

# SKR



## Caged Ball LM Guide Actuator Model SKR

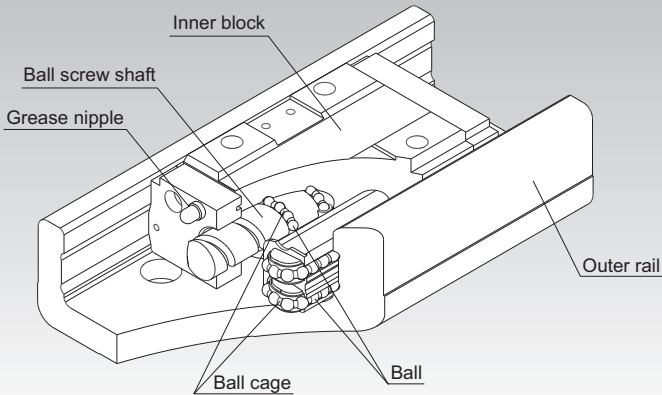


Fig.1 Structure of Caged Ball LM Guide Actuator Model SKR

### 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  $45^\circ$  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.

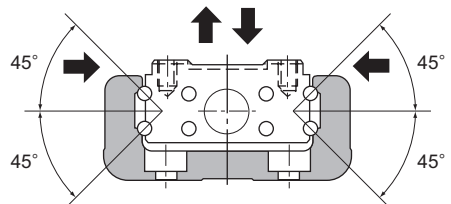


Fig.2 Load Capacity and Contact Angle of Model SKR

**[High Rigidity]**

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

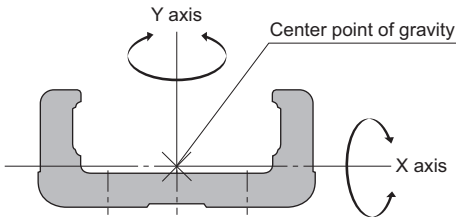


Fig.3 Cross Section of the Outer Rail

Table1 Cross-sectional Characteristics of the Outer rail Rail

Model No.	$I_x$ [mm <sup>4</sup> ]	$I_y$ [mm <sup>4</sup> ]	Mass[kg/m]
SKR20	$6.0 \times 10^3$	$6.14 \times 10^4$	2.6
SKR26	$1.66 \times 10^4$	$1.48 \times 10^5$	3.9
SKR33	$5.35 \times 10^4$	$3.52 \times 10^5$	6.1
SKR46	$2.05 \times 10^5$	$1.45 \times 10^6$	12.6
SKR55	$2.07 \times 10^5$	$2.09 \times 10^6$	13.2
SKR65	$4.51 \times 10^5$	$5.73 \times 10^6$	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 consists of four rows of circular-arc grooves that enable balls to smoothly move with two points of contact 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 highly accurate feeding. The system contributes significantly to increasing precision and quality by providing precision-grade positioning performance to all kinds of machines.

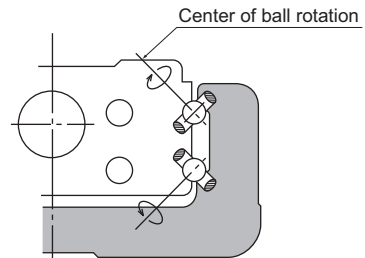


Fig.4 Contact Structure of SKR

**[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.

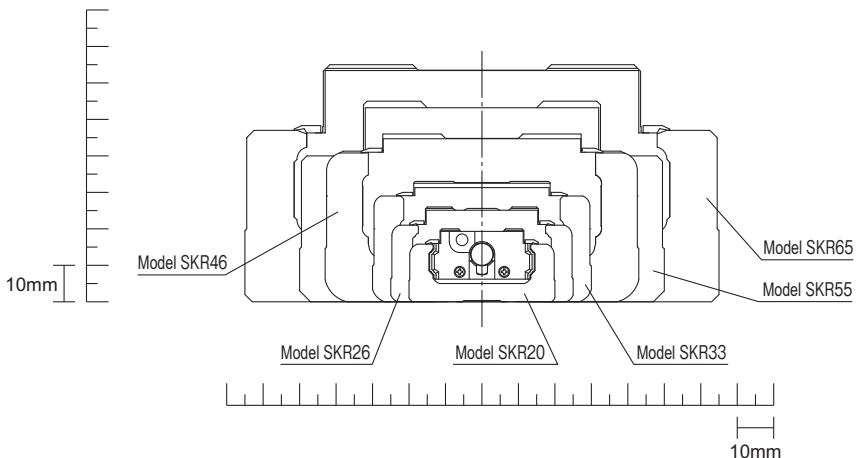


Fig.5 Cross Sectional Drawing

## Caged Ball Technology

### [High Speed]

Model SKR supports a latest high-rotation servomotor (6,000 min<sup>-1</sup>) 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 <sup>-1</sup>

