)		Overall length L1(mm)	Outer rail length (mm)	H (mm)	n1	Overall main unit mass(kg)	
Type A	Type B*					Type A	Type B
190(208.5)	80(98.5)	419	340	70	2	8	9.2
290(308.5)	180(198.5)	519	440	20	3	9.5	10.7
390(408.5)	280(298.5)	619	540	70	3	10.9	12.1
490(508.5)	380(398.5)	719	640	20	4	12.4	13.6
590(608.5)	480(498.5)	819	740	70	4	13.9	15.1
690(708.5)	580(598.5)	919	840	20	5	15.4	16.6
790(808.5)	680(698.5)	1019	940	70	5	16.9	18.1

*Indicates a value when two inner blocks are in close contact with each other.

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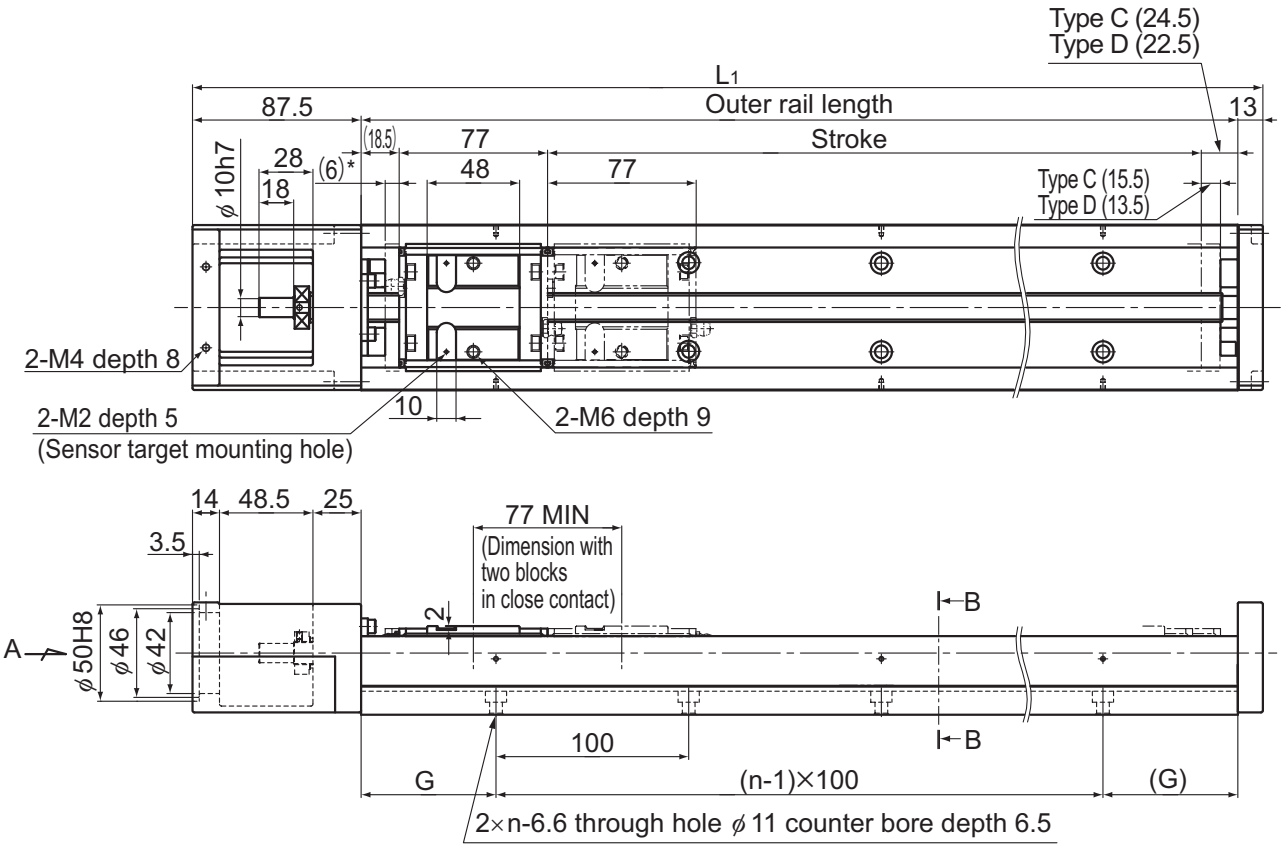
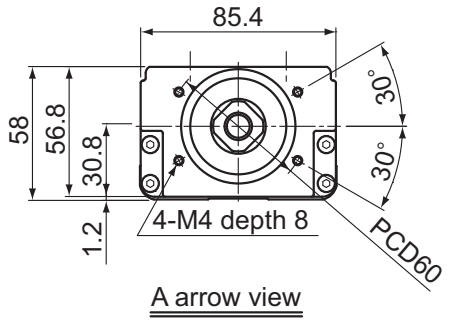
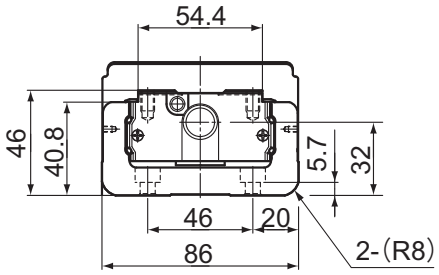
Model SKR46 (without a Cover)

Model SKR46□□C (with a Single Short Type Block)
Model SKR46□□D (with Two Short Type Blocks)
For model number coding, see page23.





A arrow view



B-B cross section

* Distance between the mechanical stopper and the stroke starting position.

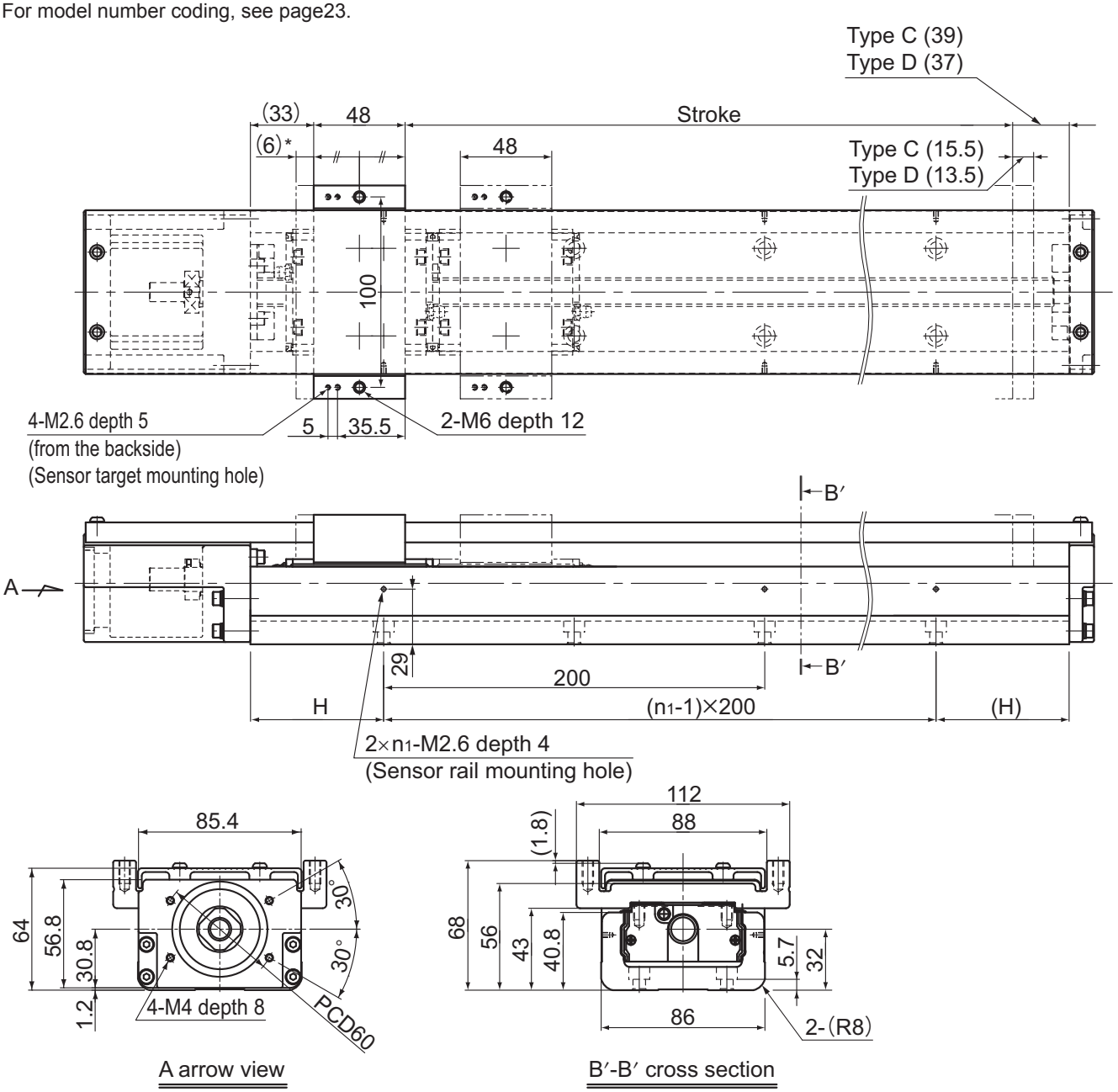
Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	G (mm)	n	Overall main unit mass (kg)	
Type C	Type D*					Type C	Type D
220(241.5)	145(164.5)	440.5	340	70	3	6.1	6.7
320(341.5)	245(264.5)	540.5	440	70	4	7.5	8.1
420(441.5)	345(364.5)	640.5	540	70	5	8.9	9.5
520(541.5)	445(464.5)	740.5	640	70	6	10.3	10.8
620(641.5)	545(564.5)	840.5	740	70	7	11.7	12.2
720(741.5)	645(664.5)	940.5	840	70	8	13.1	13.7
820(841.5)	745(764.5)	1040.5	940	70	9	14.5	15.0

*Indicates a value when two inner blocks are in close contact with each other.

To download a desired data, search for the corresponding model number in the Technical site. https://tech.thk.com

Model SKR46 (with a Cover)

Model SKR46□□C (with a Single Short Type Block)
Model SKR46□□D (with Two Short Type Blocks)
For model number coding, see page23.



* Distance between the mechanical stopper and the stroke starting position.

Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	H (mm)	n_1	Overall main unit mass (kg)	
Type C	Type D*					Type C	Type D
220(241.5)	145(164.5)	440.5	340	70	2	6.6	7.4
320(341.5)	245(264.5)	540.5	440	20	3	8.1	8.9
420(441.5)	345(364.5)	640.5	540	70	3	9.6	10.3
520(541.5)	445(464.5)	740.5	640	20	4	11.0	11.8
620(641.5)	545(564.5)	840.5	740	70	4	12.5	13.3
720(741.5)	645(664.5)	940.5	840	20	5	14	14.8
820(841.5)	745(764.5)	1040.5	940	70	5	15.5	16.3

*Indicates a value when two inner blocks are in close contact with each other.

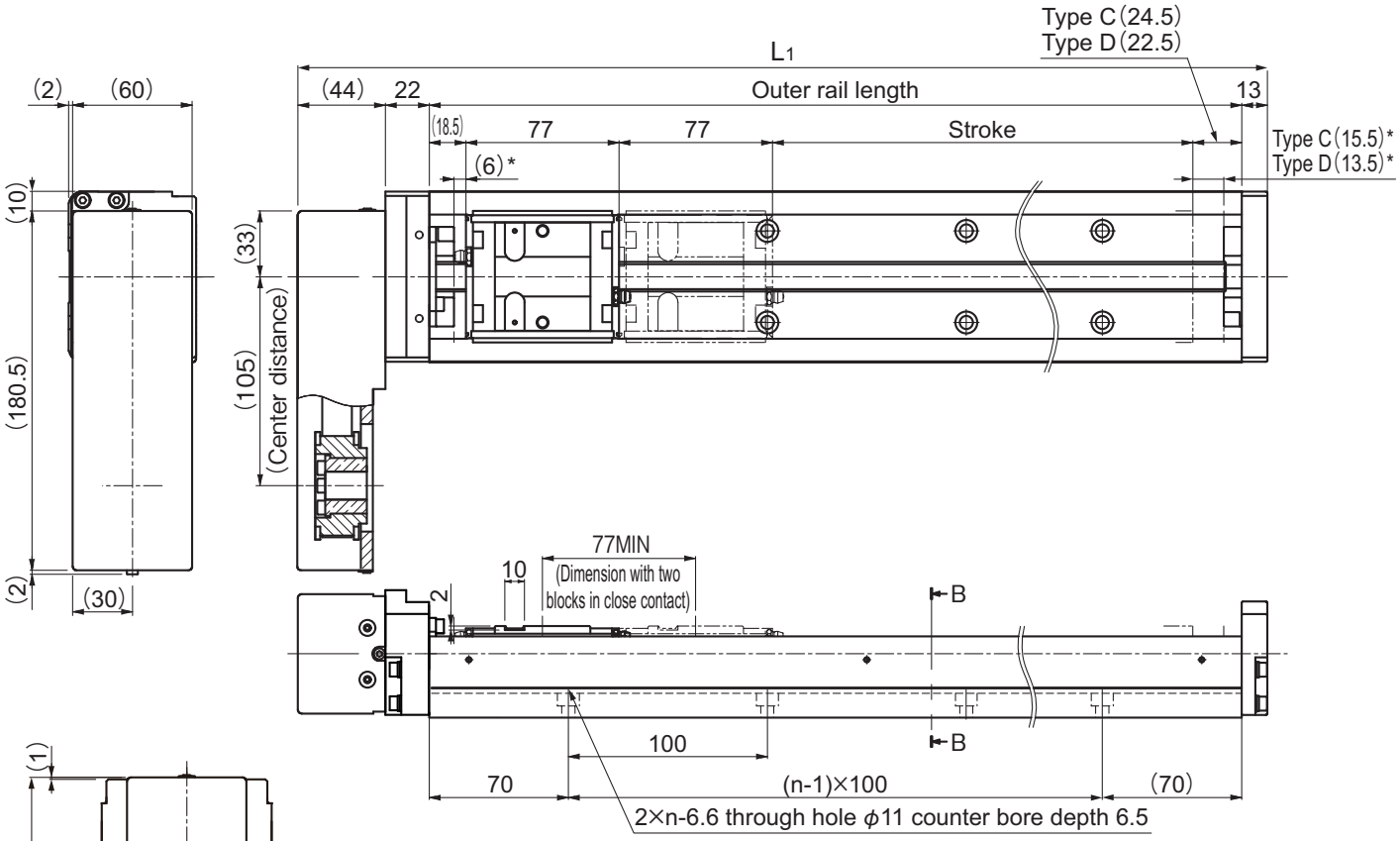
Options⇒page60

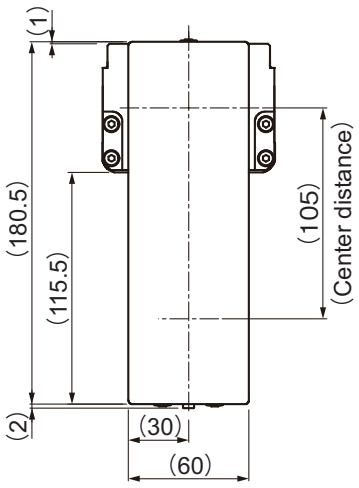
Model SKR46 Motor wrap, (without a Cover)

Model SKR46□□C (with a Single Short Type Block)

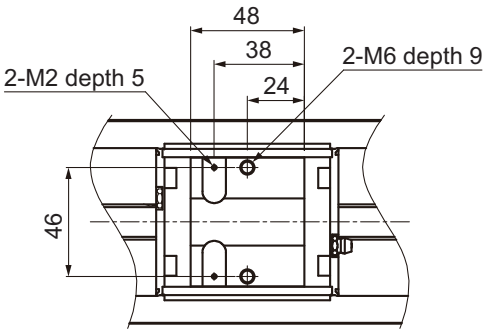
Model SKR46□□D (with Two Short Type Blocks)

For model number coding, see page23.

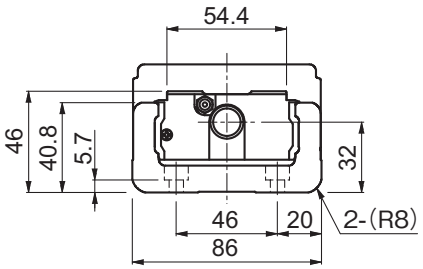




Motor wrap type, Bottom side



Detail, inner block



B-B cross section

* Distance between the mechanical stopper and the stroke starting position.

Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	n	Overall main unit mass(kg)	
Type C	Type D*				Type C	Type D
220(241.5)	145(164.5)	419	340	3	7.1	7.7
320(341.5)	245(264.5)	519	440	4	8.5	9.1
420(441.5)	345(364.5)	619	540	5	9.9	10.5
520(541.5)	445(464.5)	719	640	6	11.3	11.9
620(641.5)	545(564.5)	819	740	7	12.7	13.3
720(741.5)	645(664.5)	919	840	8	14.1	14.7
820(841.5)	745(764.5)	1019	940	9	15.5	16.1

*Indicates a value when two inner blocks are in close contact with each other.

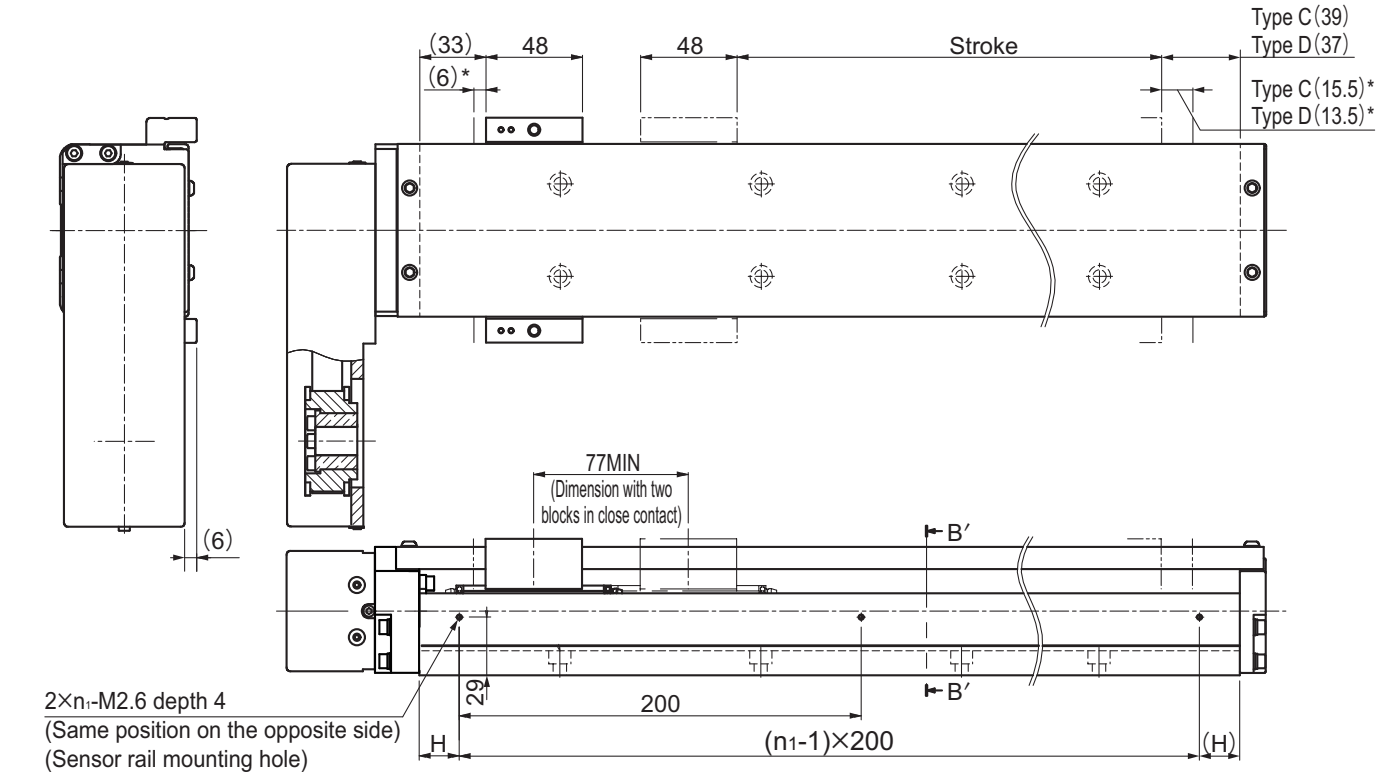
To download a desired data, search for the corresponding model number in the Technical site. https://tech.thk.com

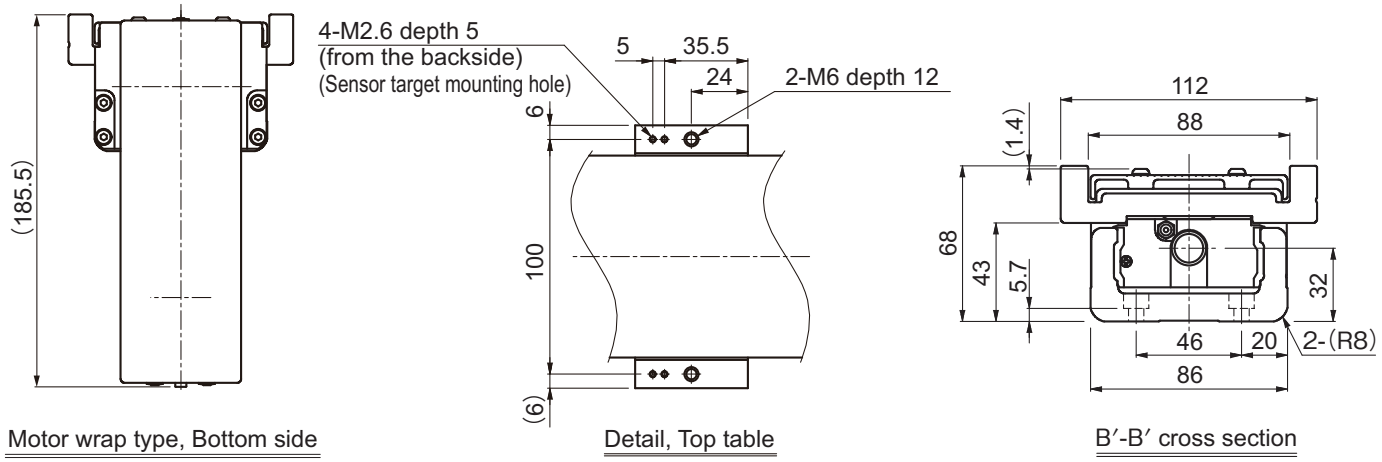
Model SKR46 Motor wrap (with a Cover)

Model SKR46□□C (with a Single Short Type Block)

Model SKR46□□D (with Two Short Type Blocks)

For model number coding, see page23.