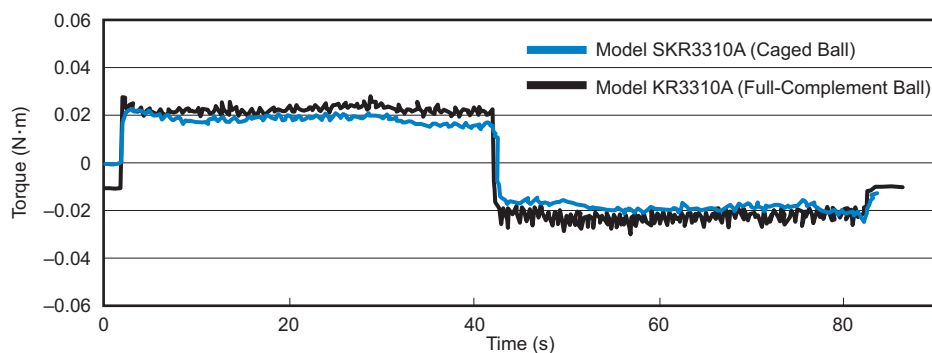


Fig.6 Comparison of Torque Fluctuation between Model SKR and Model KR

### [Low Noise, Acceptable Running Sound]

In model SKR, the use of a ball cage in the LM Guide section and Ball Screw section (excluding models SKR20/26) has eliminated collision noise between the balls. As a result, low noise and acceptable running sound are achieved.

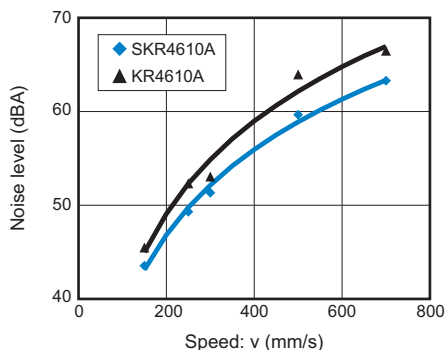


Fig.7 Comparison of Noise between Model SKR4610A and Model KR4610A

### [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

$$L_{10} = (C/P)^3 \times 50$$

$L_{10}$  : Nominal life (km)

$C$  : Basic dynamic load rating (N)

$P$  : Applied load (N)

Ball screw unit

$$L_{10} = (Ca/Fa)^3 \times 10^6$$

$L_{10}$  : 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.

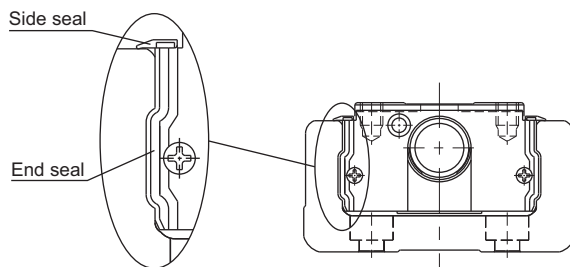


Table3 shows the rolling resistance and seal resistance per inner block (guide section).

Table3 Maximum Resistance Value Unit: N

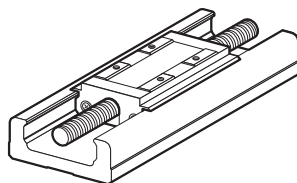
Model No.	Rolling resistance value	Seal resistance value	Total
SKR20	4.0	0.8	4.8
SKR26	4.5	1.2	5.7
SKR33	3.0	1.7	4.7
SKR46	6.0	2.1	8.1
SKR55	14.0	3.8	17.8
SKR65	20.0	4.1	24.1

## Types and Configurations

[Types]

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

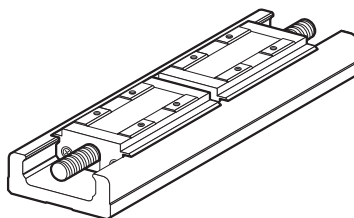
Representative model of SKR.



Model SKR-A

### Model SKR-B (with Two Long Type Blocks)

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



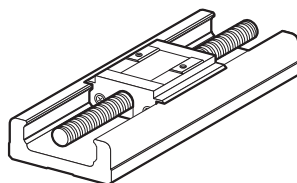
Model SKR-B

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

This model has a shorter overall length of the inner block and a longer stroke than model SKR-A.