Motor wrap type, Bottom side

Detail, Top table

B′-B′ cross section

* Distance between the mechanical stopper and the stroke starting position.

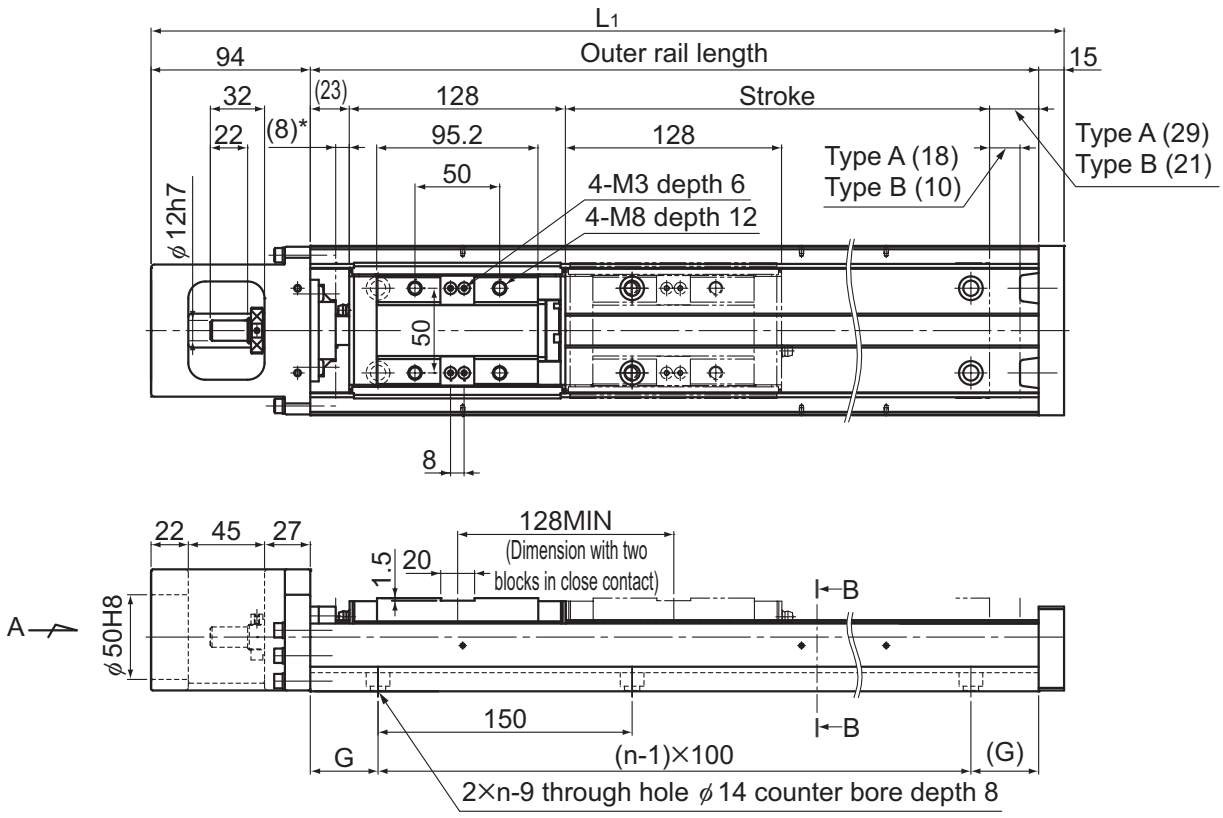
Stroke (mm) (stroke between mechanical stoppers)		Overall length L1(mm)	Outer rail length (mm)	H (mm)	n1	Overall main unit mass(kg)	
Type C	Type D*					Type C	Type D
220(241.5)	145(164.5)	419	340	70	2	7.5	8.3
320(341.5)	245(264.5)	519	440	20	3	9	9.8
420(441.5)	345(364.5)	619	540	70	3	10.5	11.3
520(541.5)	445(464.5)	719	640	20	4	11.9	12.7
620(641.5)	545(564.5)	819	740	70	4	13.4	14.2
720(741.5)	645(664.5)	919	840	20	5	14.9	15.7
820(841.5)	745(764.5)	1019	940	70	5	16.4	17.2

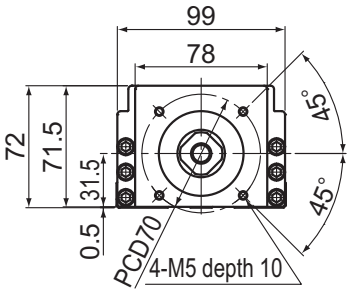
*Indicates a value when two inner blocks are in close contact with each other.

Options⇒page60

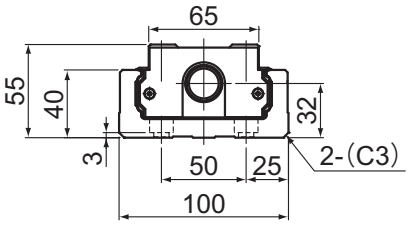
Model SKR55 (without a Cover)

Model SKR55□□A (with a Single Long Type Block)
Model SKR55□□B (with Two Long Type Blocks)
For model number coding, see page23.





A arrow view



B-B cross section

* Distance between the mechanical stopper and the stroke starting position.

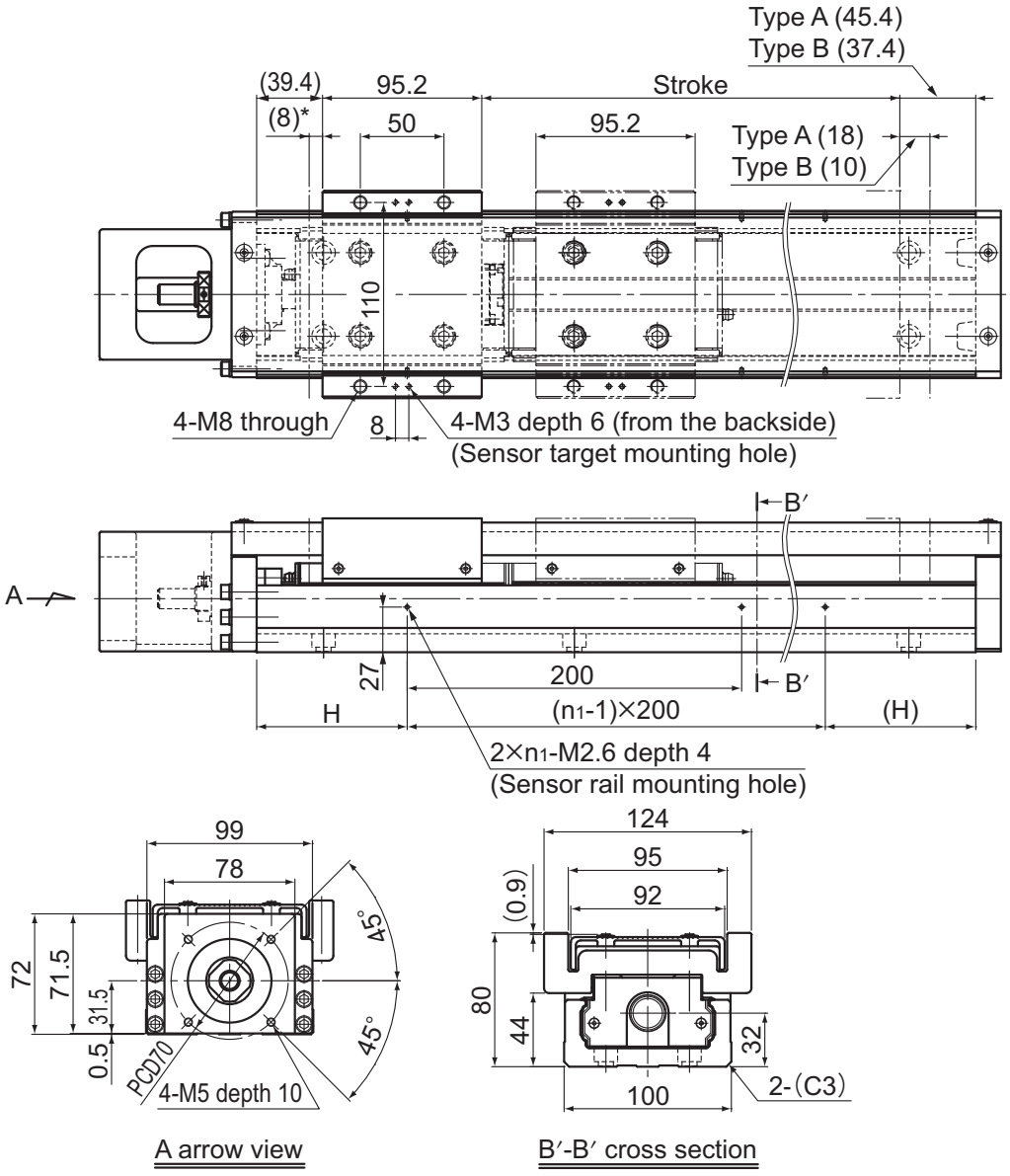
Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	G (mm)	n	Overall main unit mass (kg)	
Type A	Type B*					Type A	Type B
800 (826)	680 (698)	1089	980	40	7	20.8	22.7
900 (926)	780 (798)	1189	1080	15	8	22.6	24.5
1000 (1026)	880 (898)	1289	1180	65	8	24.4	26.3
1100 (1126)	980 (998)	1389	1280	40	9	26.1	28
1200 (1226)	1080 (1098)	1489	1380	15	10	27.9	29.8

*Indicates a value when two inner blocks are in close contact with each other.

To download a desired data, search for the corresponding model number in the Technical site. https://tech.thk.com

Model SKR55 (with a Cover)

Model SKR55□□A (with a Single Long Type Block)
Model SKR55□□B (with Two Long Type Blocks)
For model number coding, see page23.



* Distance between the mechanical stopper and the stroke starting position.

Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	H (mm)	n_1	Overall main unit mass (kg)	
Type A	Type B*					Type A	Type B
800 (826)	680 (698)	1089	980	90	5	23.8	27.6
900 (926)	780 (798)	1189	1080	40	6	25.7	29.5
1000 (1026)	880 (898)	1289	1180	90	6	27.6	31.4
1100 (1126)	980 (998)	1389	1280	40	7	29.5	33.3
1200 (1226)	1080 (1098)	1489	1380	90	7	31.4	35.2

*Indicates a value when two inner blocks are in close contact with each other.

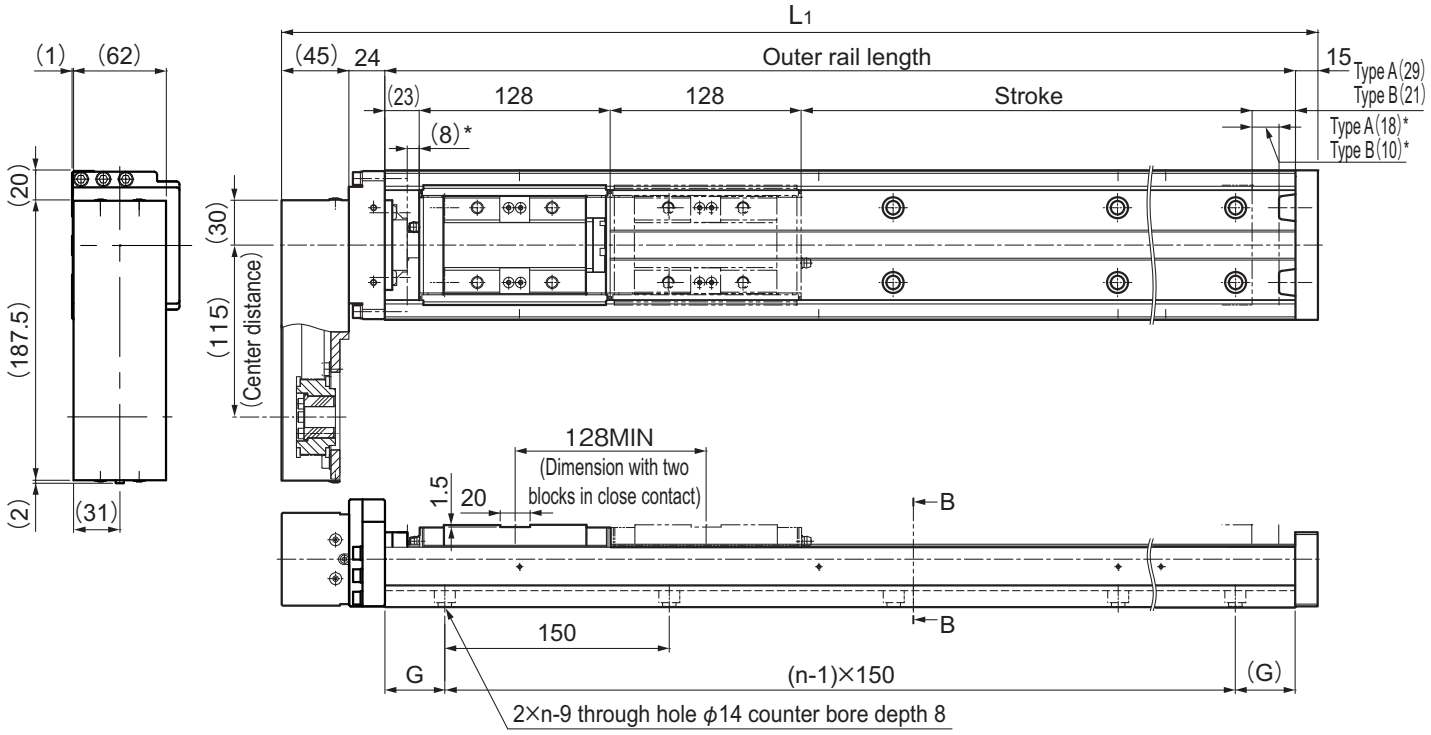
Options⇒page60

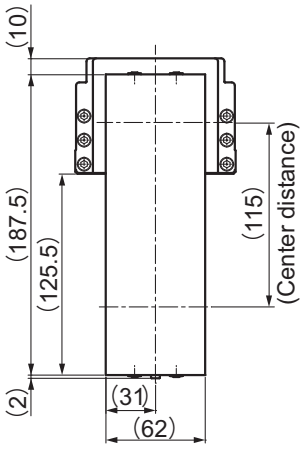
Model SKR55 Motor wrap, (without a Cover) 400W

Model SKR55□□A (with a Single Long Type Block)

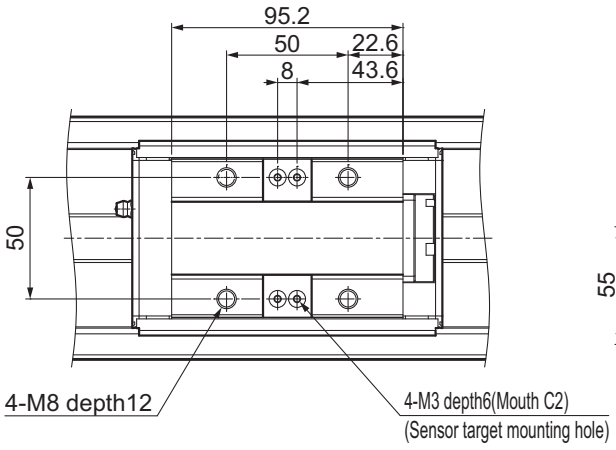
Model SKR55□□B (with Two Long Type Blocks)

For model number coding, see page23.

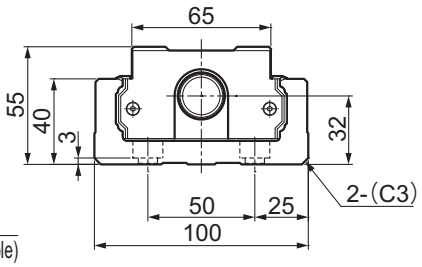




Motor wrap type, Bottom side



Detail, inner block



B-B cross section

* Distance between the mechanical stopper and the stroke starting position.

Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	G (mm)	n	Overall main unit mass(kg)	
Type A	Type B*					Type A	Type B
800(826)	680(698)	1064	980	40	7	21.8	23.7
900(926)	780(798)	1164	1080	15	8	23.6	25.5
1000(1026)	880(898)	1264	1180	65	8	25.4	27.3
1100(1126)	980(998)	1364	1280	40	9	27.1	29
1200(1226)	1080(1098)	1464	1380	15	10	28.9	30.8

*Indicates a value when two inner blocks are in close contact with each other.

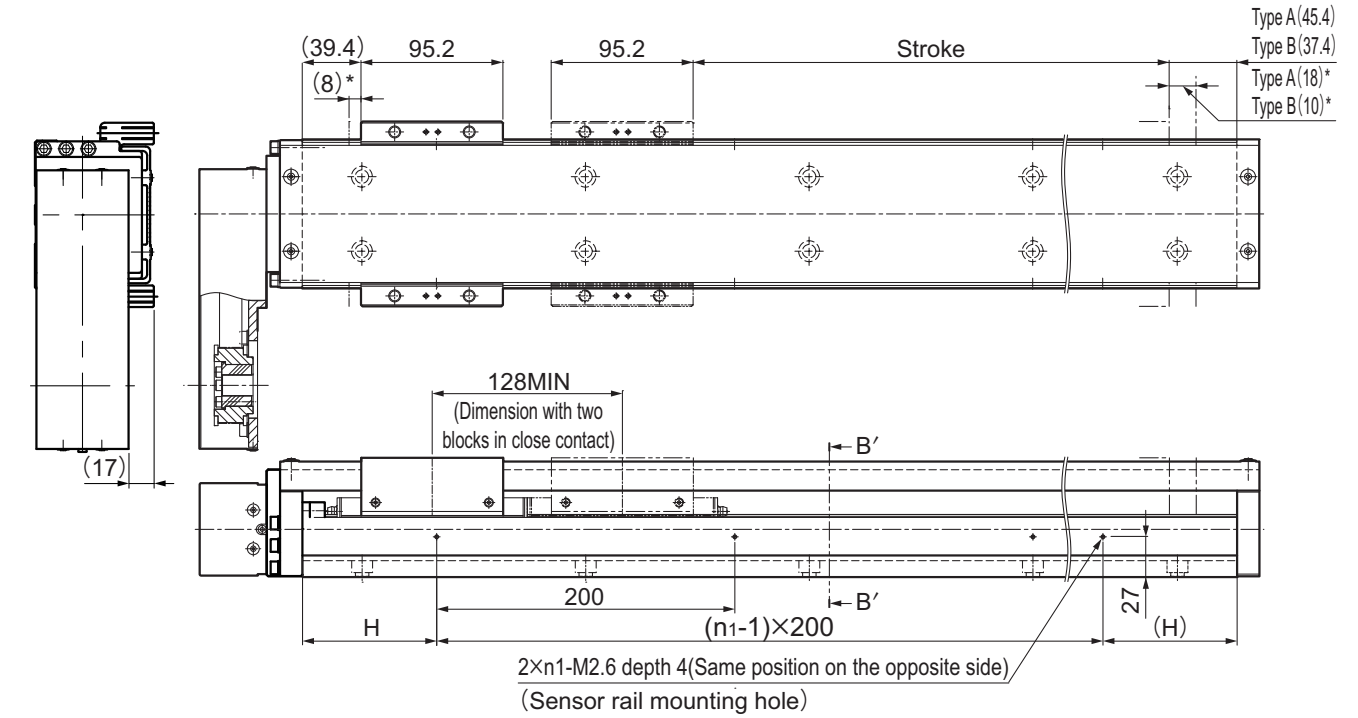
To download a desired data, search for the corresponding model number in the Technical site. https://tech.thk.com

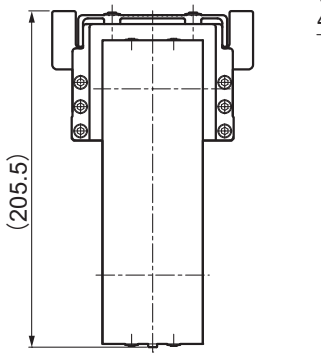
Model SKR55 Motor wrap (with a Cover) 400W

Model SKR55□□A (with a Single Long Type Block)

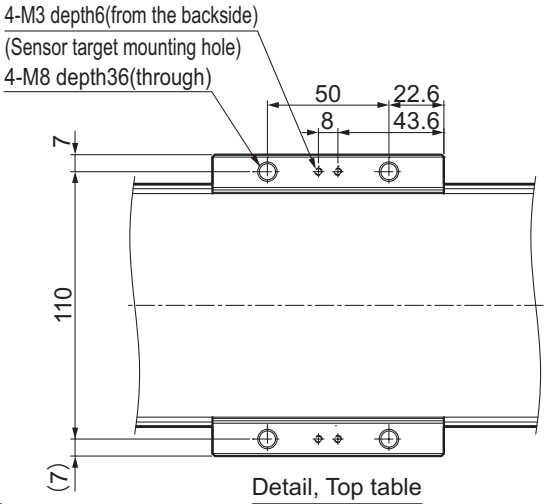
Model SKR55□□B (with Two Long Type Blocks)

For model number coding, see page23.