(Applicable models: SKR33, 46)\*

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



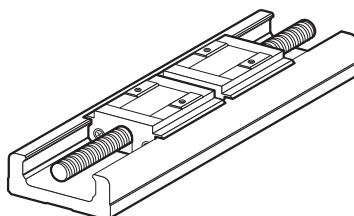
Model SKR-C

### Model SKR-D (with Two Short Type Blocks)

Equipped with two units of the inner block of model SKR-C, this design allows a span between blocks that suits the equipment, thereby achieving high rigidity.

(Applicable models: SKR33, 46)\*

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

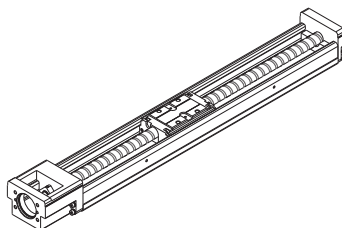


Model SKR-D

[Configurations]

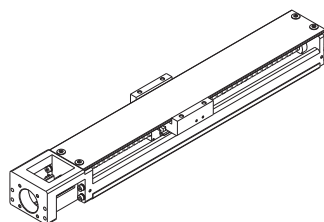
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## Direct motor coupling (without cover)



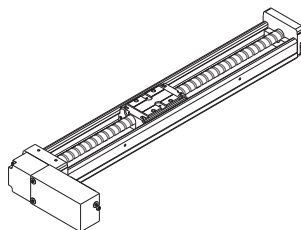
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## Direct motor coupling (with cover)



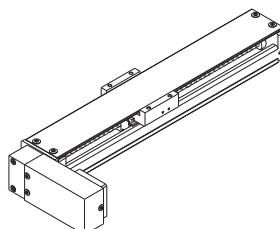
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## Motor wrap (without cover)



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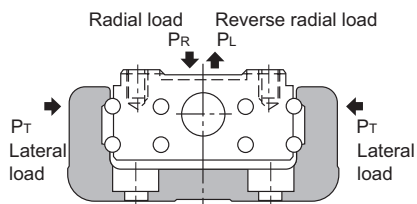
## Motor wrap (with cover)



## 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 (N)

: Radial direction

: Reverse radial direction

: Lateral directions

$P_R$  : 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 $C_a$ (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 $C_a$ (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  $C_a$ ) 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.

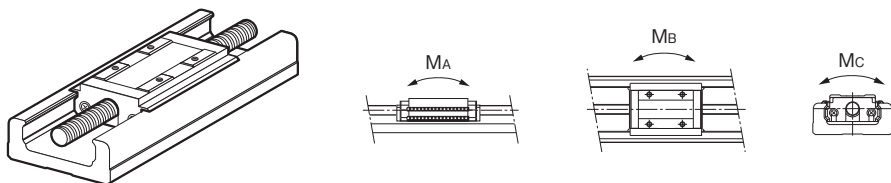
Note2) With model SKR3320, a short-block type is not available.

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			

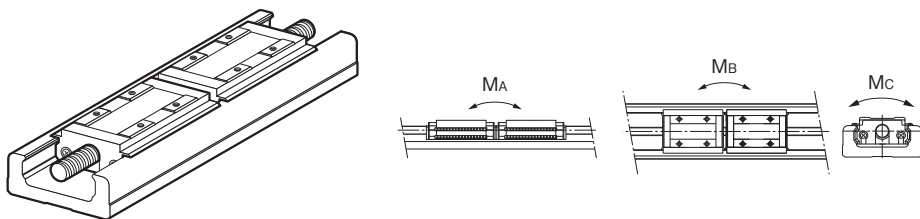
### [Static Permissible Moment (LM Guide Unit)]

The Inner block is capable of receiving moment loads in all three (3) directions.

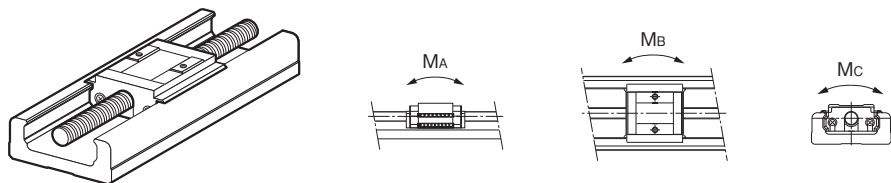
**A2-15** Table 5 shows the permissible static moment in the  $M_A$ ,  $M_B$  and  $M_C$  directions.



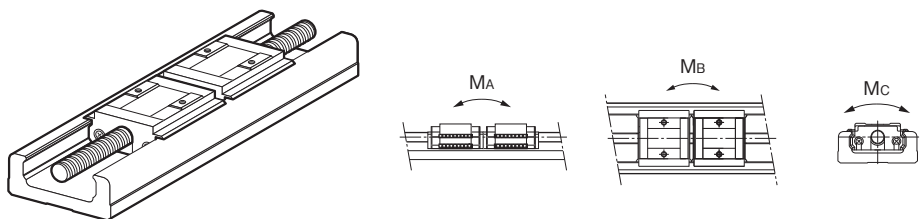
With a single long type block (Model SKR-A)



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 <sub>A</sub>	M <sub>B</sub>	M <sub>C</sub>
SKR20-A	38 (9)	38 (8)	98 (13)
SKR20-B	207 (39)	207 (32)	197 (27)
SKR26-A	117 (31)	117 (22)	265 (30)
SKR26-B	589 (154)	589 (78)	530 (60)
SKR33-A	173 (38)	173 (40)	424 (51)
SKR33-B	990 (172)	990 (158)	848 (103)
SKR33-C	58 (8)	58 (14)	240 (17)
SKR33-D	390 (55)	390 (56)	480 (51)
SKR46-A	579 (34)	579 (98)	1390 (34)
SKR46-B	3240 (162)	3240 (364)	2780 (68)
SKR46-C	236 (17)	236 (34)	870 (17)
SKR46-D	1460 (56)	1460 (135)	1740 (34)
SKR55-A	923 (169)	923 (212)	2276 (169)
SKR55-B	5125 (863)	5125 (831)	4552 (338)
SKR65-A	1366 (326)	1366 (448)	3868 (326)
SKR65-B	7702 (1349)	7702 (1512)	7736 (653)

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.

Note4) Values in parentheses are with a cover or bellows.

## 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	—
	6	210	—	300	200	—
		60	—	150	600	—
		110	—	200	600	—
SKR33	6	160	—	250	600	—
		210	—	300	600	—
		45	70	150	600	600
		95	120	200	600	600
		195	220	300	600	600
		295	320	400	600	600
	10	395	420	500	600	600
		495	520	600	550	500
		595	620	700	390	360
		45	70	150	1000	1000
		95	120	200	1000	1000
		195	220	300	1000	1000
	20	295	320	400	1000	1000
		395	420	500	1000	1000
		495	520	600	920	830
		595	620	700	650	600
		45	—	150	2000	—
		95	—	200	2000	—
SKR46	10	195	—	300	2000	—
		295	—	400	2000	—
		395	—	500	2000	—
		495	—	600	1780	—
		595	—	700	1270	—
		190	220	340	1000	1000
	20	290	320	440	1000	1000
		390	420	540	1000	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	2000	
	290	320	440	2000	2000	
	390	420	540	2000	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 permissible rotation speed of the Ball Screw or the permissible speed of the guide, with the motor rotating at 6,000 min<sup>-1</sup>.

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<sup>-1</sup> of motor speed.

Note2) When considering the use of this model at speed higher than the maximum speed indicated above, contact THK.

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## Lubrication

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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 Table 4-12).

### [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 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 formula.

#### ■ Calculating the Nominal Life

The nominal life ( $L_{10}$ ) of an LM Guide with balls is obtained from the following formula using the basic dynamic load rating (C), which is based on a reference distance of 50 km, and the calculated load acting on the LM Guide ( $P_c$ ).

- LM Guide with balls (Using a basic dynamic load rating based on a nominal life of 50 km)

$$L_{10} = \left( \frac{C}{P_c} \right)^3 \times 50 \dots\dots\dots(1)$$

$L_{10}$	: Nominal life	(km)
C	: Basic dynamic load rating	(N)
$P_c$	: Calculated load	(N)

\*This nominal life formula may not apply if the length of the stroke is less than or equal to twice the length of the LM block.

When comparing the nominal life ( $L_{10}$ ), you must take into account whether the basic dynamic load rating was defined based on 50 km or 100 km. Convert the basic dynamic load rating based on ISO 14728-1 as necessary.

ISO-regulated basic dynamic load rating conversion formula:

- LM Guide with balls

$$C_{100} = \frac{C_{50}}{1.26}$$

$C_{50}$	: Basic dynamic load rating based on a nominal life of 50 km
$C_{100}$	: Basic dynamic load rating based on a nominal life of 100 km

#### ■ Calculating the Modified Nominal Life

During use, an LM Guide may be subjected to vibrations and shocks as well as fluctuating loads, which are difficult to detect. In addition, having LM blocks arranged directly behind one another will have a decisive impact on the service life. Taking these factors into account, the modified nominal life ( $L_{10m}$ ) can be calculated according to the following formula (2).