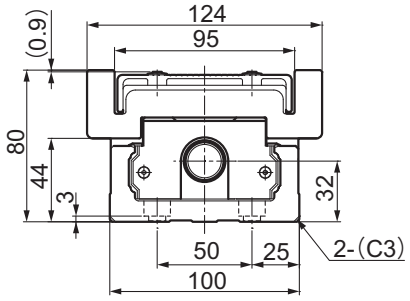




Motor wrap type, Bottom side



Detail, Top table



B′-B′ cross section

* Distance between the mechanical stopper and the stroke starting position.

Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	H (mm)	n_1	Overall main unit mass(kg)	
Type A	Type B*					Type A	Type B
800(826)	680(698)	1064	980	90	5	24.8	28.6
900(926)	780(798)	1164	1080	40	6	26.7	30.5
1000(1026)	880(898)	1264	1180	90	6	28.6	32.4
1100(1126)	980(998)	1364	1280	40	7	30.5	34.3
1200(1226)	1080(1098)	1464	1380	90	7	32.4	36.2

*Indicates a value when two inner blocks are in close contact with each other.

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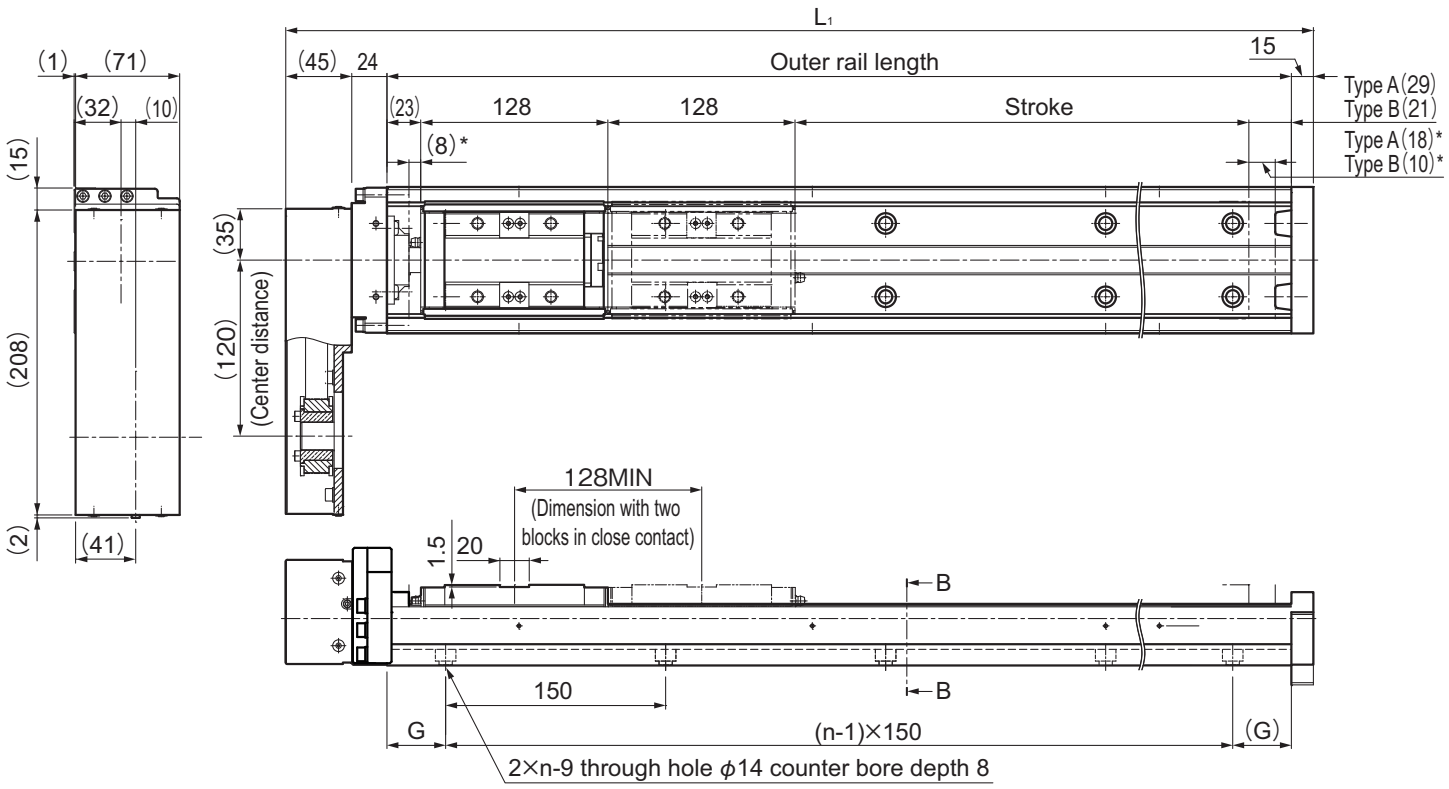
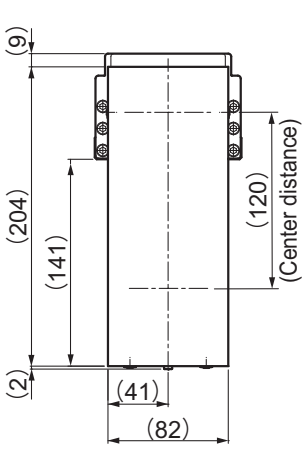
Model SKR55 Motor wrap, (without a Cover) 750W

Model SKR55□□A (with a Single Long Type Block)

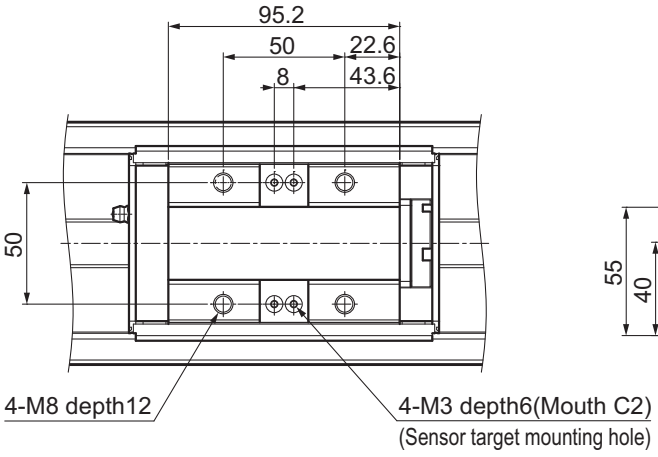
Model SKR55□□B (with Two Long Type Blocks)

For model number coding, see page23.

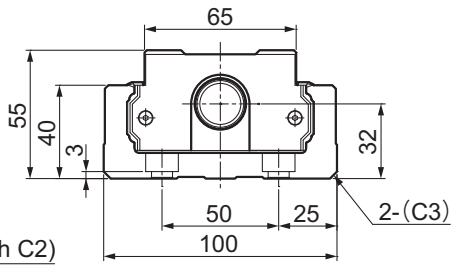




Motor wrap type, Bottom side



Detail, inner block



B-B cross section

* Distance between the mechanical stopper and the stroke starting position.

Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	G (mm)	n	Overall main unit mass(kg)	
Type A	Type B*					Type A	Type B
800(826)	680(698)	1064	980	40	7	22.2	24.1
900(926)	780(798)	1164	1080	15	8	24	25.9
1000(1026)	880(898)	1264	1180	65	8	25.8	27.7
1100(1126)	980(998)	1364	1280	40	9	27.5	29.4
1200(1226)	1080(1098)	1464	1380	15	10	29.3	31.2

*Indicates a value when two inner blocks are in close contact with each other.

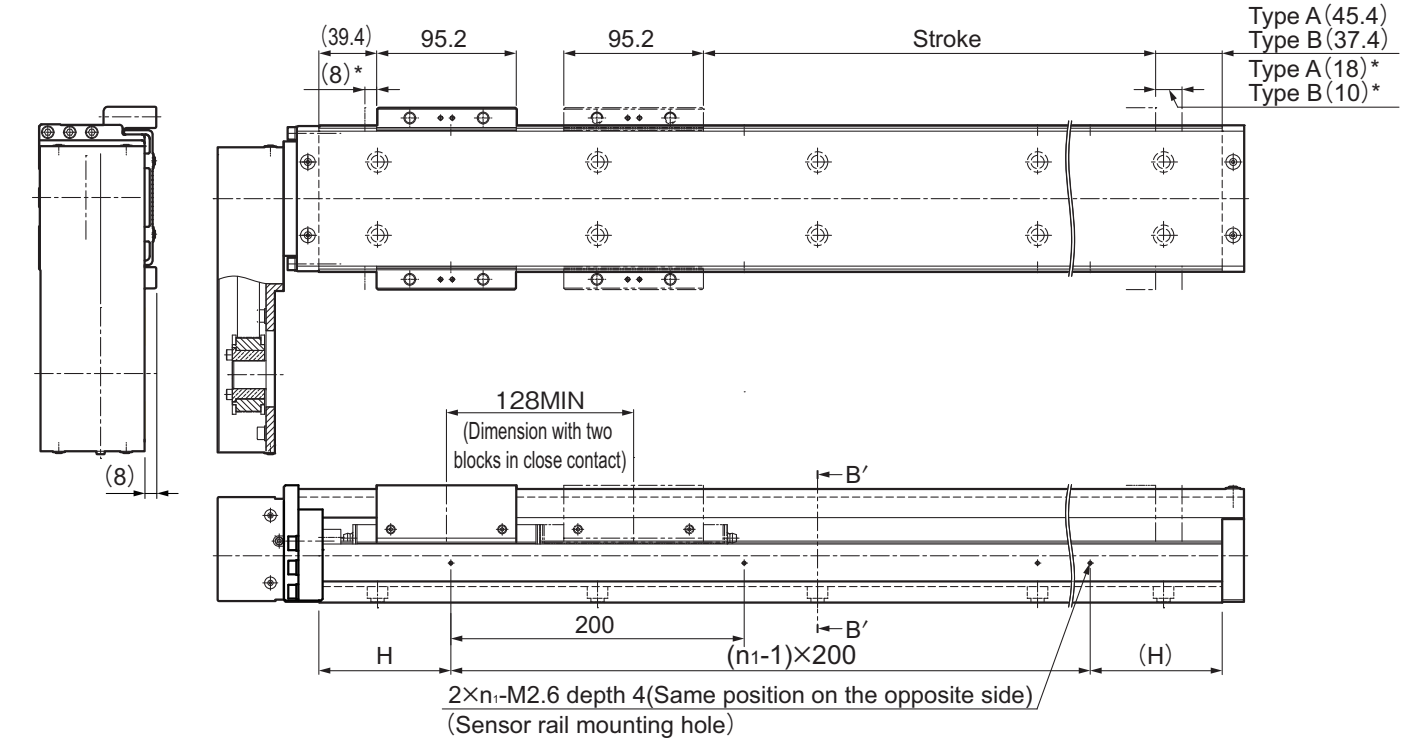
To download a desired data, search for the corresponding model number in the Technical site. https://tech.thk.com

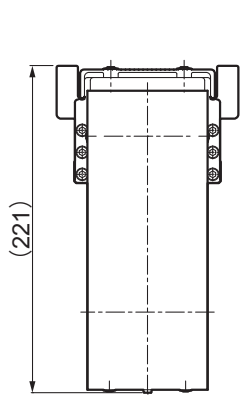
Model SKR55 Motor wrap (with a Cover) 750W

Model SKR55□□A (with a Single Long Type Block)

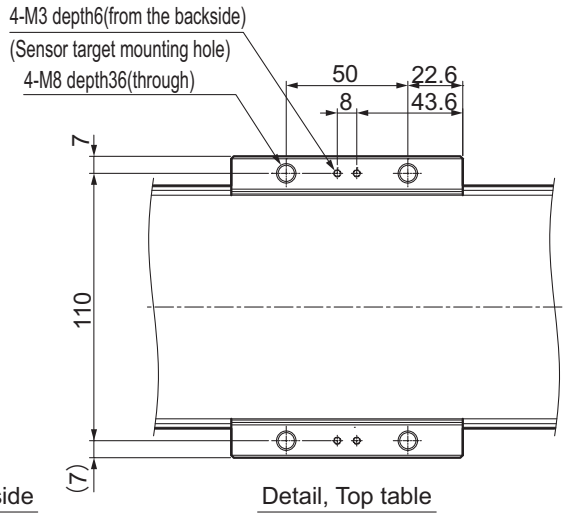
Model SKR55□□B (with Two Long Type Blocks)

For model number coding, see page23.

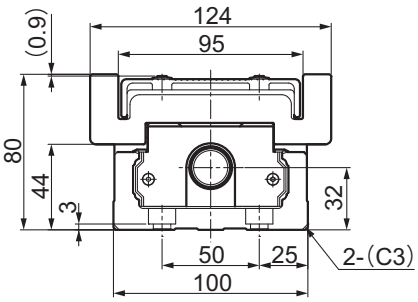




Motor wrap type, Bottom side



Detail, Top table



B′-B′ cross section

* Distance between the mechanical stopper and the stroke starting position.

Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1 (mm)	Outer rail length (mm)	H (mm)	n_1	Overall main unit mass(kg)	
Type A	Type B*					Type A	Type B
800(826)	680(698)	1064	980	90	5	25.2	29
900(926)	780(798)	1164	1080	40	6	27.1	30.9
1000(1026)	880(898)	1264	1180	90	6	29	32.8
1100(1126)	980(998)	1364	1280	40	7	30.9	34.7
1200(1226)	1080(1098)	1464	1380	90	7	32.8	36.6

*Indicates a value when two inner blocks are in close contact with each other.

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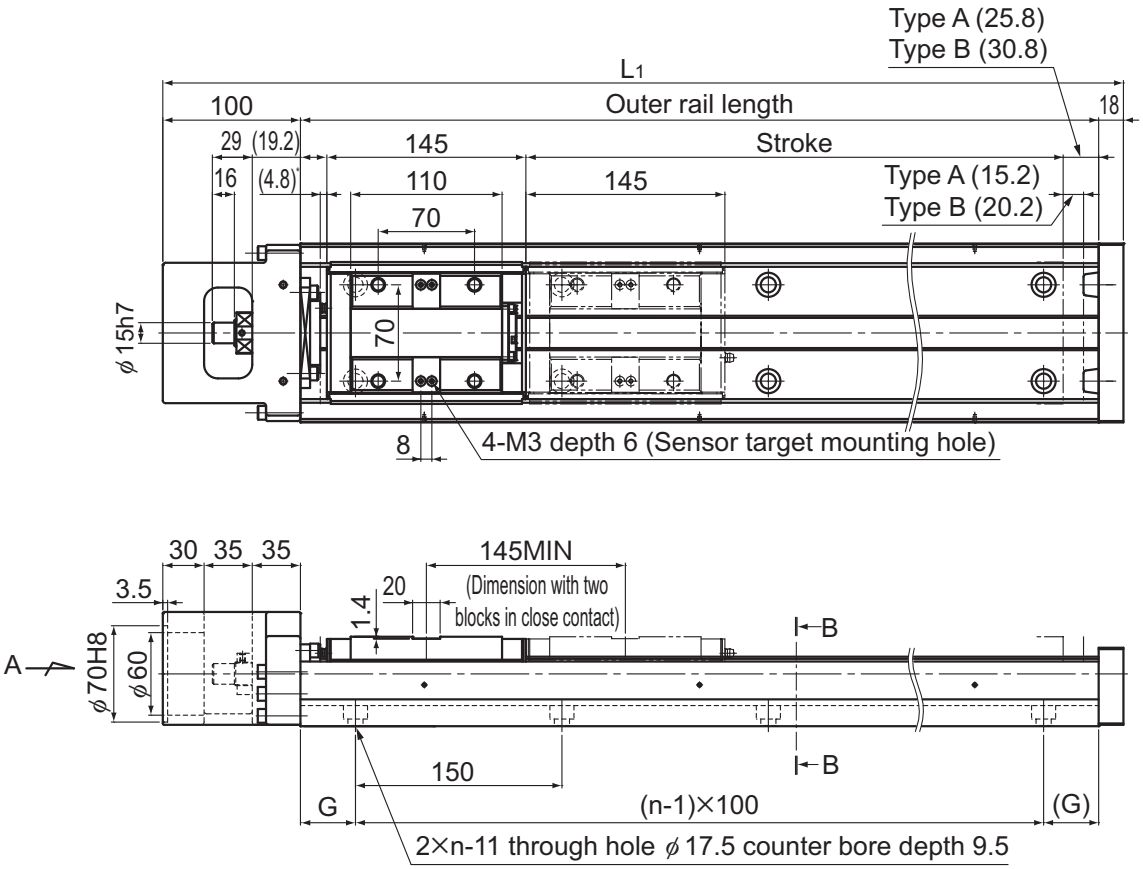
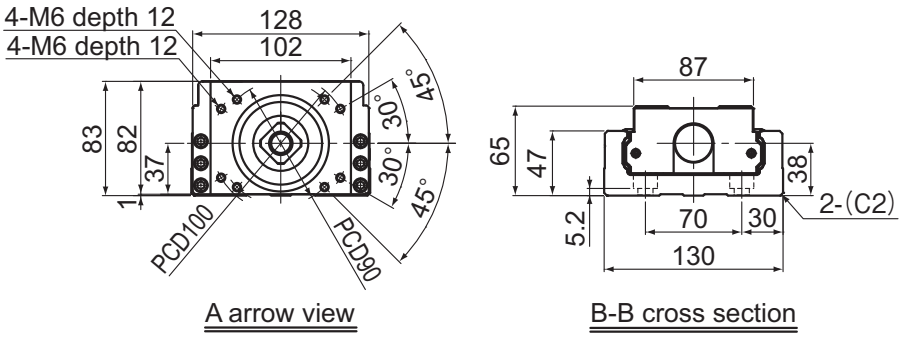
Model SKR65 (without a Cover)

Model SKR65□□A (with a Single Long Type Block)
Model SKR65□□B (with Two Long Type Blocks)
For model number coding, see page23.





* Distance between the mechanical stopper and the stroke starting position.