#### ● Modified factor $\alpha$

$$\alpha = \frac{f_c}{f_w}$$

$\alpha$	: Modified factor
$f_c$	: Contact factor (see Table9 on <b>A2-23</b> )
$f_w$	: Load factor (see Table8 on <b>A2-22</b> )

#### ● Modified nominal life $L_{10m}$

- LM Guide with balls

$$L_{10m} = \left( \alpha \times \frac{C}{P_c} \right)^3 \times 50 \dots\dots\dots(2)$$

$L_{10m}$	: Modified nominal life	(km)
C	: Basic dynamic load rating	(N)
$P_c$	: Calculated load	(N)

- If a moment is applied, calculate the equivalent load by multiplying the applied moment by the equivalent factor indicated in Table 10 on **A2-23**.

$$P_m = K \cdot M$$

$P_m$  : 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  $M_c$  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 ( $L_{10}$ ) 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).

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

$L_h$  : Service life time

(h)  $n_1$  : Number of reciprocations per minute ( $\text{min}^{-1}$ )

$\ell_s$  : Stroke length

(mm)

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

#### ● Nominal Life

The nominal life ( $L_{10}$ ) 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.

#### ■ Calculating the Nominal Life

The nominal life ( $L_{10}$ ) is obtained from the following equation using the basic dynamic load rating ( $C_a$ ) and the load acting on the ball screw in the axial direction ( $F_a$ ).

$$L_{10} = \left( \frac{C_a}{F_a} \right)^3 \times 10^6 \dots\dots\dots(1)$$

$L_{10}$  : Nominal life (rev.)

$C_a$  : Basic dynamic load rating (N)

$F_a$  : Axial load (N)

### ■ Calculating the Modified Nominal Life

During use, a ball screw may be subjected to vibrations and shocks as well as fluctuating loads, which are difficult to detect. Taking these factors into account, the modified nominal life ( $L_{10m}$ ) can be calculated according to the following formula (2).

- Modified factor  $\alpha$

$$\alpha = \frac{1}{f_w}$$

$\alpha$  : Modified factor

$f_w$  : Load factor

(see Table8)

- Modified nominal life  $L_{10m}$

$$L_{10m} = \left( \alpha \times \frac{C_a}{F_a} \right)^3 \times 10^6 \dots\dots\dots (2)$$

$L_{10m}$  : Modified nominal life

(rev.)

$\alpha$  : Modified factor

$C_a$  : Basic dynamic load rating

(N)

$F_a$  : Axial load

(N)

Table8 Load Factor ( $f_w$ )

Vibrations/impact	Speed(V)	$f_w$
Faint	Very low $V \leq 0.25\text{m/s}$	1 to 1.2
Weak	Slow $0.25\text{m/s} < V \leq 1\text{m/s}$	1.2 to 1.5
Medium	Medium $1\text{m/s} < V \leq 2\text{m/s}$	1.5 to 2
Strong	High $V > 2\text{m/s}$	2 to 3.5

### ● Service Life Time

When the nominal life ( $L_{10}$ ) 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).

$$L_h = \frac{L_{10} \cdot \ell}{2 \cdot \ell_s \cdot n_1 \times 60}$$

$L_h$  : Service life time (h)       $n_1$  : Number of reciprocations per minute (min<sup>-1</sup>)  
 $\ell_s$  : Stroke length (mm)       $\ell$  : Ball screw lead (mm)

### ■fc: 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

### ■fw: 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	$2.34 \times 10^{-1}$	$2.34 \times 10^{-1}$	$8.07 \times 10^{-2}$
SKR20-B	$4.38 \times 10^{-2}$	$4.38 \times 10^{-2}$	$8.07 \times 10^{-2}$
SKR26-A	$1.59 \times 10^{-1}$	$1.59 \times 10^{-1}$	$6.17 \times 10^{-2}$
SKR26-B	$3.18 \times 10^{-2}$	$3.18 \times 10^{-2}$	$6.17 \times 10^{-2}$
SKR33-A	$1.42 \times 10^{-1}$	$1.42 \times 10^{-1}$	$5.05 \times 10^{-2}$
SKR33-B	$2.47 \times 10^{-2}$	$2.47 \times 10^{-2}$	$5.05 \times 10^{-2}$
SKR33-C	$2.39 \times 10^{-1}$	$2.39 \times 10^{-1}$	$5.05 \times 10^{-2}$
SKR33-D	$3.54 \times 10^{-2}$	$3.54 \times 10^{-2}$	$5.05 \times 10^{-2}$
SKR46-A	$9.51 \times 10^{-2}$	$9.51 \times 10^{-2}$	$3.46 \times 10^{-2}$
SKR46-B	$1.70 \times 10^{-2}$	$1.70 \times 10^{-2}$	$3.46 \times 10^{-2}$
SKR46-C	$1.46 \times 10^{-1}$	$1.46 \times 10^{-1}$	$3.46 \times 10^{-2}$
SKR46-D	$2.36 \times 10^{-2}$	$2.36 \times 10^{-2}$	$3.46 \times 10^{-2}$
SKR55-A	$8.12 \times 10^{-2}$	$8.12 \times 10^{-2}$	$2.88 \times 10^{-2}$
SKR55-B	$1.46 \times 10^{-2}$	$1.46 \times 10^{-2}$	$2.88 \times 10^{-2}$
SKR65-A	$7.16 \times 10^{-2}$	$7.16 \times 10^{-2}$	$2.21 \times 10^{-2}$
SKR65-B	$1.27 \times 10^{-2}$	$1.27 \times 10^{-2}$	$2.21 \times 10^{-2}$

$K_A$ : Moment equivalent factor in the  $M_A$  direction.