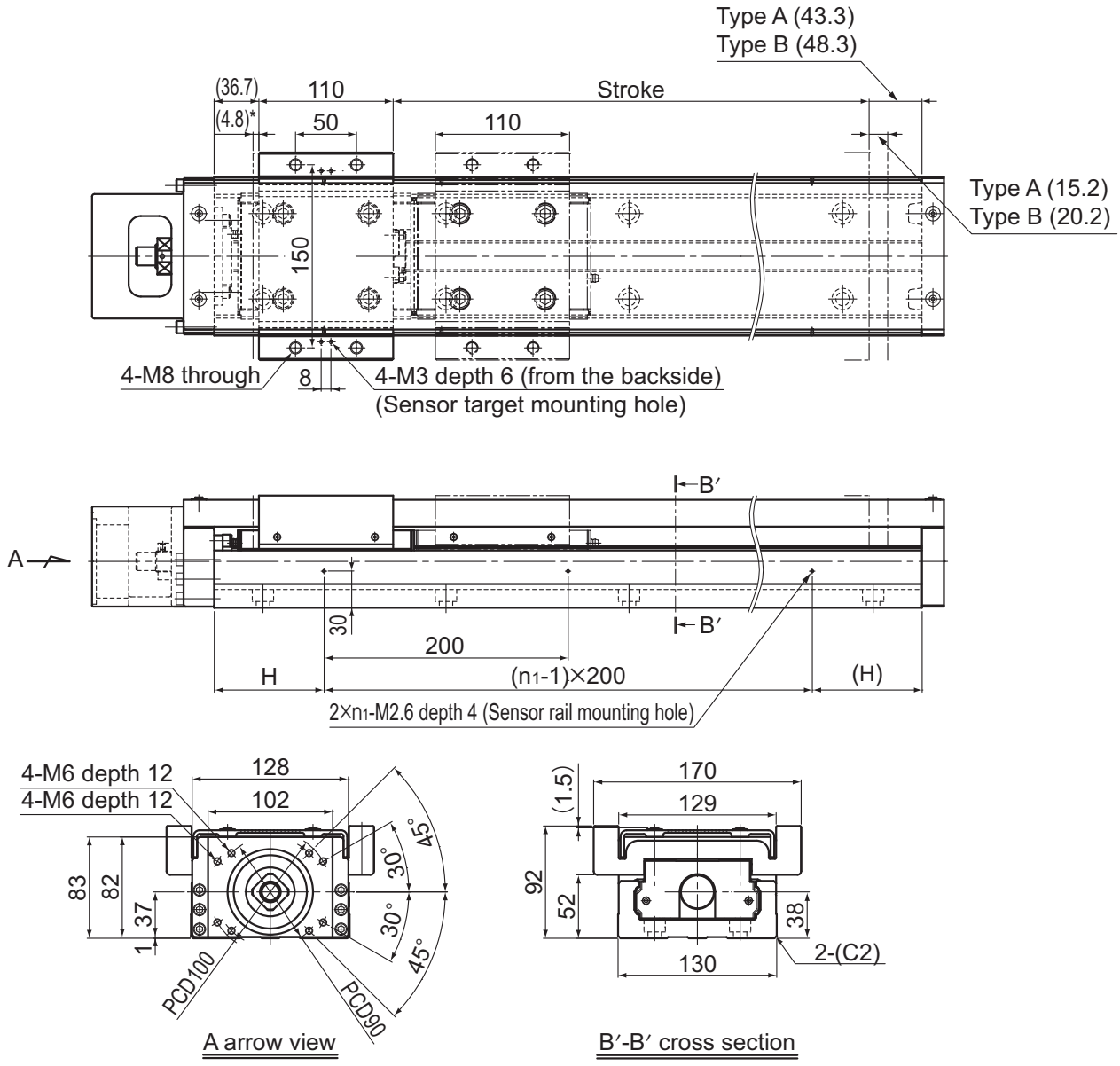
Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	G (mm)	n	Overall main unit mass (kg)	
Type A	Type B*					Type A	Type B
790 (810)	640 (665)	1098	980	40	7	30.2	33.2
990 (1010)	840 (865)	1298	1180	65	8	35.4	38.4
1190 (1210)	1040 (1065)	1498	1380	90	9	40.6	43.6
1490 (1510)	1340 (1365)	1798	1680	90	11	48.3	51.3

*Indicates a value when two inner blocks are in close contact with each other.

To download a desired data, search for the corresponding model number in the Technical site. https://tech.thk.com

Model SKR65 (with a Cover)

Model SKR65□□A (with a Single Long Type Block)
Model SKR65□□B (with Two Long Type Blocks)
For model number coding, see page23.



* Distance between the mechanical stopper and the stroke starting position.

Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	H (mm)	n_1	Overall main unit mass (kg)	
Type A	Type B*					Type A	Type B
790 (810)	640 (665)	1098	980	90	5	33.4	40.1
990 (1010)	840 (865)	1298	1180	90	6	38.9	45.6
1190 (1210)	1040 (1065)	1498	1380	90	7	44.3	51
1490 (1510)	1340 (1365)	1798	1680	40	9	52.4	59.1

*Indicates a value when two inner blocks are in close contact with each other.

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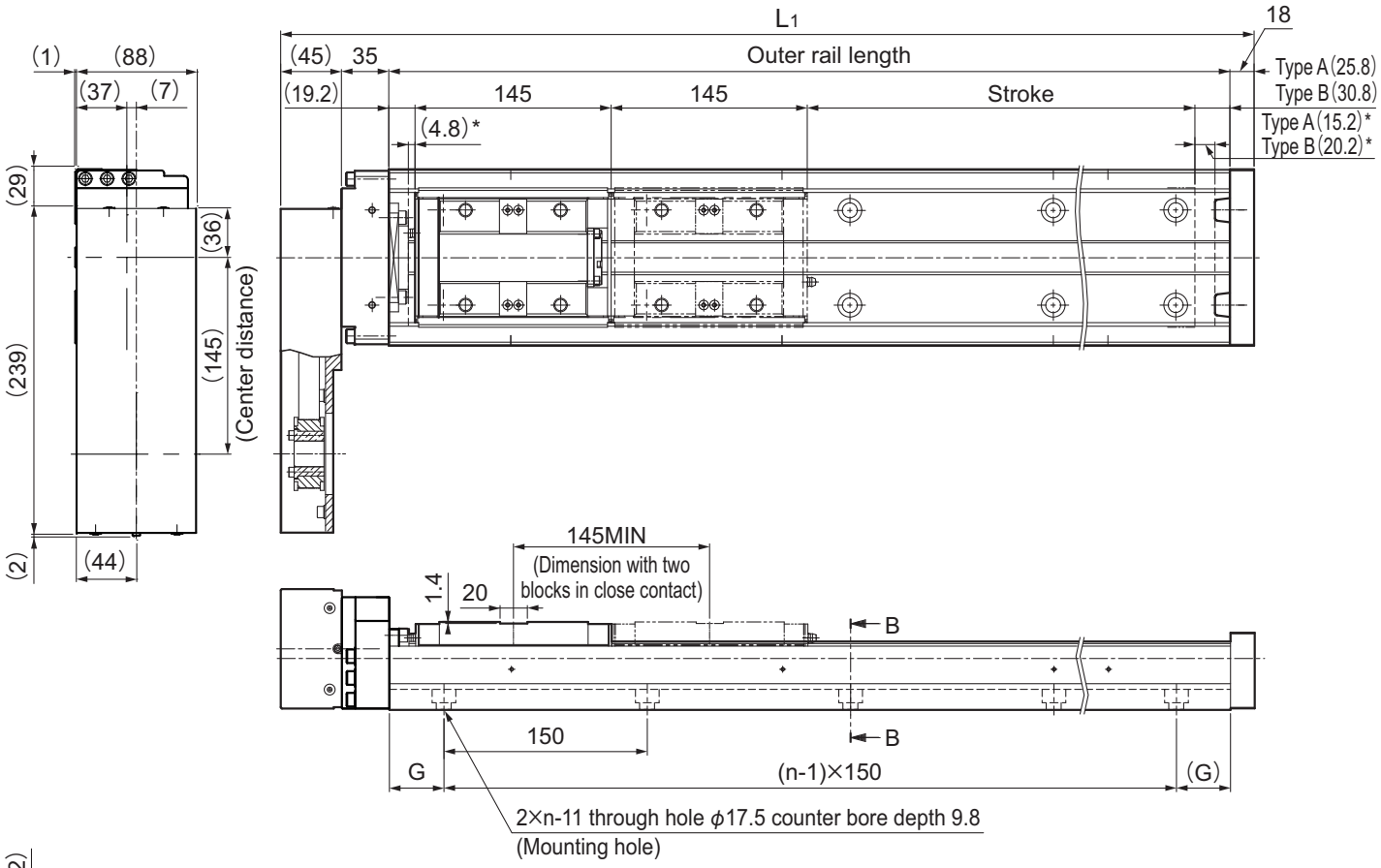
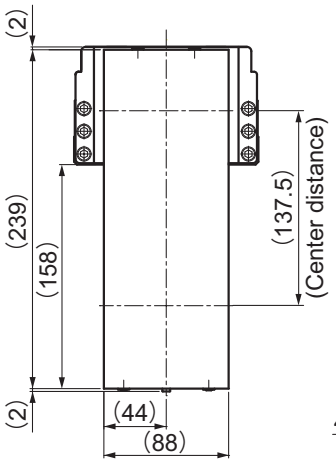
Model SKR65 Motor wrap, (without a Cover)

Model SKR65□□A (with a Single Long Type Block)

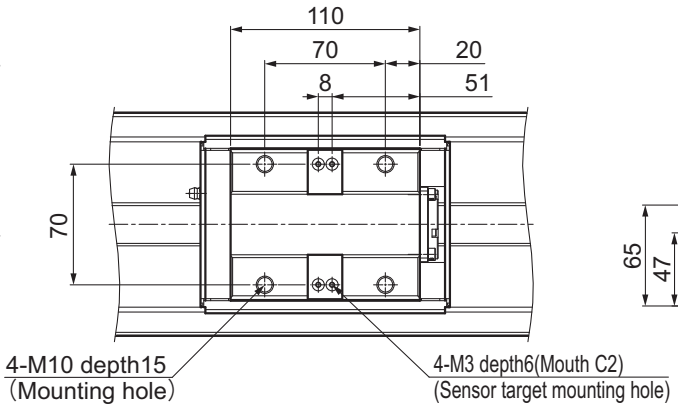
Model SKR65□□B (with Two Long Type Blocks)

For model number coding, see page23.

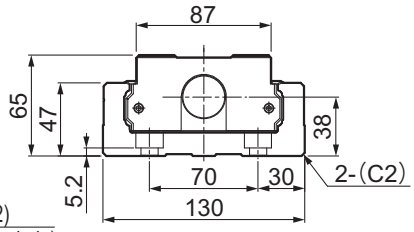




Motor wrap type, Bottom side



Detail, inner block



B-B cross section

* Distance between the mechanical stopper and the stroke starting position.

Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	G (mm)	n	Overall main unit mass(kg)	
Type A	Type B*					Type A	Type B
790(810)	640(665)	1078	980	40	7	32.3	35.3
990(1010)	840(865)	1278	1180	65	8	37.5	40.5
1190(1210)	1040(1065)	1478	1380	90	9	42.7	45.7
1490(1510)	1340(1365)	1778	1680	90	11	50.4	53.4

*Indicates a value when two inner blocks are in close contact with each other.

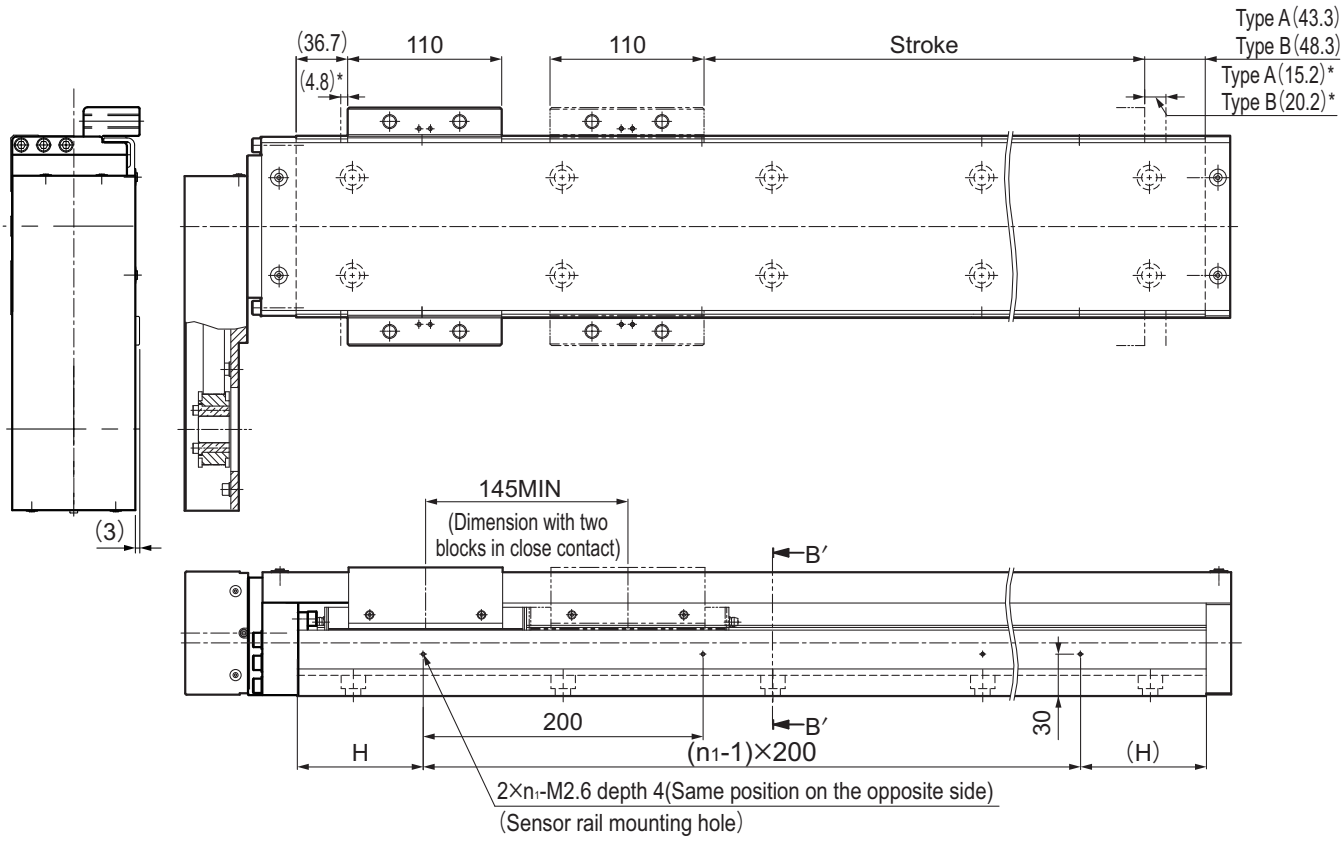
To download a desired data, search for the corresponding model number in the Technical site. https://tech.thk.com

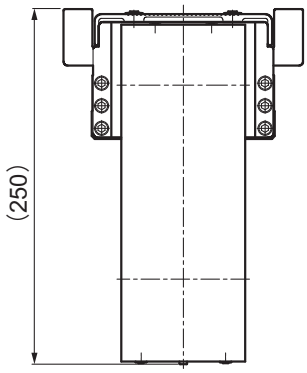
Model SKR65 Motor wrap (with a Cover)

Model SKR65□□A (with a Single Long Type Block)

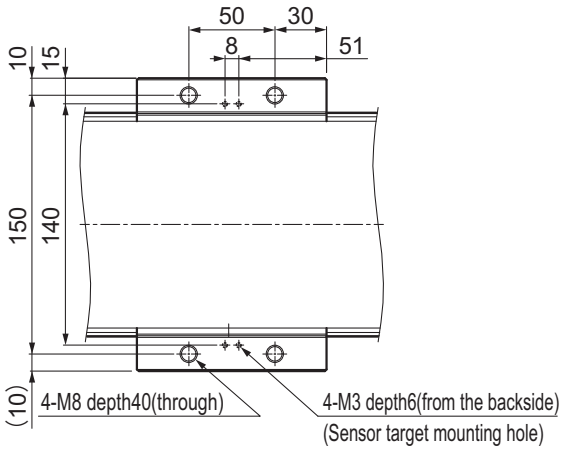
Model SKR65□□B (with Two Long Type Blocks)

For model number coding, see page23.

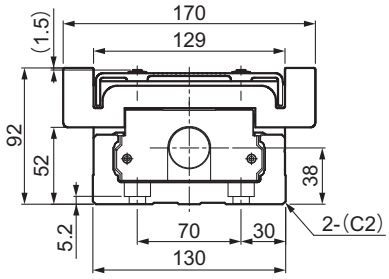




Motor wrap type, Bottom side



Detail, Top table



B′-B′ cross section

* Distance between the mechanical stopper and the stroke starting position.

Stroke (mm) (stroke between mechanical stoppers)		Overall length L_1(mm)	Outer rail length (mm)	H (mm)	n_1	Overall main unit mass(kg)	
Type A	Type B*					Type A	Type B
790(810)	640(665)	1078	980	90	5	35.5	42.2
990(1010)	840(865)	1278	1180	90	6	41	47.7
1190(1210)	1040(1065)	1478	1380	90	7	46.4	53.1
1490(1510)	1340(1365)	1778	1680	40	9	54.5	61.2

*Indicates a value when two inner blocks are in close contact with each other.

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Mass of Moving Element

Table14 shows the mass of the inner block and top table of model SKR.

Table14 Mass of the Inner Block and Top table of SKR

Unit: kg

Model No.	Long nut block types (A)		Short nut block types (C)	
	Inner block	Top table	Inner block	Top table
SKR20	0.064	0.038	—	—
SKR26	0.153	0.074	—	—
SKR33	0.31	0.13	0.17	0.07
SKR46	0.91	0.34	0.57	0.20
SKR55	1.9	1.9	—	—
SKR65	3.0	3.5	—	—

Options

Sensor

Optional proximity sensors and photo sensors are available for model SKR. Models equipped with a sensor are also provided with a dedicated sensor rail/sensor dog.
If the stroke is less than 70 mm, 2 sensor flag and 2 sensor rail will be attached.

[Example of Installation]

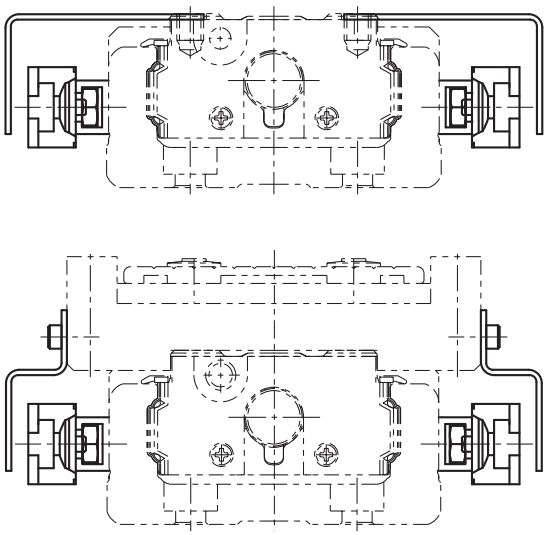


Table15 With/without a sensor

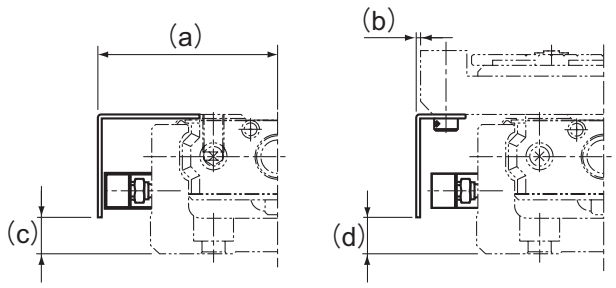
Symbol	Description	Type	Accessory
0	None	—	—
1	With sensor rail	—	Mounting screws, sensor rail
2	Photo Sensor* [3 units]	EE-SX671 (Omron Corp.)	Mounting screw/nut, detecting plate, sensor rail, mounting plate, connector (EE-1001)
6	Photo Sensor* [3 units]	EE-SX674 (Omron Corp.)	Mounting screw/nut, detecting plate, sensor rail, mounting plate, connector (EE-1001)
7	Proximity Sensor N.O. contact [3 units]	APM-D3A1-001 (Azbil Corp.)	Mounting screw/nut, detecting plate, sensor rail
B	Proximity Sensor N.C. contact [3 units]	APM-D3B1-003 (Azbil Corp.)	Mounting screw/nut, detecting plate, sensor rail
E	Proximity Sensor N.O. contact [1 unit] N.C. contact [2 units]	APM-D3A1-001 APM-D3B1-003 (Azbil Corp.)	Mounting screw/nut, detecting plate, sensor rail
H	Proximity Sensor N.O. contact [3 units]	GX-F12A (Panasonic Industrial Devices SUNX Co., Ltd.)	Mounting screw/nut, detecting plate, sensor rail
L	Proximity Sensor N.C. contact [3 units]	GX-F12B (Panasonic Industrial Devices SUNX Co., Ltd.)	Mounting screw/nut, detecting plate, sensor rail
J	Proximity Sensor N.O. contact [1 unit] N.C. contact [2 units]	GX-F12A GX-F12B (Panasonic Industrial Devices SUNX Co., Ltd.)	Mounting screw/nut, detecting plate, sensor rail
M	Proximity Sensor N.O. contact [1 unit] N.C. contact [2 units]	GX-F12A-P GX-F12B-P (Panasonic Industrial Devices SUNX Co., Ltd.)	Mounting screw/nut, detecting plate, sensor rail

N.O. contact: normally open contact
N.C. contact: normally closed contact
*The photo-sensors can be switched between ON when lit and ON when unlit.

[Proximity Sensor]

APM-D3A1-001 (Azbil Corp.) 3 units
APM-D3B1-003 (Azbil Corp.) 3 units
GX-F12A (Panasonic Industrial Devices SUNX Co., Ltd.) 3 units
GX-F12B (Panasonic Industrial Devices SUNX Co., Ltd.) 3 units
GX-F12A-P (Panasonic Industrial Devices SUNX Co., Ltd.) 3 units
GX-F12B-P (Panasonic Industrial Devices SUNX Co., Ltd.) 3 units

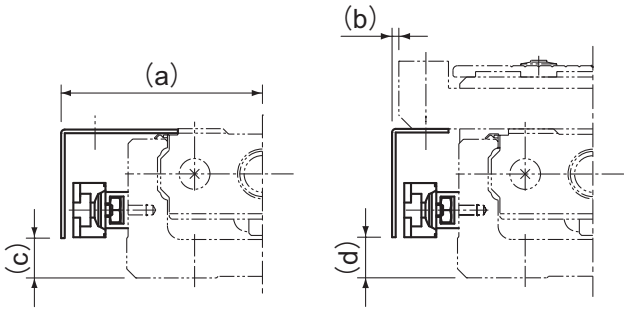
● Proximity Sensor: APM-D3A1-001 APM-D3B1-003 (Azbil Corp.)