$K_B$ : Moment equivalent factor in the  $M_B$  direction.

$K_C$ : Moment equivalent factor in the  $M_C$  direction.

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.

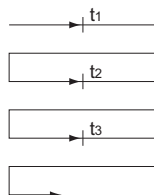


Fig.8 Positioning Repeatability

### [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.

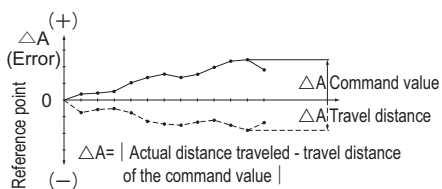


Fig.9 Positioning Accuracy

### [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.

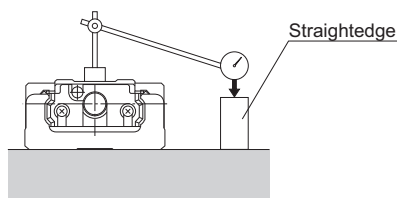


Fig.10 Running of Parallelism

### [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.

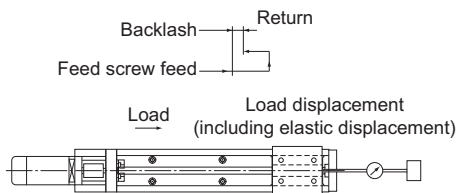


Fig.11 Backlash

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					
SKR46	595	700	±0.01	No standard defined	No standard defined	0.02	10
	190	340					
	290	440					
	390	540					
	490	640					
	590	740					
	690	840					
SKR55	790	940	±0.01	No standard defined	No standard defined	0.05	12
	800	980					
	900	1080					
	1000	1180					
	1100	1280					
SKR65	1200	1380	±0.01	No standard defined	No standard defined	0.05	12
	790	980					
	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) Measurements are taken while using a motor provided by THK. For motor-wrap configurations, these values may not apply.

Note3) 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

Note4) 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 great care in selecting a motor.

Note5) 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		0.10	0.035		
	395	500					
	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		0.12	0.04		
	590	740					
	690	840					
	790	940					
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					
	1190	1380		0.2			
	1490	1680		0.28			0.055

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

Note1) The evaluation method for accuracy standards complies with THK standards.

Note2) Measurements are taken while using a motor provided by THK. For motor-wrap configurations, these values may not apply.

Note3) The starting torque refers to the values when the below greases are used.

Models SKR20, SKR26: THK AFA Grease

Models SKR33, SKR46, SKR55, SKR65: THK AFB-LF Grease

Note4) 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 great care in selecting a motor.

Note5) Contact THK for accuracy information of units longer than the standard length.

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		0.025	0.015		
	395	500					
	495	600					
SKR46	595	700	±0.003	0.03	0.02	0.003	15
	190	340					
	290	440					
	390	540		0.025	0.015		17
	490	640					
	590	740		0.03	0.02		
	690	840					
790	940						
SKR55	800	980	±0.005	0.035	0.025	0.003	17
	900	1080		0.04	0.03		20
	1000	1180					
SKR65	790	980	±0.005	0.035	0.025	0.005	20
	990	1180		0.04	0.03		22
	1190	1380					

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

Note1) The evaluation method complies with THK standards.

Note2) Measurements are taken while using a motor provided by THK. For motor-wrap configurations, these values may not apply.

Note3) The starting torque represents the value when the following grease is used.

Models SKR20, SKR26: THK AFA Grease

Models SKR33, SKR46, SKR55, SKR65: THK AFB-LF Grease

Note4) If harder grease is used, such as vacuum/clean-room grease, the actual starting torque may exceed the values listed.

Note5) Contact THK for information on accuracy for lengths equal to or longer than the standard outer rail.



## Model Number Coding

Model No.	Ball screw lead	Inner block type	QZ specification	Stroke	Accuracy grade
<b>SKR33</b>	<b>10</b>	<b>A</b>	<b>QZ</b>	<b>0270</b>	<b>P</b>
①	②	③	④	⑤	⑥

SKR20	01: 1 mm	A	No symbol : No QZ	0020: 20 mm	No symbol: Normal grade
SKR26	02: 2 mm	B	QZ	0030: 30 mm	H: High accuracy grade
SKR33	06: 6 mm	C	QZA	}	P: Precision grade
SKR46	10: 10 mm	D	QZB	1490: 1490 mm	
SKR55	20: 20 mm		QZAD		
SKR65	25: 25 mm				
	30: 30 mm				
	40: 40 mm				
	50: 50 mm				

QZ specification ④ can be selected on the following models.

SKR33 (→ **A2-38**)

SKR46 (→ **A2-46**)

\*It cannot be selected for SKR20, SKR26, SKR55 and SKR65.

If QZ, QZA, QZB, or QZAD is selected for QZ specification ④, specify a stroke incorporating QZ. (→ **A2-65**)

If "2: with a bellows" has been selected for Cover ⑧, specify a stroke incorporating the bellows. (→ **A2-76**)

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"

	<b>With/without a motor</b>		<b>Cover</b>	<b>Sensor</b>	<b>Housing A/ Intermediate flange</b>
	<b>0</b>	-	<b>1</b>	<b>B</b>	<b>AQ</b>
	⑦		⑧	⑨	⑩

With direct coupling
0: Direct coupling (without motor)
1: Direct coupling (THK will purchase and mount the motor you specify)
With motor wrap
R1: Non-standard side wrap (without motor)
R2: Standard side wrap (without motor)
R3: Bottom side wrap (without motor)
R4: Non-standard side wrap (THK will purchase and mount the motor you specify)
R5: Standard side wrap (THK will purchase and mount the motor you specify)
R6: Bottom side wrap (THK will purchase and mount the motor you specify)

0: Without cover
1: With cover
2: With bellows

0: None
1
2
6
7
B
E
H
L
J
M

With direct coupling	With motor wrap
A0	WN-05D
AN	WP-08D
AP	WP-08K
AQ	WP-08M
AR	WQ-08D
AS	WQ-08K
AT	WQ-08M
AU	WV-14M
AV	WY-11M
AY	WY-14M
AZ	WZ-16M
A5	WZ-19M
A6	W5-19M
20	
30	
40	
60	

If QZ specification ④ "QZ," "QZA," "QZB," or "QZAD" is selected, "2: With bellows" cannot be selected.

If "0" is selected:

No coupling will be attached. Please specify if a coupling is required when ordering.

If "R1," "R2," or "R3" is selected:

A timing pulley and timing belt will be included.

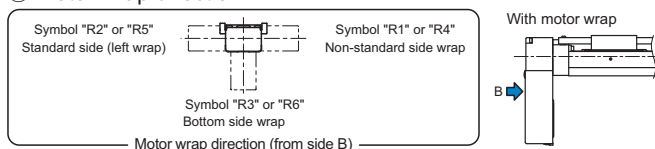
If "1," "R4," "R5," or "R6" is selected:

The designated motor will be mounted. Please specify the motor cable direction separately.

Please select an option for ⑩ Housing A/Intermediate flange that matches the specified motor.

This product is compatible with motors from various manufacturers. Contact THK for details.