Unit: mm

Model No.	a	b	c	d
SKR20	32.5	6.6	6	6
SKR26	37.5	6.4	8	8
SKR33	43	0.3	14.8	15
SKR46	56.2	0.2	26.8	22
SKR55	62.4	0.4	22	22
SKR65	77.4	−7.6	25.1	25

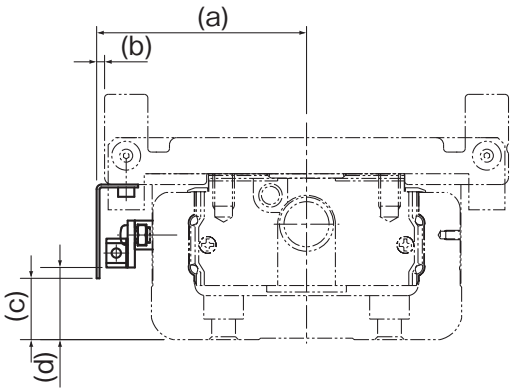
● Proximity sensor GX-F12A GX-F12B GX-F12A-P GX-F12B-P (Panasonic Industrial Devices SUNX Co., Ltd.)



Unit: mm

Model No.	a	b	c	d
SKR20	34	8.1	3.6	4
SKR26	39	7.9	6	6
SKR33	44.7	2	13.8	15
SKR46	57.7	1.8	24.8	22
SKR55	64.5	2.5	22	22
SKR65	79	−6	25.1	25

● Proximity Sensor (with Bellows)



Unit: mm

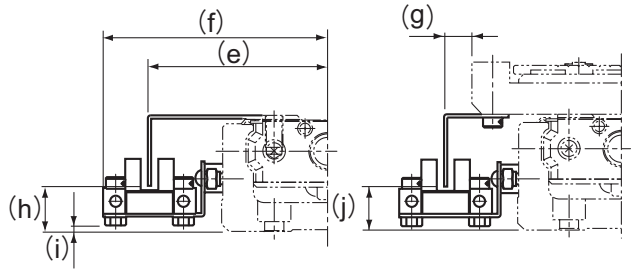
Model No.	a	b	c	d	Sensor type
SKR33	47	4	8	6	GX-F12 (Panasonic Industrial Devices SUNX Co., Ltd.)
SKR46	59.8	3.8	15	15	
SKR33	45.3	2.3	10	11	APM-D3 (Azbil Corp.)
SKR46	56.2	0.2	22	25	

[Photo Sensor]

	EE-SX671 (Omron Corp.)	3 units
	EE-SX674 (Omron Corp.)	3 units
Connector	EE-1001 (Omron Corp.)	3 units

Note) The connector is an appended article.

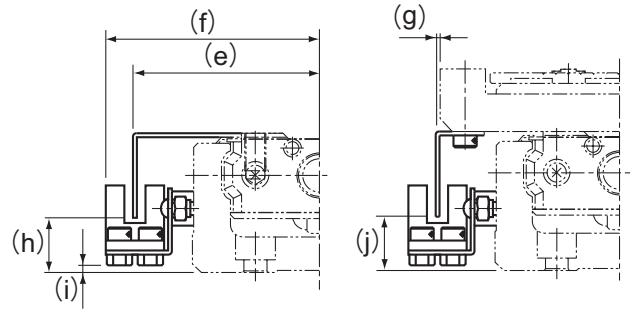
● Photo Sensor: EE-SX671 (Omron Corp.)



Unit: mm

Model No.	e	f	g	h	i	j
SKR20	41	53.8	15	9.4	0.9	9.5
SKR26	45.9	58.7	14.9	11.4	2.9	11.5
SKR33	51.1	63.6	8.3	18.8	7.4	19.5
SKR46	64.1	76.6	8.3	29.8	16.4	26.5
SKR55	70.7	83.5	8.6	24.5	13.6	25
SKR65	85.5	98.5	0.6	28.1	16.6	28

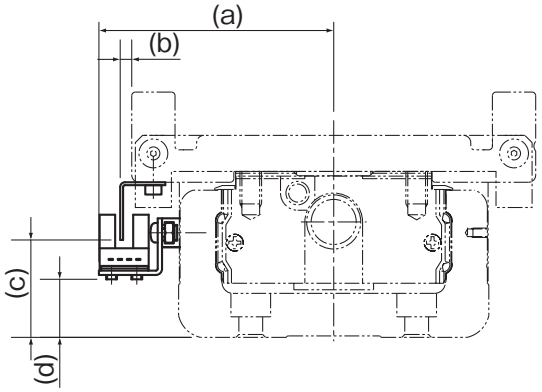
● Photo Sensor: EE-SX674 (Omron Corp.)



Unit: mm

Model No.	e	f	g	h	i	j
SKR20	38.3	44.8	12.5	10.9	0.6	11
SKR26	43.3	49.7	12.5	12.9	2.6	13
SKR33	45.9	52.1	3.3	17.8	7.1	20
SKR46	58.9	65.1	3.2	28.8	16.1	27
SKR55	63.5	70.5	1.5	24.5	13.1	24
SKR65	79	85.5	−6	28.6	16.1	28

● Photo Sensor (with Bellows)

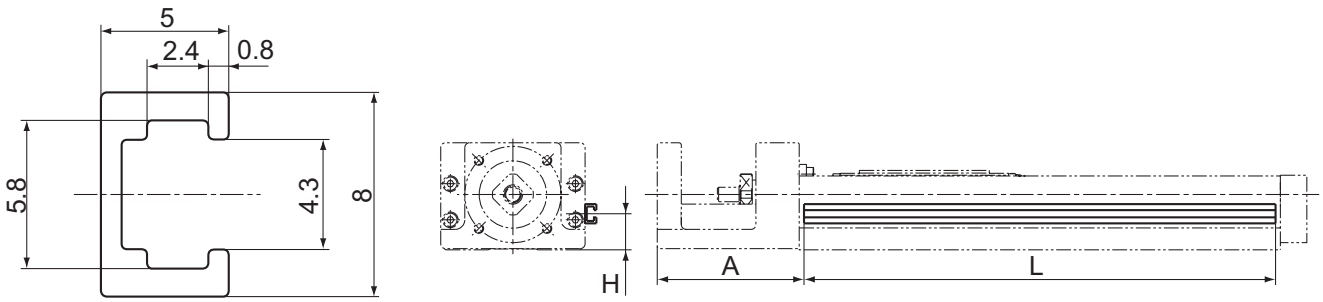


Unit: mm

Model No.	a	b	c	d	Sensor type
SKR33	63.6	8.3	14.5	2.4	EE-SX671 (Omron Corp.)
SKR46	76.6	8.3	26.5	16.4	
SKR33	52.1	3.3	18	5.1	EE-SX674 (Omron Corp.)
SKR46	65.1	3.2	27	16.1	

[Sensor Rail]

The sensor rail can be attached alone.



Sensor rail

Unit: mm

Model No.	Stroke*	Outer rail length	H	A	L
SKR20	30	100	10	43	111
	80	150			161
	130	200			211
SKR26	60	150	12	54	161
	110	200			211
	160	250			261
	210	300			311
SKR33	45	150	20	61	146
	95	200			196
	195	300			296
	295	400			396
	395	500			496
	495	600			596
	595	700			696
SKR46	190	340	29	89.5	336
	290	440			436
	390	540			536
	490	640			636
	590	740			736
	690	840			836
	790	940			936
SKR55	800	980	27	96	976
	900	1080			1076
	1000	1180			1176
	1100	1280			1276
	1200	1380			1376
SKR65	790	980	30	102	976
	990	1180			1176
	1190	1380			1376
	1490	1680			1676

*Indicates stroke length when one long-type inner block is incorporated.

Intermediate Flange

[Motor Used and Applicable Intermediate Flanges for Model SKR]

Several types of intermediate flanges for mounting motors are available for model SKR. Specify an intermediate flange that matches the motor used.

Each intermediate flange is made of steel and provided with THK AP-C treatment, a surface treatment that provides excellent corrosion resistance.

Table16 Table of Motors Used and Corresponding Intermediate Flanges

Motor type					Rated output	Flange size	SKR20	SKR26	SKR33	SKR46	SKR55	SKR65
AC servo motor	Yaskawa Electric	Σ-Vmini		SGMMV-A1	10W	□25	AN	AN	—	—	—	—
				SGMMV-A2	20W		AN	AN	—	—	—	—
				SGMMV-A3	30W		AN	AN	—	—	—	—
		Σ-7		SGM7J-A5	50W	□40	AQ	AQ	AQ	AQ	—	—
				SGM7A-A5			AQ	AQ	AQ	AQ	—	—
				SGM7J-01	100W		—	—	AQ	AQ	—	—
				SGM7J-01			—	—	AQ	AQ	—	—
				SGM7J-C2	150W		—	—	—	AQ	—	—
				SGM7A-C2			—	—	—	AQ	—	—
				SGM7J-02	200W	□60	—	—	—	AV	—	—
				SGM7J-02			—	—	—	AV	—	—
				SGM7J-04	400W		—	—	—	AV	—	—
				SGM7J-04			—	—	—	AV	—	—
				SGM7J-06	600W		—	—	—	—	—	—
				SGM7J-06			—	—	—	—	—	—
				SGM7J-08	750W	□80	—	—	—	—	—	—
				SGM7J-08			—	—	—	—	—	—
		Σ-V		SGMJV-A5	50W	□40	AQ	AQ	AQ	AQ	—	—
				SGMAV-A5			AQ	AQ	AQ	AQ	—	—
				SGMJV-01	100W		—	—	AQ	AQ	—	—
				SGMAV-01			—	—	AQ	AQ	—	—
				SGMAV-C2	150W		—	—	—	AQ	—	—
				SGMJV-02	200W	□60	—	—	—	AV	A0	AV
				SGMAV-02			—	—	—	AV	A0	AV
				SGMJV-04	400W		—	—	—	AV	A0	AV
				SGMAV-04			—	—	—	AV	A0	AV
				SGMAV-06	550W		—	—	—	—	A0	AV
				SGMJV-08	750W	□80	—	—	—	—	AZ	AZ
				SGMAV-08			—	—	—	—	AZ	AZ
		Σ-Ⅲ		SGMAS-A5	50W	□40	AQ	AQ	AQ	AQ	—	—
				SGMAS-01	100W		—	—	AQ	AQ	—	—
				SGMPS-01		□60	—	—	—	AV	A0	AV
				SGMAS-02	200W		—	—	—	AV	A0	AV
				SGMAS-04	400W		—	—	—	AV	A0	AV
				SGMPS-02	200W	□80	—	—	—	—	AZ	A0
				SGMPS-04	400W		—	—	—	—	AZ	A0
				SGMAS-08	750W		—	—	—	—	AZ	AZ
	Mitsubishi Electric	MELSERVO	J2-Jr	HC-AQ013	10W	□28	AM	AM	—	—	—	—
				HC-AQ023	20W		AM	AM	—	—	—	—
				HC-AQ033	30W		AM	AM	—	—	—	—
			J4	HG-KR053	50W	□40	AQ	AQ	AQ	AQ	—	—
				HG-MR053			AQ	AQ	AQ	AQ	—	—
				HG-KR13	100W		—	—	AQ	AQ	—	—
				HG-MR13			—	—	AQ	AQ	—	—
				HG-KR23	200W	□60	—	—	—	AV	A0	AV
				HG-MR23			—	—	—	AV	A0	AV
				HG-KR43	400W		—	—	—	AV	A0	AV
				HG-MR43			—	—	—	AV	A0	AV
				HG-KR73	750W	□80	—	—	—	—	AZ	AZ
				HG-MR73			—	—	—	—	AZ	AZ

Motor type					Rated output	Flange size	SKR20	SKR26	SKR33	SKR46	SKR55	SKR65
AC servo motor	Mitsubishi Electric	MELSERVO	J3	HG-AK0136	10W	□25	AN	AN	—	—	—	—
				HG-AK0236	20W		AN	AN	—	—	—	—
				HG-AK0336	30W		AN	AN	—	—	—	—
				HF-MP053	50W	□40	AQ	AQ	AQ	AQ	—	—
				HF-KP053			AQ	AQ	AQ	AQ	—	—
				HF-MP13	100W		—	—	AQ	AQ	—	—
				HF-KP13			—	—	AQ	AQ	—	—
				HF-MP23	200W	□60	—	—	—	AV	A0	AV
				HF-KP23			—	—	—	AV	A0	AV
				HF-MP43	400W		—	—	—	AV	A0	AV
				HF-KP43			—	—	—	AV	A0	AV
				HF-MP73	750W	□80	—	—	—	—	AZ	AZ
				HF-KP73			—	—	—	—	AZ	AZ
	Tamagawa Seiki Co., Ltd.	TBL-i Ⅱ		TS4602	50W	□40	AQ	AQ	AQ	AQ	—	—
				TS4603	100W		—	—	AQ	AQ	—	—
				TS4607	200W	□60	—	—	—	AV	A0	AV
				TS4607	400W		—	—	—	AV	A0	AV
				TS4614	750W	□80	—	—	—	—	AZ	AZ
	Panasonic Corp.	MINAS	A5	MSMD5A	50W	□38	AP	AP	AP	AP	—	—
				MSME5A			AP	AP	AP	AP	—	—
				MSMD01	100W		—	—	AP	AP	—	—
				MSME01			—	—	AP	AP	—	—
				MSMD02	200W	□60	—	—	—	AY	—	—
				MSME02			—	—	—	AY	—	—
				MSMD04	400W		—	—	—	AY	—	—
				MSME04			—	—	—	AY	—	—
				MSMD08	750W	□80	—	—	—	—	A5	A5
				MSME08			—	—	—	—	A5	A5
			A4	MSMD5A	50W	□38	AP	AP	AP	AP	—	—
				MSMD01	100W		—	—	AP	AP	—	—
				MQMA01		□60	—	—	—	AY	—	—
				MSMD02	200W		—	—	—	AY	—	—
				MAMA02			—	—	—	AY	—	—
				MSMD04	400W		—	—	—	AY	—	—
				MSMA04			—	—	—	AY	—	—
				MSMD08	750W	□80	—	—	—	—	A5	A5
				MAMA08			—	—	—	—	A5	A5
			E	MUMA02	200W	□60	—	—	—	—	—	—
				MUMA04	400W		—	—	—	—	—	—
	SANYO DENKI	SANMO-TION R		R2AA04003	30W	□40	AQ	AQ	AQ	AQ	—	—
				R2AA04005	50W		AQ	AQ	AQ	AQ	—	—
				R2AA04010	100W		—	—	AQ	AQ	—	—
				R2AA06020	200W	□60	—	—	—	AV	A0	AV
				R2AA06040	400W		—	—	—	AV	A0	AV
	Omron	OMNUC G5		R88M-K05030	50W	□40	AQ	AQ	AQ	AQ	—	—
				R88M-K10030	100W		—	—	AQ	AQ	—	—
				R88M-K20030	200W	□60	—	—	—	AY	—	—
				R88M-K40030	400W		—	—	—	AY	—	—
				R88M-K75030	750W	□80	—	—	—	—	A5	A5
		OMNUC G		R88M-G05030	50W	□40	AQ	AQ	AQ	AQ	—	—
				R88M-G10030	100W		—	—	AQ	AQ	—	—
				R88M-GP10030		□60	—	—	—	AY	—	—
				R88M-G20030	200W		—	—	—	AY	—	—
				R88M-G40030	400W		—	—	—	AY	—	—
				R88M-G75030	750W	□80	—	—	—	—	A5	A5
	Fanuc	βis series		βis0.2/5000	50W	□40	AQ	AQ	AQ	AQ	—	—
				βis0.3/5000	100W		—	—	AQ	AQ	—	—
				βis0.4/5000	130W	□60	—	—	—	AV	A0	AV
				βis0.5/6000	350W		—	—	—	AV	A0	AV
				βis1/6000	500W		—	—	—	AV	A0	AV

Motor type					Rated output	Flange size	SKR20	SKR26	SKR33	SKR46	SKR55	SKR65
AC servo motor	Keyence Corporation	SV		SV-M005	50W	□40	AQ	AQ	AQ	AQ	—	—
				SV-M010	100W		—	—	AQ	AQ	—	—
				SV-M020	200W	□60	—	—	—	AV	A0	AV
				SV-M040	400W		—	—	—	AV	A0	AV
				SV-M075	750W	□80	—	—	—	—	AZ	AZ
		MV		MV-M05	50W	□40	AQ	AQ	AQ	AQ	—	—
				MV-M10	100W		—	—	AQ	AQ	—	—
				MV-M20	200W	□60	—	—	—	AV	A0	AV
				MV-M40	400W		—	—	—	AV	A0	AV
				MV-M75	750W	□76	—	—	—	—	A5	A5
Stepping motor	Oriental Motor	α Step		AR2∗		□28	AS	AS	—	—	—	—
				AR46, ARL46, AZ46		□42	AR	AR	AR	—	—	—
				AR6, ARL6∗, AZ6∗		□60	—	—	AU	AU	—	—
				AR9∗, ARL9∗, AS9∗		□85	—	—	—	—	A6	A6
		5 phase	CRK	CRK52∗		□28	AS	AS	—	—	—	—
				CRK54∗		□42	AR	AR	AR	—	—	—
				CRK56∗		□60	—	—	AU	AU	—	—
			CVK	CVK52∗		□28	AS	AS	—	—	—	—
				CVK54∗		□42	AR	AR	AR	—	—	—
				CVK56∗		□60	—	—	AU	AU	—	—
			RK Ⅱ	RKS54∗		□42	AR	AR	AR	—	—	—
				RKS56∗		□60	—	—	AU	AU	—	—
				RKS59∗		□85	—	—	—	—	A6	A6
		2 phase	CMK	CMK22∗		□28	AS	AS	—	—	—	—
				CMK24∗		□42	AR	AR	AR	—	—	—
				CMK26∗		□56.4	—	—	AT	—	—	—
			CVK	CVK22∗		□28	AS	AS	—	—	—	—
				CVK24∗		□42	AR	AR	AR	—	—	—
				CVK26∗		□56.4	—	—	AT	—	—	—
	SANYO DENKI	PB		PBDM28∗		□28	AS	AS	—	—	—	—
				PBDM423		□42	AR	AR	AR	—	—	—
				PBDM60∗		□60	—	—	AU	AU	—	—
				PB∗R423, PB∗P423		□42	AR	AR	AR	—	—	—
				PB∗R60∗, PB∗P60∗		□60	—	—	AU	AU	—	—
		5 phase		FAF/FDF52∗		□28	AS	AS	—	—	—	—
				FAF/FDF55∗		□42	AR	AR	AR	—	—	—
				FAF/FDF78∗		□60	—	—	AU	AU	—	—
				FSF55∗		□42	AR	AR	AR	—	—	—
				FSF78∗		□60	—	—	AU	AU	—	—
		2 phase		DU14S28∗		□28	AS	AS	—	—	—	—
				DU15H52∗		□42	AR	AR	AR	—	—	—
				DU16H71∗		□56	—	—	AT	—	—	—
				DB14S28∗		□28	AS	AS	—	—	—	—
				DB15H52∗		□42	AR	AR	AR	—	—	—
				DB16H71∗		□56	—	—	AT	—	—	—
				DB16H78∗		□60	—	—	AU	AU	—	—

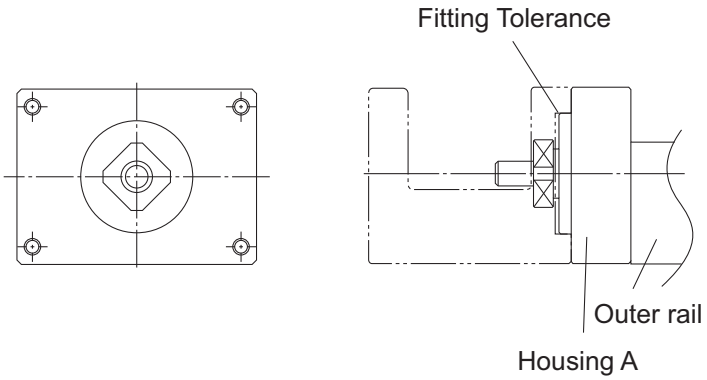
Note1) The symbols in the table indicate the housing A and intermediate flange.
Note2) For motor coupling, contact THK.

Housing

THK also offers Housing A provided with a separate motor, and a turnaround type of Housing A, as options in order to support a motor bracket or a turnaround section that the customer may separately produce.

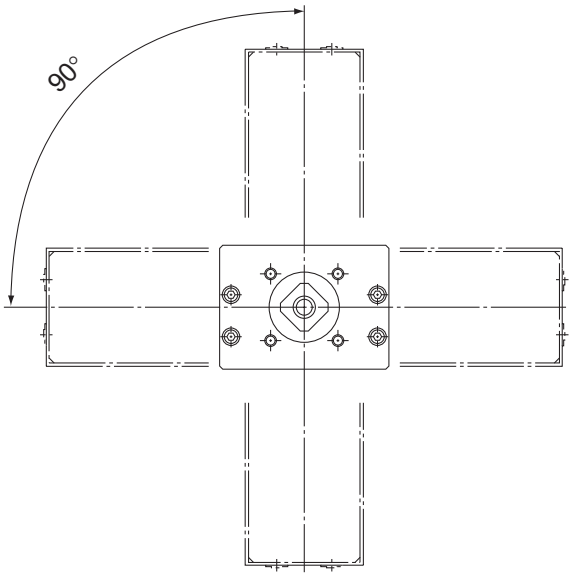
[Housing A for a Separate Motor]

By using the fitting Tolerance, the user can easily mount a separately manufactured motor bracket.



[Turnaround Housing A]

Since the mounting holes are drilled in constant pitches, the user can easily select a direction to mount the turnaround section.



Motor wrap model coding

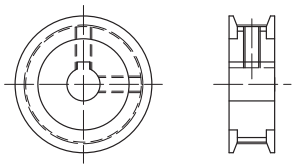
Incase「R1」,「R2」,「R3」,「R4」,「R5」, or「R6」is selected at motor type.

Motor type, Motor wrap model coding

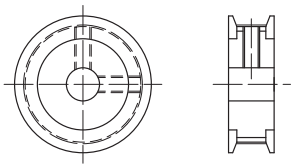
Motor wrap type available for various type motors
Please specify part code according to used motor

W Q − 08 D
① ② ③ ④

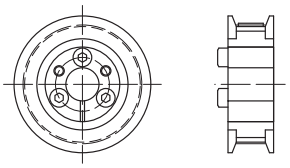
①Motor wrap type	W
②Motor plate type	Please refer to below chart (Motor/ Part coding chart)
③Specify Motor shaft diameter (mm)	Please refer to below chart (Motor/ Part coding chart)
④Pulley mounitnig options	K：Key way D：Shaft flat (D-cut) M：Friction bushing



Key way



Shaft flat (D-cut)



Friction bushing

Table17 Motor/ Part codingchart

Motor type				Rated output	Flange size	SKR20	SKR26	SKR33	SKR46	SKR55	SKR65
AC servo motor	Yaskawa Electric	Σ-Vmini	SGMMV-A1	10W	□25	WN-05D	WN-05D	—	—	—	—
			SGMMV-A2	20W		WN-05D	WN-05D	—	—	—	—
			SGMMV-A3	30W		WN-05D	WN-05D	—	—	—	—
		Σ-7	SGM7J-A5	50W	□40	WQ-08K	WQ-08K	WQ-08K, WQ-08M	—	—	—
			SGM7A-A5			WQ-08K	WQ-08K	WQ-08K, WQ-08M	—	—	—
			SGM7J-01	100W		—	—	WQ-08K, WQ-08M	—	—	—
			SGM7J-01			—	—	WQ-08K, WQ-08M	—	—	—
			SGM7J-02	200W	□60	—	—	—	WV-14M	—	—
			SGM7J-02			—	—	—	WV-14M	—	—
			SGM7J-04	400W		—	—	—	WV-14M	—	—
			SGM7J-04			—	—	—	WV-14M	—	—
			SGM7J-08	750W	□80	—	—	—	—	—	—
			SGM7J-08			—	—	—	—	—	—
		Σ-V	SGMJV-A5	50W	□40	WQ-08K	WQ-08K	WQ-08K, WQ-08M	—	—	—
			SGMAV-A5			WQ-08K	WQ-08K	WQ-08K, WQ-08M	—	—	—
			SGMJV-01	100W		—	—	WQ-08K, WQ-08M	—	—	—
			SGMAV-01			—	—	WQ-08K, WQ-08M	—	—	—
			SGMJV-02	200W	□60	—	—	—	WV-14M	—	—
			SGMAV-02			—	—	—	WV-14M	—	—
			SGMJV-04	400W		—	—	—	WV-14M	WV-14M	WV-14M
			SGMAV-04			—	—	—	WV-14M	WV-14M	WV-14M
			SGMJV-08	750W	□80	—	—	—	—	WZ-19M	WZ-19M
			SGMAV-08			—	—	—	—	WZ-19M	WZ-19M
		Σ-Ⅱ	SGMAH-A3	30W	□40	—	—	WQ-06K, WQ-06M	—	—	—
			SGMAH-A5	50W		—	—	WQ-06K, WQ-06M	—	—	—
			SGMAH-01	100W		—	—	WQ-08K, WQ-08M	—	—	—
					□60	—	—	—	—	—	—
			SGMAH-02	200W		—	—	—	WV-14M	—	—
			SGMAH-04	400W		—	—	—	WV-14M	—	—
			SGMPH-02	200W	□80	—	—	—	—	—	—
			SGMPH-04	400W		—	—	—	—	—	—
			SGMAH-08	750W		—	—	—	—	—	—

Motor type					Rated output	Flange size	SKR20	SKR26	SKR33	SKR46	SKR55	SKR65
AC servo motor	Mitsubishi Electric	MELSERVO	J2-Jr	HC-AQ013	10W	□28	WM-06D	WM-06D	—	—	—	—
				HC-AQ023	20W		WM-06D	WM-06D	—	—	—	—
				HC-AQ033	30W		WM-06D	WM-06D	—	—	—	—
			J4	HG-MR053	50W	□40	WQ-08D	WQ-08D	WQ-08D, WQ-08M	—	—	—
				HG-KR053			WQ-08D	WQ-08D	WQ-08D, WQ-08M	—	—	—
				HG-MR13	100W		—	—	WQ-08D, WQ-08M	—	—	—
				HG-KR13			—	—	WQ-08D, WQ-08M	—	—	—
				HG-MR23	200W	□60	—	—	—	WV-14M	—	—
				HG-MR43	400W		—	—	—	WV-14M	WV-14M	WV-14M
				HG-KR23	200W		—	—	—	WV-14M	—	—
				HG-KR43	400W		—	—	—	WV-14M	WV-14M	WV-14M
				HG-MR73	750W	□80	—	—	—	—	WZ-19M	WZ-19M
				HG-KR73			—	—	—	—	WZ-19M	WZ-19M
			J3	HG-AK0136	10W	□25	WN-05D	WN-05D	—	—	—	—
				HG-AK0236	20W		WN-05D	WN-05D	—	—	—	—
				HG-AK0336	30W		WN-05D	WN-05D	—	—	—	—
				HF-MP053	50W	□40	WQ-08D	WQ-08D	WQ-08D, WQ-08M	—	—	—
				HF-KP053			WQ-08D	WQ-08D	WQ-08D, WQ-08M	—	—	—
				HF-MP13	100W		—	—	WQ-08D, WQ-08M	—	—	—
				HF-KP13			—	—	WQ-08D, WQ-08M	—	—	—
				HF-MP23	200W	□60	—	—	—	WV-14M	—	—
				HF-KP23			—	—	—	WV-14M	—	—
				HF-MP43	400W		—	—	—	WV-14M	WV-14M	WV-14M
				HF-KP43			—	—	—	WV-14M	WV-14M	WV-14M
				HF-MP73	750W	□80	—	—	—	—	WZ-19M	WZ-19M
				HF-KP73			—	—	—	—	WZ-19M	WZ-19M
	Tamagawa Seiki Co., Ltd.	TBL-i Ⅱ		TS4602	50W	□40	WQ-08D	WQ-08D	WQ-08D, WQ-08M	—	—	—
				TS4603	100W		—	—	WQ-08D, WQ-08M	—	—	—
				TS4607	200W	□60	—	—	—	WV-14M	—	—
				TS4609	400W		—	—	—	WV-14M	WV-14M	WV-14M
				TS4614	750W	□80	—	—	—	—	WZ-19M	WZ-19M
	Panasonic Corp.	MINAS	A5	MSMD04	400W	□60	—	—	—	—	WY-14M	WY-14M
				MSMD08	750W	□80	—	—	—	—	W5-19M	W5-19M
			A4	MSMD5A	50W	□38	WP-08K	WP-08K	WP-08K, WP-08M	—	—	—
				MSMD01	100W		—	—	WP-08K, WP-08M	—	—	—
				MSMD02	200W	□60	—	—	—	WY-11M	—	—
				MSMD04	400W		—	—	—	WY-14M	WY-14M	WY-14M
				MQMA02	200W	□80	—	—	—	—	—	—
				MQMA04	400W		—	—	—	—	W5-14M	W5-14M
				MSMD08	750W		—	—	—	—	W5-19M	W5-19M
	SANYO DENKI	SANMOTION	Q1	Q1AA06040D	400W	□60	—	—	—	—	WV-14M	WV-14M
			R	R2AA04003	30W	□40	—	—	WQ-06M	—	—	—
				R2AA04005	50W		—	—	WQ-08M	—	—	—
				R2AA04010	100W		—	—	WQ-08M	—	—	—
				R2AA06020	200W	□60	—	—	—	WV-14M	—	—
				R2AA06040	400W		—	—	—	WV-14M	—	—
	Omron	OMNUC G5		R88M-K05030	50W	□40	WQ-08K	WQ-08K	WQ-08K, WQ-08M	—	—	—
				R88M-K10030	100W		—	—	WQ-08K, WQ-08M	—	—	—
				R88M-K20030	200W	□60	—	—	—	WY-11M	—	—
				R88M-K40030	400W		—	—	—	WY-14M	WY-14M	WY-14M
				R88M-K75030	750W	□80	—	—	—	—	W5-19M	W5-19M
	Fanuc	βis series		βis0.2/5000	50W	□40	WQ-08K	WQ-08K	—	—	—	—
				βis0.3/5000	100W		—	—	—	—	—	—
	Keyence Corporation	SV		SV-M40	400W	□60	—	—	—	—	WV-14M	WV-14M
				SV-M75	750W	□80	—	—	—	—	WZ-19M	WZ-19M
		MV		MV-M40	400W	□60	—	—	—	—	WV-14M	WV-14M
				MV-M75	750W	□76	—	—	—	—	WZ-16M	WZ-16M

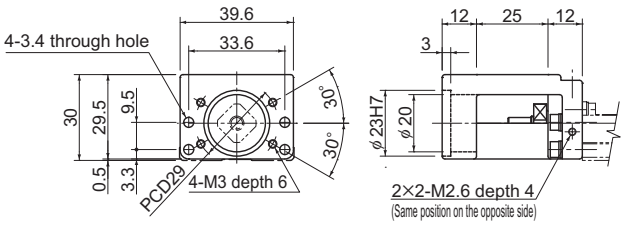
Dimensional Drawing of Housing A/Intermediate Flange for Model SKR

● For Model SKR20

SKR**
●◇
…Actuator model number
…●: Housing A
◇: Intermediate Flange

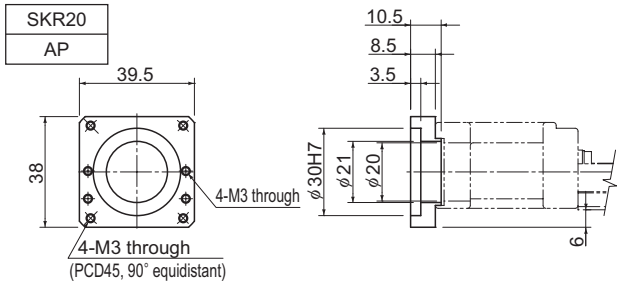
■Housing A

SKR20
A0

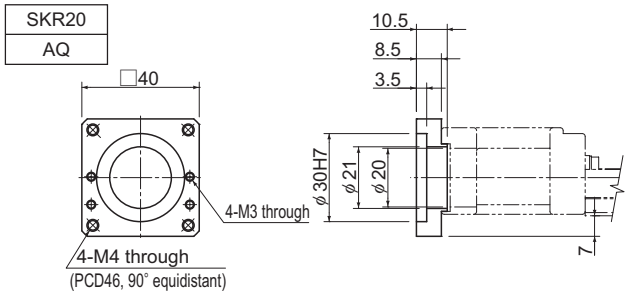


■Intermediate Flange

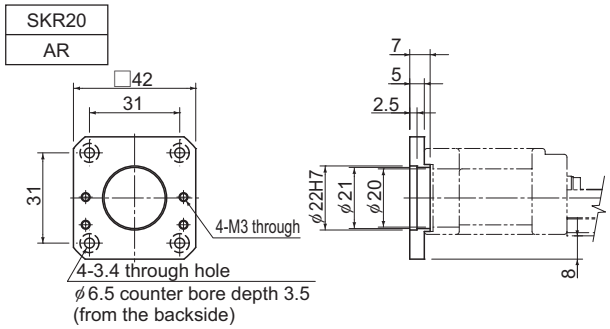
SKR20
AP



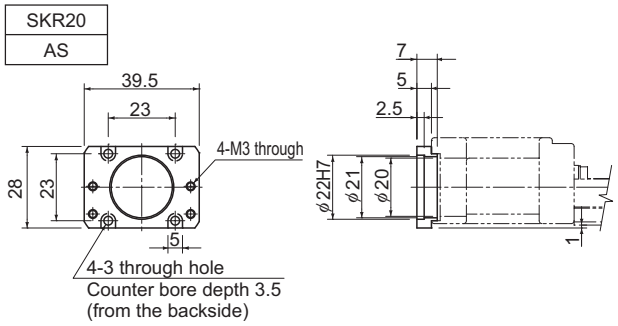
SKR20
AQ



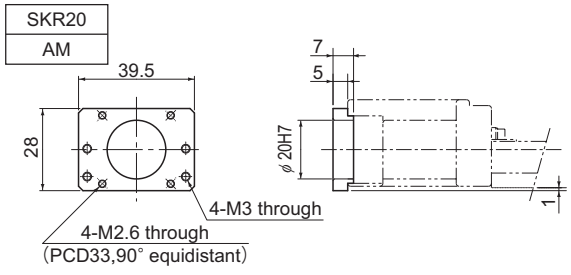
SKR20
AR



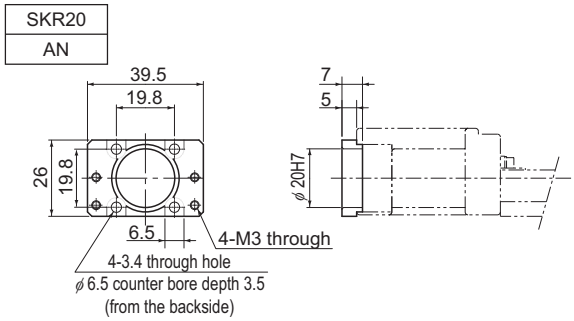
SKR20
AS



SKR20
AM



SKR20
AN

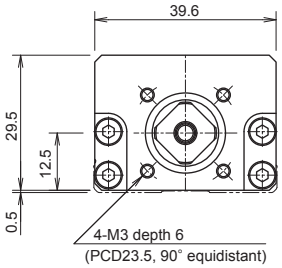


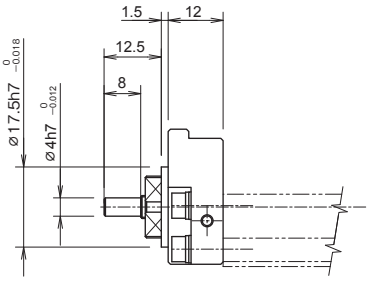
● For Model SKR20

SKR**	···Actuator model number
W□	···□:Motor mounting plate

■No Motor Bracket Housing

SKR20
20

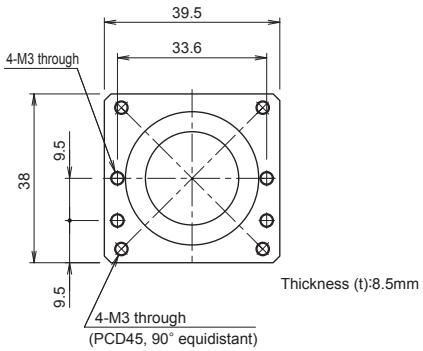




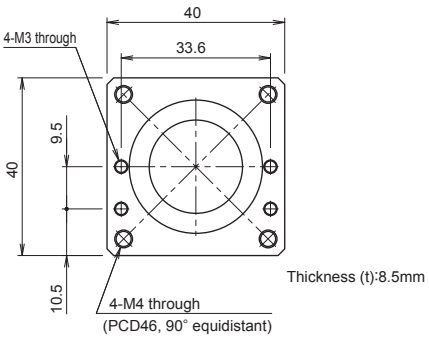
Motor shaft strength to be invesitgated for motor wrap type.
Please consult THK

■Motor Wrap type (Motor mounting plate)

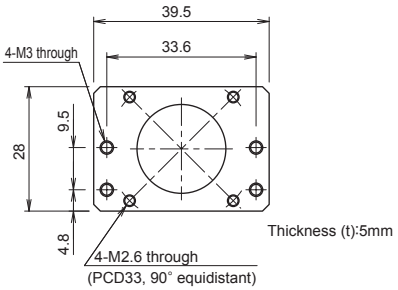
SKR26
WP



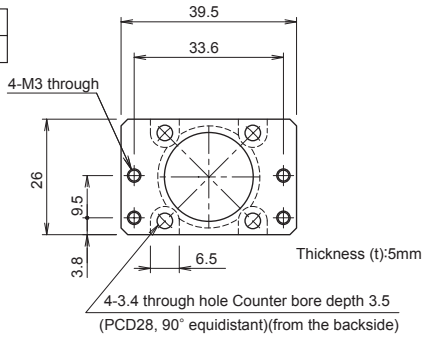
SKR20
WQ



SKR20
WM



SKR20
WN



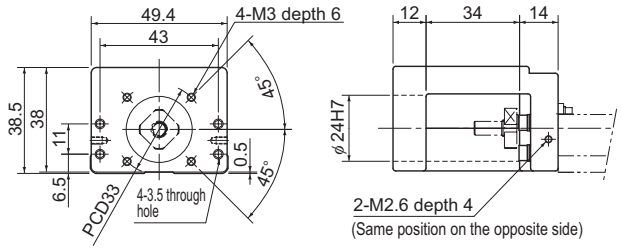
● For Model SKR26

SKR**
●◇

…Actuator model number
…●: Housing A
◇: Intermediate Flange

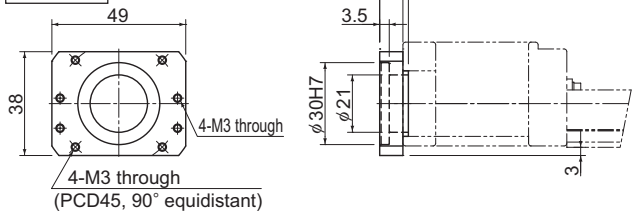
■Housing A

SKR26
A0

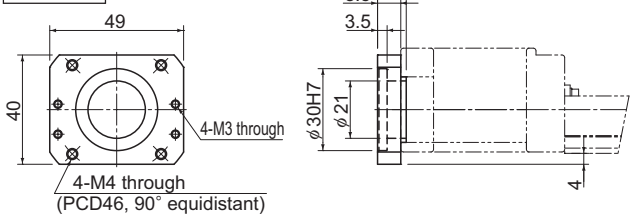


■Intermediate Flange

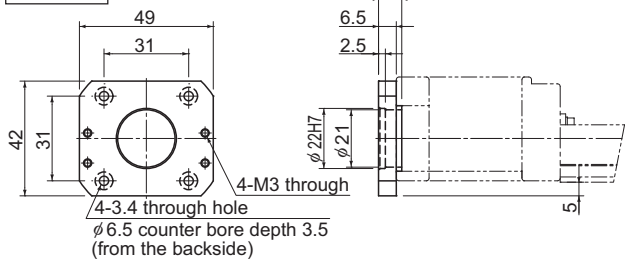
SKR26
AP



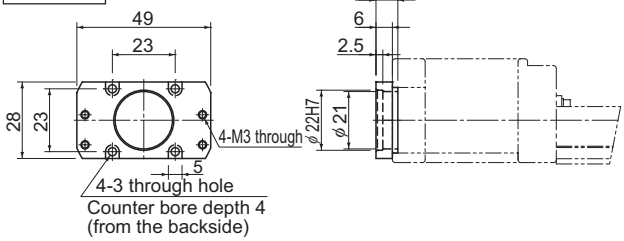
SKR26
AQ



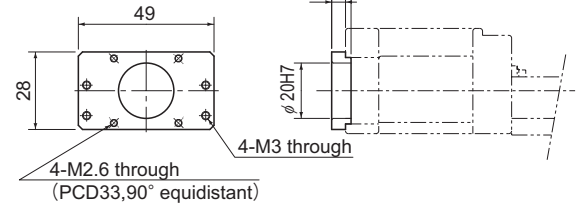
SKR26
AR



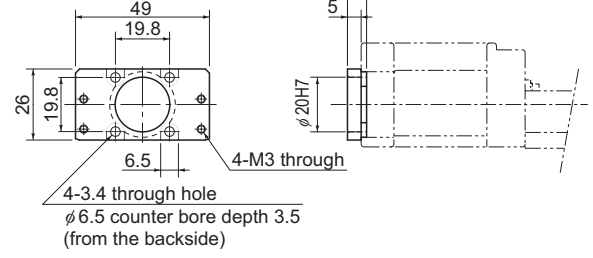
SKR26
AS



SKR26
AM



SKR26
AN

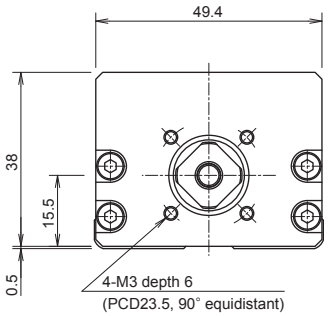


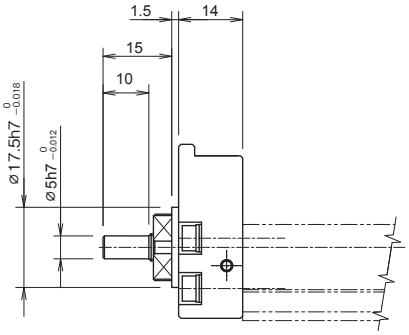
● For Model SKR26

SKR**	···Actuator model number
W□	···□:Motor mounting plate

■No Motor Bracket Housing

SKR26
20

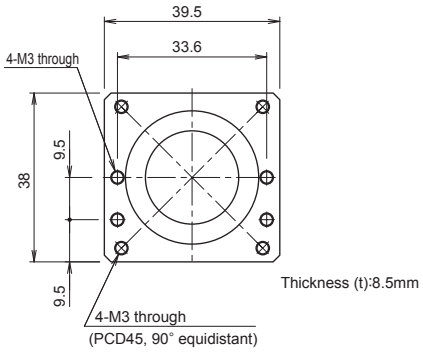




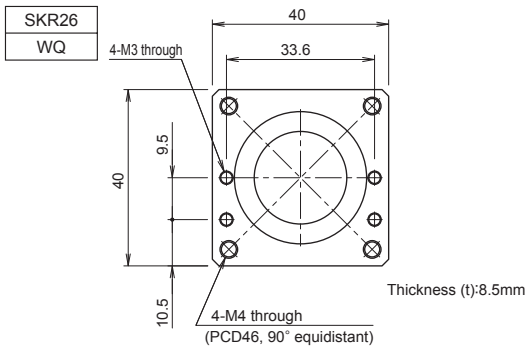
Motor shaft strength to be invesitgated for motor wrap type.
Please consult THK

■Motor Wrap type (Motor mounting plate)

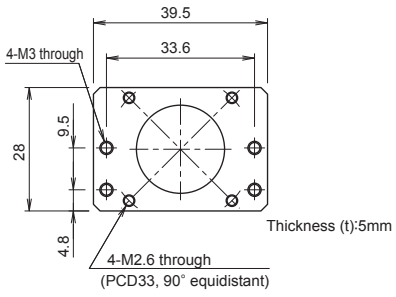
SKR26
WP



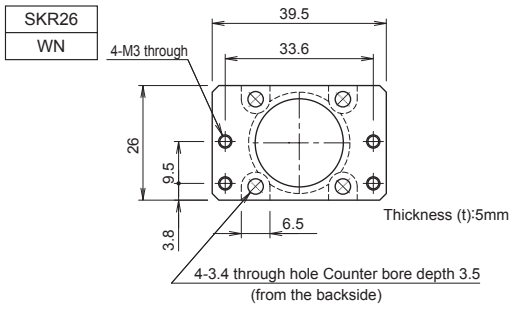
SKR26
WQ



SKR26
WM



SKR26
WN



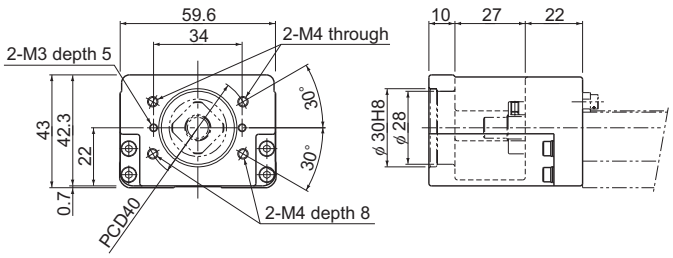
● For Model SKR33

SKR**
●◇

…Actuator model number
…●: Housing A
◇: Intermediate Flange

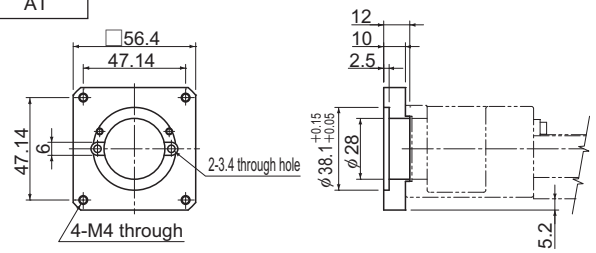
■Housing A

SKR33
A0

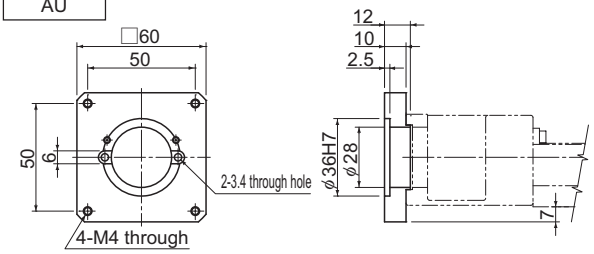


■Intermediate Flange

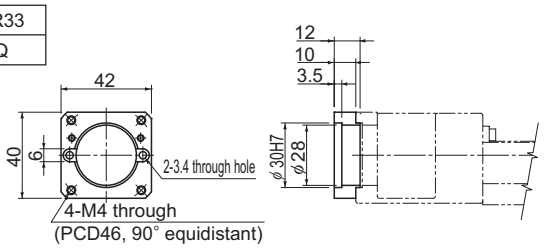
SKR33
AT



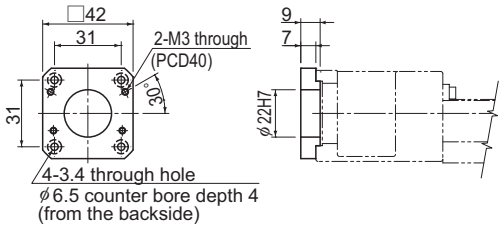
SKR33
AU



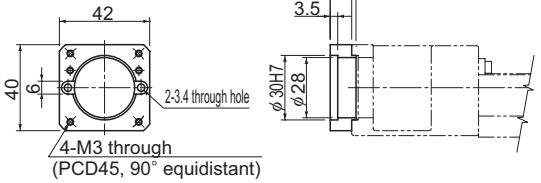
SKR33
AQ



SKR33
AR



SKR33
AP

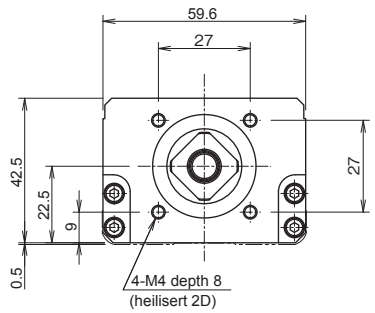


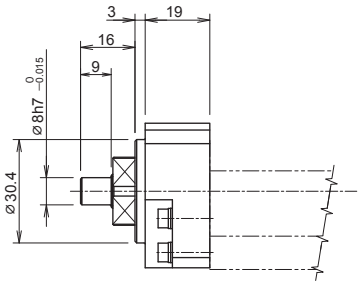
● For Model SKR33

SKR**	···Actuator model number
W□	···□:Motor mounting plate

■No Motor Bracket Housing

SKR33
40

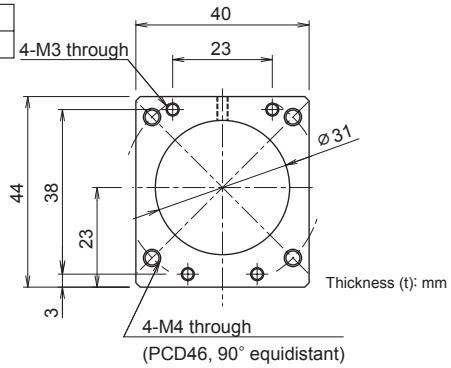




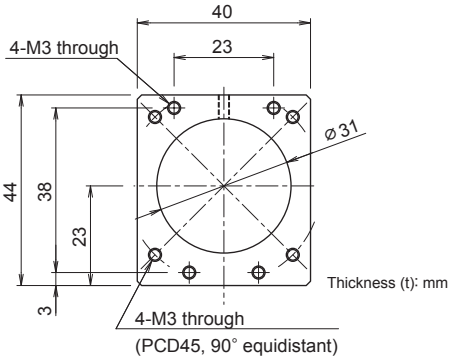
Motor shaft strength to be invesitgated for motor wrap type.
Please consult THK

■Motor Wrap type (Motor mounting plate)

SKR33
WQ



SKR33
WP



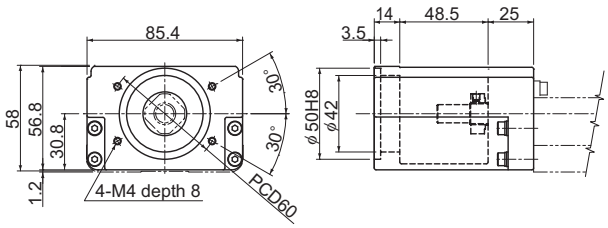
● For Model SKR46

SKR**
●◇

…Actuator model number
…●: Housing A
◇: Intermediate Flange

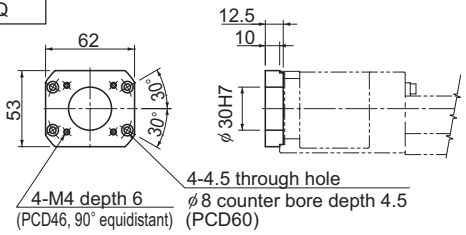
■Housing A

SKR46
A0

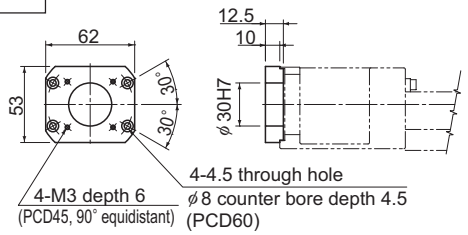


■Intermediate Flange

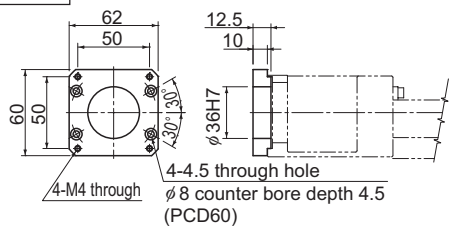
SKR46
AQ



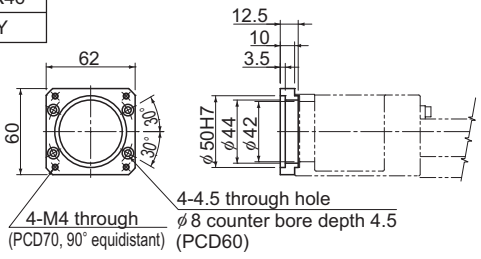
SKR46
AP



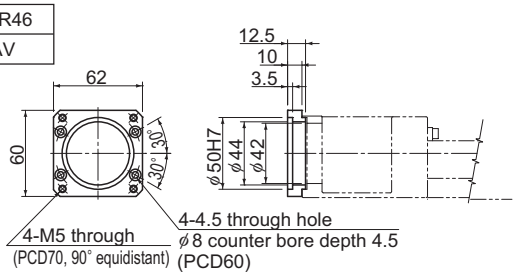
SKR46
AU



SKR46
AY



SKR46
AV

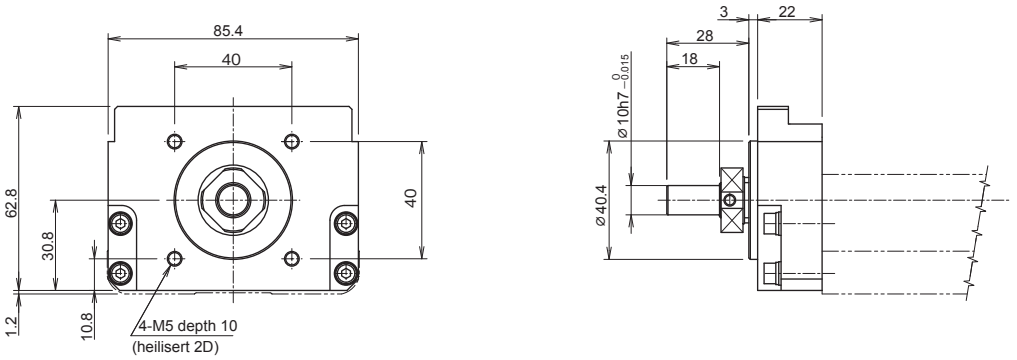


● For Model SKR46

SKR**	···Actuator model number
W□	···□:Motor mounting plate

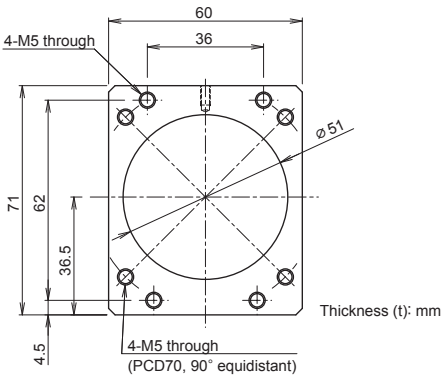
■Turnaround Housing A

SKR46
60

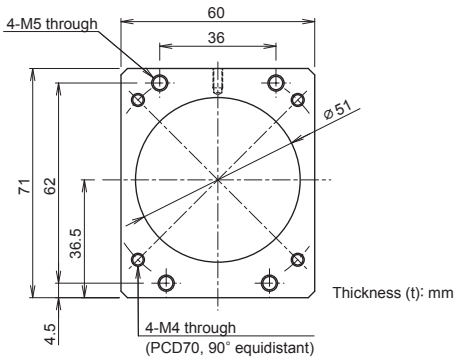


■Motor Wrap type (Motor mounting plate)

SKR46
WV



SKR46
WY

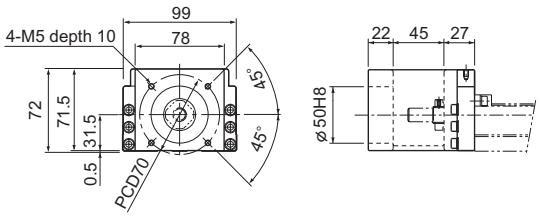


● For Model SKR55

SKR** / ●◇	···Actuator model number ···●:Housing A ◇:Intermediate Flange

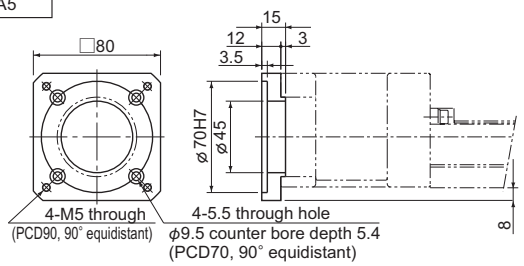
■Housing A

SKR55
A0

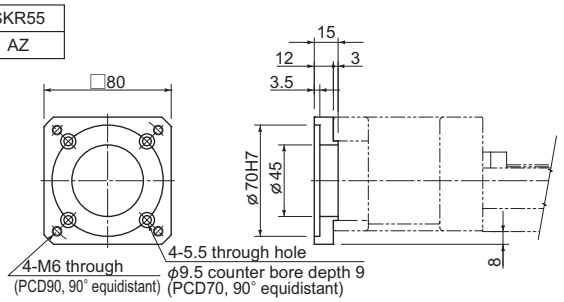


■Intermediate Flange

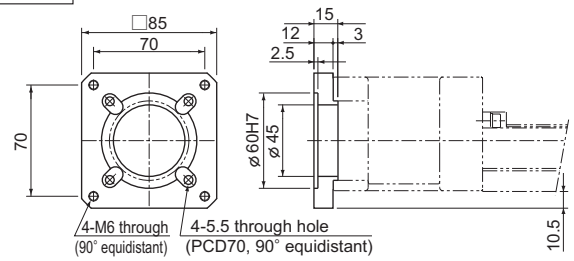
SKR55
A5



SKR55
AZ



SKR55
A6



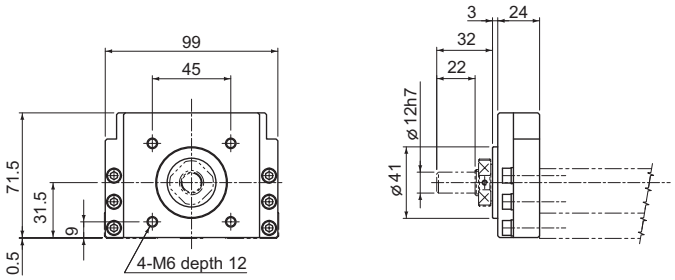
● For Model SKR55

SKR**	···Actuator model number
W□	···□:Motor mounting plate

■Turnaround Housing A

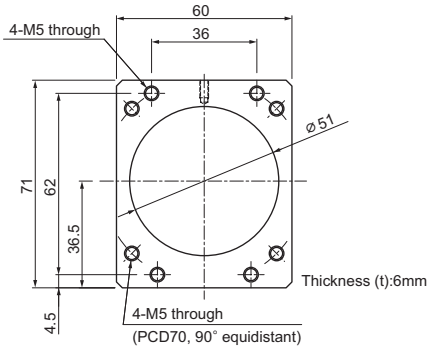
Note) Specify mounting holes when ordering.

SKR55
20

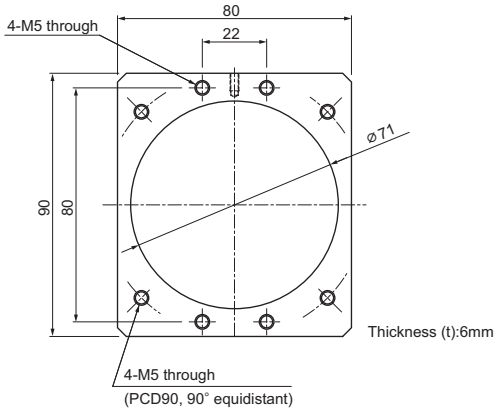


■Motor Wrap type (Motor mounting plate)

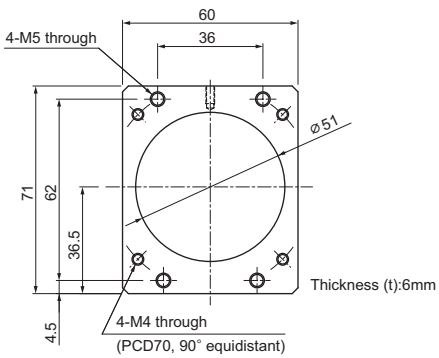
SKR55
WV



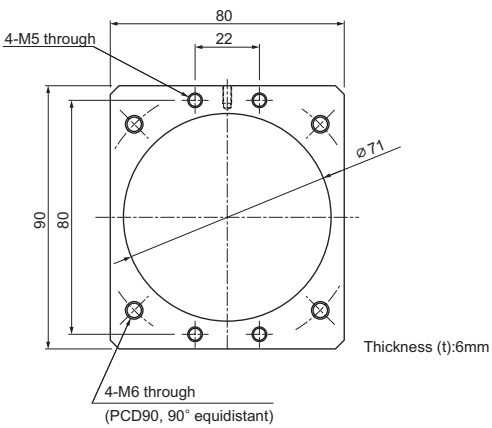
SKR55
W5



SKR55
WY



SKR55
WZ



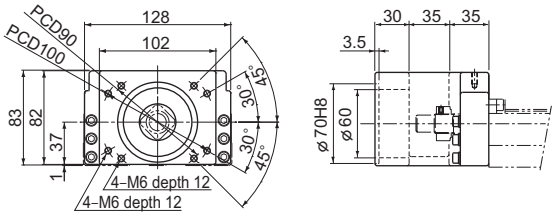
● For Model SKR65

SKR**
●◇

…Actuator model number
…●:Housing A
◇:Intermediate Flange

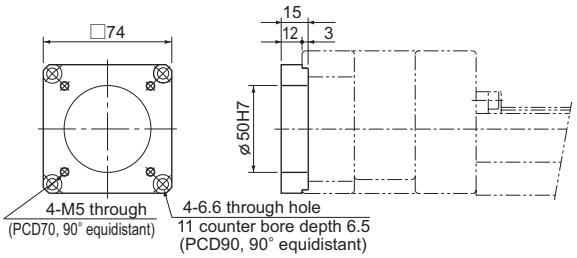
■Housing A

SKR65
A0

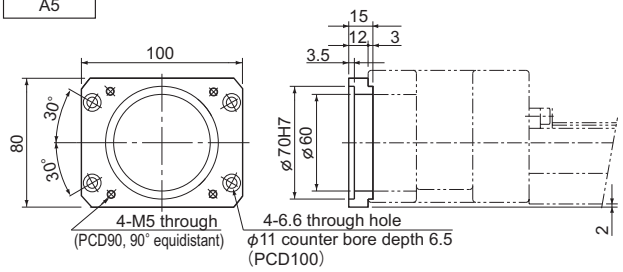


■Intermediate Flange

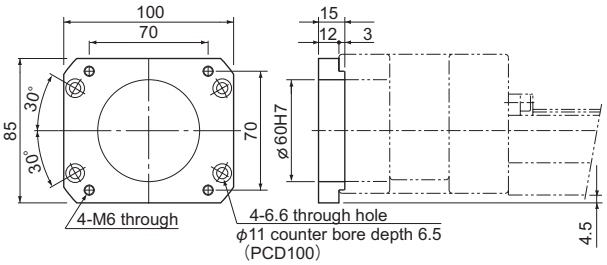
SKR65
AV



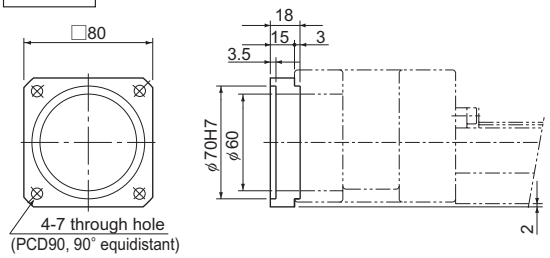
SKR65
A5



SKR65
A6



SKR65
AZ



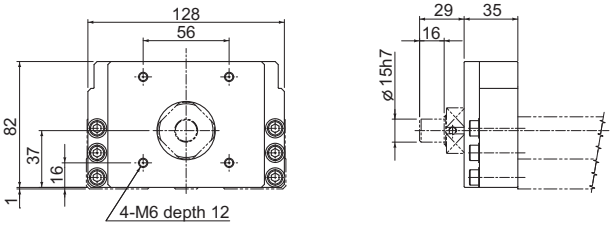
● For Model SKR65

SKR**	···Actuator model number
W□	···□:Motor mounting plate

■Turnaround Housing A

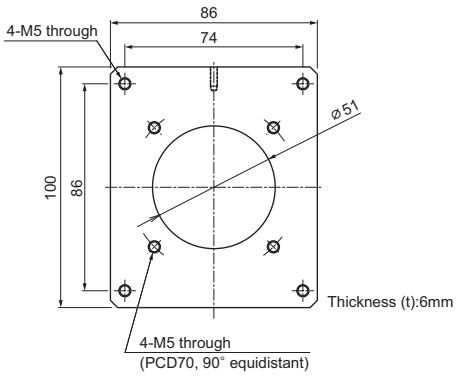
Note) Specify mounting holes when ordering.

SKR65
30

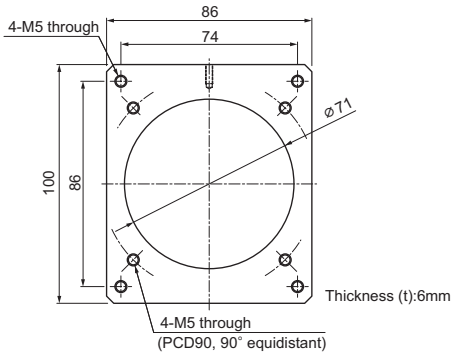


■Motor Wrap type (Motor mounting plate)

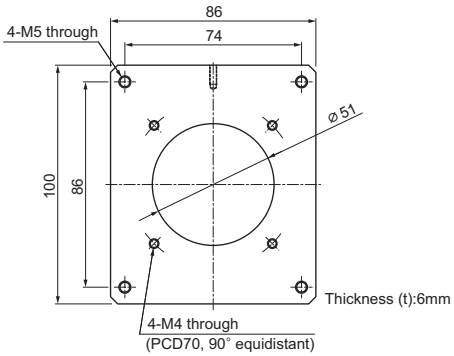
SKR65
WV



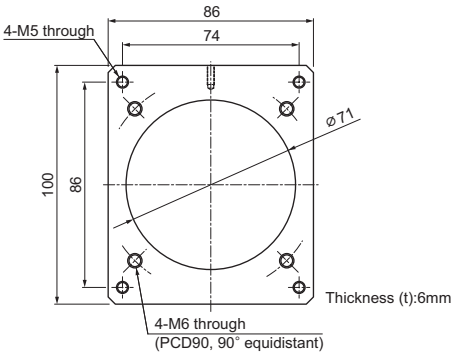
SKR65
W5



SKR65
WY



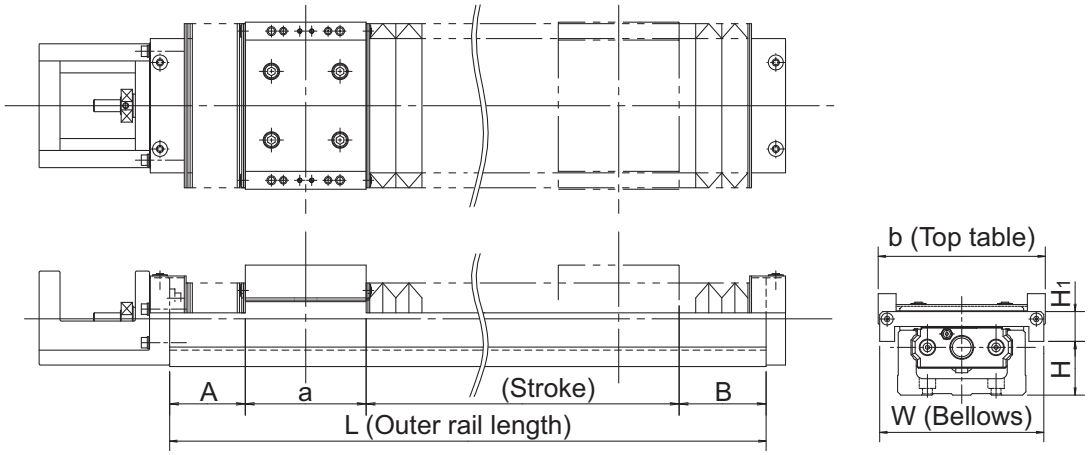
SKR65
WZ



Bellows

For model SKR, bellows are available for contamination protection in addition to a cover.

[Model SKR-A (with a Single Long Type Block)]



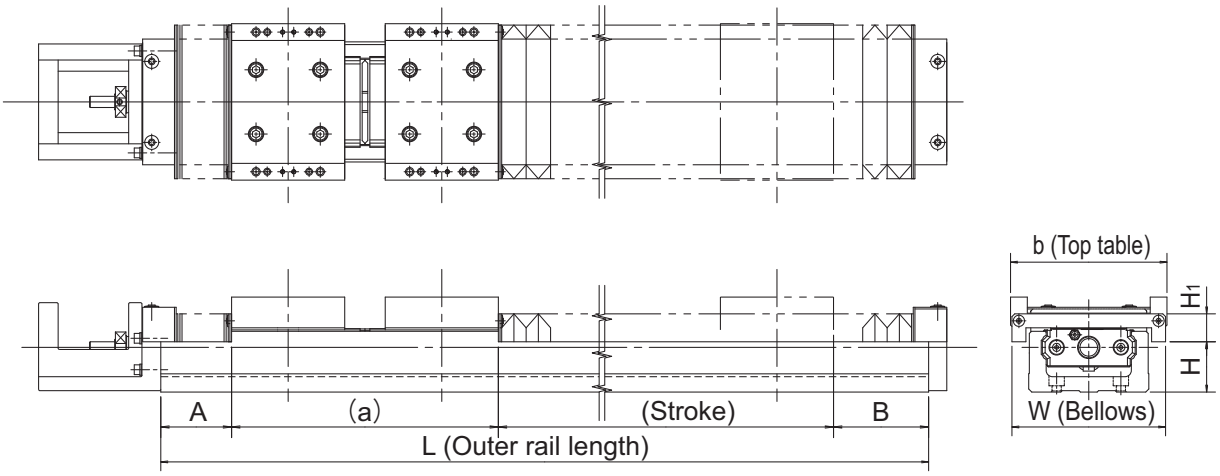
Unit: mm

Model No.	Stroke*1	Outer rail length L	A	B	a	b	W	H	H_1
SKR20	20(30.8)	100	18.8	17.2	33.2	52	60	10	20
	55(67.8)	150	25.3	23.7					
	80(93.6)	200	37	36.2					
SKR26	50(60.7)	150	23.7	17.6	47.4	62	74	18	20
	80(91.6)	200	32.8	28.2					
	110(125.6)	250	40.8	36.2					
	160(175.6)	300	40.8	36.2					
SKR33	30(42.8)	150	25.6	27.6	54	86	84	24.5	20
	60(72.8)	200	35.6	37.6					
	140(152.8)	300	45.6	47.6					
	210(222.8)	400	60.6	62.6					
	290(302.8)	500	70.6	72.6					
	360(372.8)	600	85.6	87.6					
SKR46	140(155.8)	340	52.1	51.1	81	112	110	36	20
	210(225.8)	440	67.1	66.1					
	290(305.8)	540	77.1	76.1					
	360(375.8)	640	92.1	91.1					
	440(455.8)	740	102.1	101.1					
	510(525.8)	840	117.1	116.1					
	590(605.8)	940	127.1	126.1					
SKR55*2	700 (719.6)	980	84.6	80.6	95.2	124	154	37	40
	790 (809.6)	1080	89.6	85.6					
	870 (889.6)	1180	99.6	95.6					
	960 (979.6)	1280	104.6	100.6					
	1050 (1069.6)	1380	109.6	105.6					
SKR65*2	680 (703.2)	980	85.1	81.7	110	170	184	40	47
	860 (883.2)	1180	95.1	91.7					
	1030 (1053.2)	1380	110.1	106.7					
	1290 (1313.2)	1680	130.1	126.7					

*1 The value in the parentheses represents the maximum stroke.

*2 The bellows for models SKR55 and SKR65 are only suitable for horizontal orientation. If the bellows is to be used in other orientations (vertical or wall-mounted), contact THK.

[Model SKR-B (with Two Long Type Blocks)]

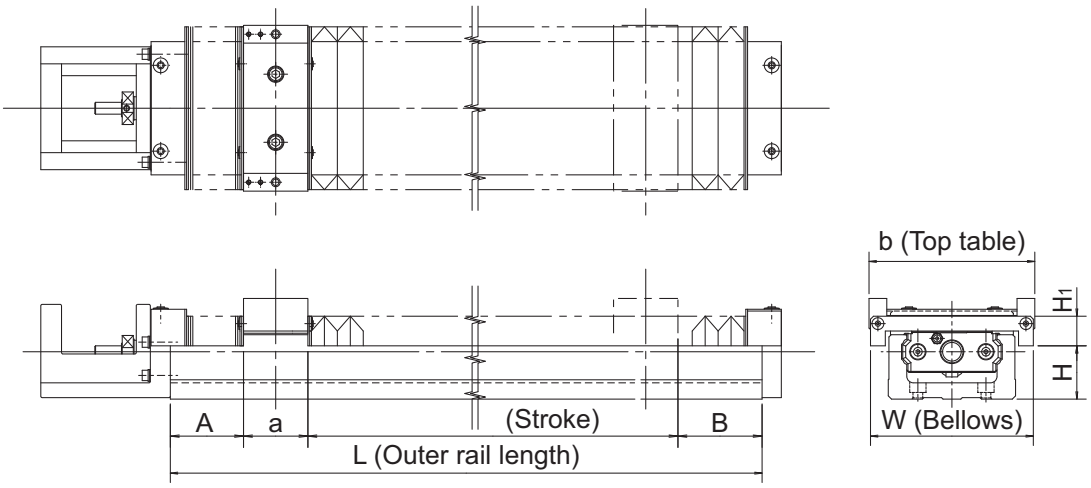


Unit: mm

Model No.	Stroke*1,*2	Outer rail length L	A	B	a	b	W	H	H_1
SKR20	25(34.8)	150	18.8	17.2	79.2	52	60	10	20
	60(71.8)	200	25.3	23.7					
SKR26	35(46.5)	200	23.7	17.6	111.6	62	74	18	20
	65(77.4)	250	32.8	28.2					
	115(127.4)	300	32.8	28.2					
SKR33	80(96.8)	300	35.6	37.6	130	86	84	24.5	20
	150(166.8)	400	50.6	52.6					
	230(246.8)	500	60.6	62.6					
	300(316.8)	600	75.6	77.6					
SKR46	60(75.8)	340	37.1	36.1	191	112	110	36	20
	130(145.8)	440	52.1	51.1					
	210(225.8)	540	62.1	61.1					
	280(295.8)	640	77.1	76.1					
	360(375.8)	740	87.1	86.1					
	430(445.8)	840	102.1	101.1					
	510(525.8)	940	112.1	111.1					
SKR55*3	590 (612)	980	74.6	70.6	222.8	124	154	37	40
	670 (692)	1080	84.6	80.6					
	760 (782)	1180	89.6	85.6					
	850 (872)	1280	94.6	90.6					
	930 (952)	1380	104.6	100.6					
SKR65*3	550 (578.6)	980	75.1	71.7	254.6	170	184	40	47
	720 (748.6)	1180	90.1	86.7					
	900 (928.6)	1380	100.1	96.7					
	1160 (1188.6)	1680	120.1	116.7					

*1 The strokes in the table are values when the blocks are in close contact with each other.
*2 The value in the parentheses represents the maximum stroke.
*3 The bellows for models SKR55 and SKR65 are only suitable for horizontal orientation. If the bellows is to be used in other orientations (vertical or wall-mounted), contact THK.
Note) The bellows cannot be attached between the top tables.

[Model SKR-C (with a Single Short Type Block)]

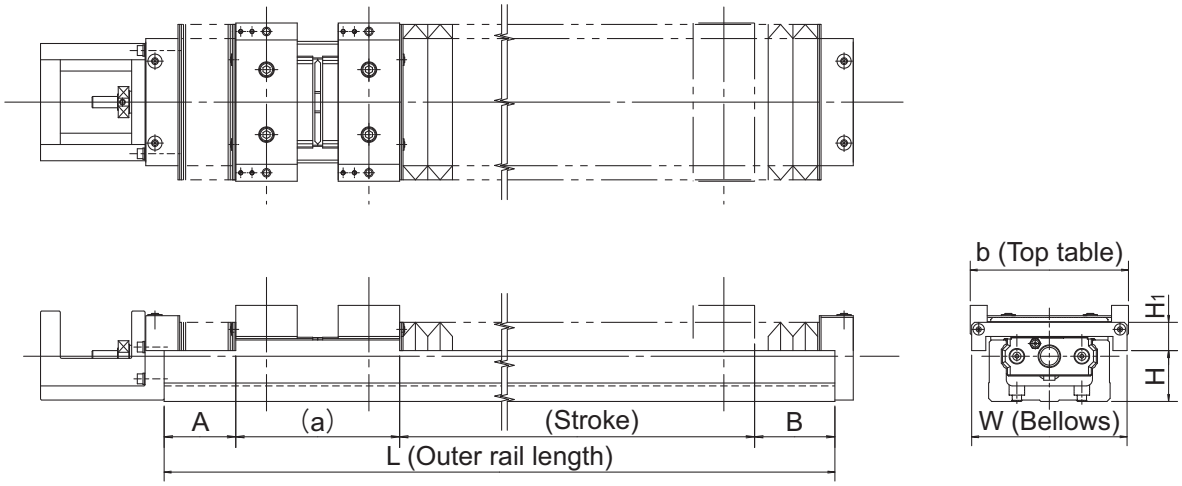


Unit: mm

Model No.	Stroke*	Outer rail length L	A	B	a	b	W	H	H_1
SKR33	45(58.3)	150	30.6	32.6	28.5	80	80	21.5	17.5
	85(98.3)	200	35.6	37.6					
	155(168.3)	300	50.6	52.6					
	235(248.3)	400	60.6	62.6					
	305(318.3)	500	75.6	77.6					
	385(398.3)	600	85.6	87.6					
SKR46	160(178.8)	340	57.1	56.1	48	112	110	36	20
	230(248.8)	440	72.1	71.1					
	310(328.8)	540	82.1	81.1					
	380(398.8)	640	97.1	96.1					
	460(478.8)	740	107.1	106.1					
	530(548.8)	840	122.1	121.1					
	610(628.8)	940	132.1	131.1					

*The value in the parentheses represents the maximum stroke.

[Model SKR-D (with Two Short Type Blocks)]



Unit: mm

Model No.	Stroke*1,*2	Outer rail length L	A	B	a	b	W	H	H_1
SKR33	45(57.8)	200	30.6	32.6	79	86	84	24.5	20
	125(137.8)	300	40.6	42.6					
	195(207.8)	400	55.6	57.6					
	275(287.8)	500	65.6	67.6					
	345(357.8)	600	80.6	82.6					
SKR46	110(121.8)	340	47.1	46.1	125	112	110	36	20
	180(191.8)	440	62.1	61.1					
	260(271.8)	540	72.1	71.1					
	330(341.8)	640	87.1	86.1					
	410(421.8)	740	97.1	96.1					
	480(491.8)	840	112.1	111.1					
	560(571.8)	940	122.1	121.1					

*1 The strokes in the table are values when the blocks are in close contact with each other.
*2 The value in the parentheses represents the maximum stroke.
Note) The bellows cannot be attached between the top tables.

Precautions on Use

[Handling]

(1) Do not disassemble the parts. This will result in loss of functionality.
(2) Take care not to drop or strike the parts. Doing so may cause injury or damage. Giving an impact to it could also cause damage to its function even if the product looks intact.
(3) When handling the product, wear protective gloves, safety shoes, etc., as necessary to ensure safety.

[Precautions on Use]

(1) Prevent foreign material, such as cutting chips or coolant, from entering the system. Failure to do so may cause damage.
(2) If the product is used in an environment where cutting chips, coolant, corrosive solvents, water, etc., may enter the product, use bellows, covers, etc., to prevent them from entering the product.
(3) If foreign material such as cutting chips adheres to the product, replenish the lubricant after cleaning the product.
(4) The service temperature range of this product is 0 to 40℃ (no freezing or condensation). If you consider using this product outside the service temperature range, contact THK.
(5) Exceeding the dangerous speed may lead the components to be damaged or cause an accident. Be sure to use the product within the specification range designated by THK.
(6) Micro-strokes tend to obstruct oil film to form on the raceway in contact with the rolling element, and may lead to fretting corrosion. Take consideration using grease offering excellent fretting prevention. It is also recommended that a stroke movement corresponding to the length of the nut block be made on a regular basis to make sure oil film is formed between the raceway and rolling element.
(7) Do not use undue force when fitting parts (pin, key, etc.) to the product. This may generate permanent deformation on the raceway, leading to loss of functionality.
(8) If the product is operating or in the ready state, never touch a moving part. In addition, do not enter the operating area of the actuator.
(9) If two or more people are involved in the operation, confirm the procedures such as a sequence, signs and anomalies in advance, and appoint another person for monitoring the operation.
(10) Insufficient rigidity or accuracy of mounting members causes the bearing load to concentrate on one point and the bearing performance will drop significantly. Accordingly, give sufficient consideration to the rigidity/accuracy of the housing and base and strength of the fixing bolts.

[Lubrication]

(1) Thoroughly wipe off the anti-rust oil before using the product.
(2) Lubrication is needed to let the model SKR demonstrate their functions fully. Using the product without sufficient lubrication may increase wear of the rolling elements or shorten the service life. Note the standard grease used in the product as follows.

Models SKR20, SKR26	THK AFA Grease
Models SKR33, SKR46, SKR55, SKR65	THK AFB-LF Grease

(3) Do not mix different lubricants. Mixing greases using the same type of thickening agent may still cause adverse interaction between the two greases if they use different additives, etc.
(4) When using the product in locations exposed to constant vibrations or in special environments such as clean rooms, vacuum and low/high temperature, use the grease appropriate for the specification/environment.
(5) When adopting oil lubrication method, contact THK.
(6) Because the intervals between greasing vary depending on the conditions of product use, it is recommended that the greasing interval be determined through an initial inspection. Although the lubrication interval may vary according to use conditions and the service environment, lubrication should be performed approximately every 100 km in travel distance (three to six months). Set the final lubrication interval/amount based on the actual machine.
(7) The consistency of grease changes according to the temperature. Take note that the slide resistance of the model SKR also changes as the consistency of grease changes.
(8) After lubrication, the slide resistance of the model SKR may increase due to the agitation resistance of grease. Be sure to perform a break-in to let the grease spread fully, before operating the machine.
(9) Excess grease may scatter immediately after lubrication, so wipe off scattered grease as necessary.
(10) The properties of grease deteriorate and its lubrication performance drops over time, so grease must be checked and added properly according to the use frequency of the machine.

[Storage]

When storing the model SKR, enclose them in a package designated by THK and store them in a room in a horizontal orientation while avoiding high temperature, low temperature and high humidity. After the product has been in storage for an extended period of time, lubricant inside may have deteriorated, so add new lubricant before use.

[Disposal]

Dispose of the product properly as industrial waste.

[Instruction Manual]

You can download the “LM Guide Actuator Model SKR -- Instruction Manual” from the THK technical support website.
Technical support website: https://tech.thk.com/

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