### ⑦ Motor wrap direction

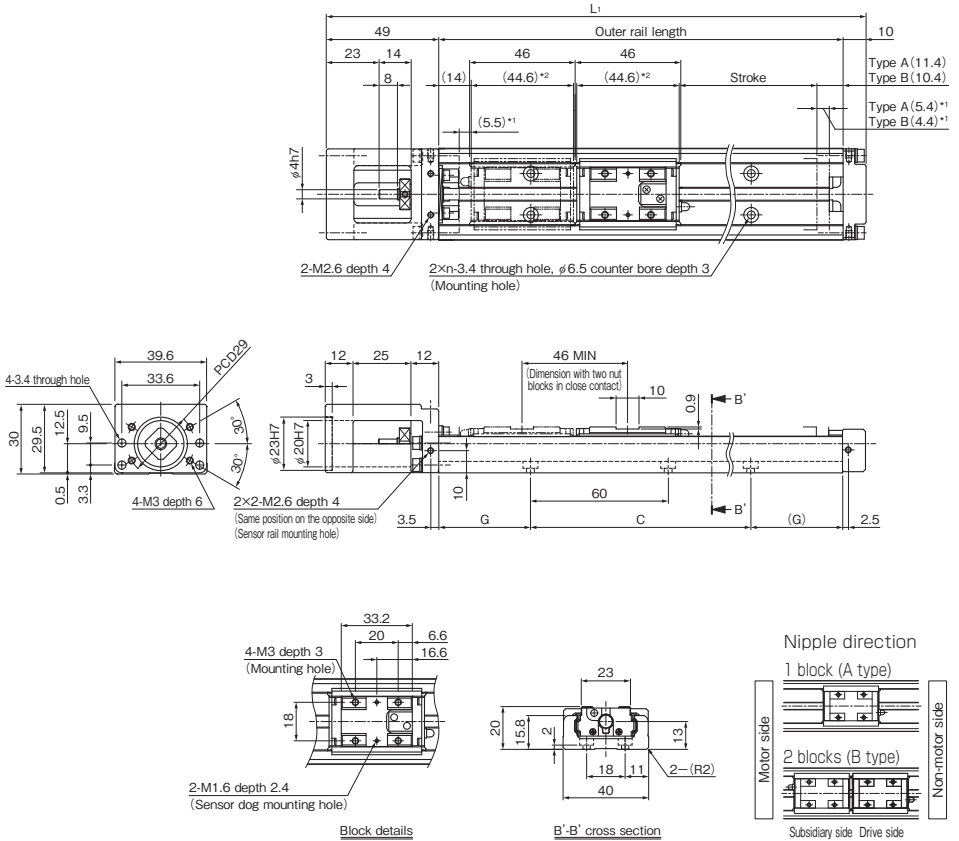


# SKR20 Without Cover, Direct Motor Coupling

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

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

For model number coding, see **A2-28**.



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

\*2 This indicates the block length when calculating the possible stroke range.

It is 90.6 mm (total) for an SKR20 with 2 blocks in close contact with each other (B type).

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length $L_1$ (mm)	C (mm)	G (mm)	n	Overall main unit mass (kg)	
Type A	Type B*						Type A	Type B
30 (40.9)	—	100	159	60	20	2	0.47	—
80 (90.9)	35 (44.9)	150	209	120	15	3	0.6	0.67
130 (140.9)	85 (94.9)	200	259	120	40	3	0.74	0.81

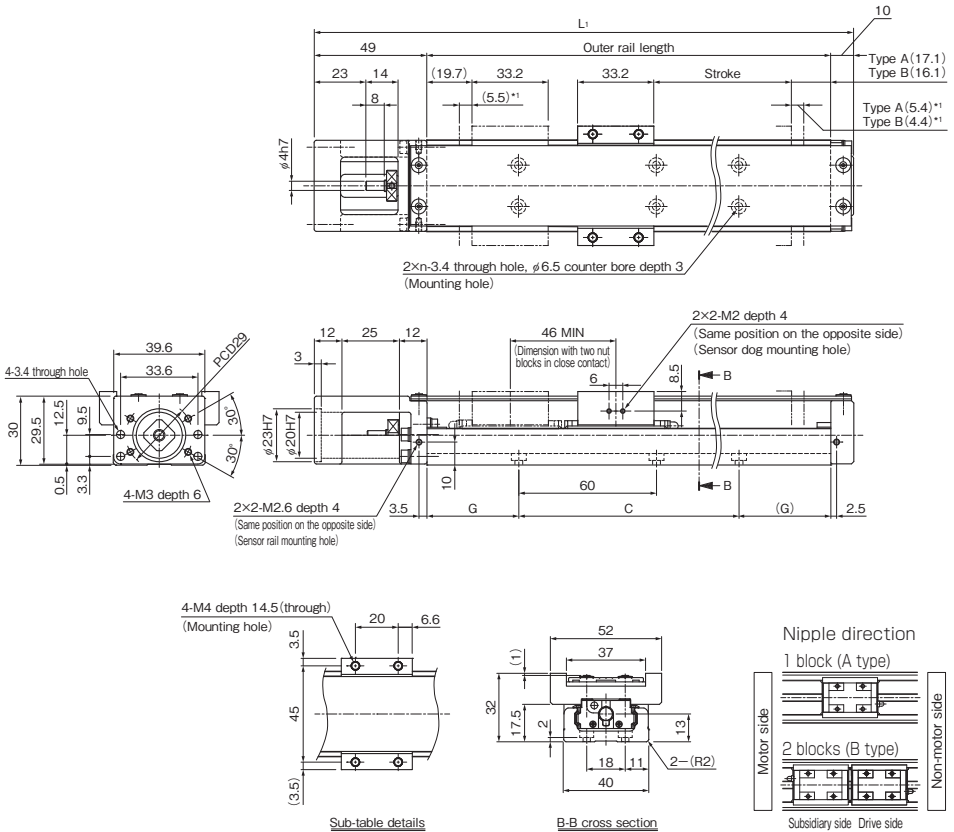
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR20 With Cover, Direct Motor Coupling

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

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

For model number coding, see **A2-28**.



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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length $L_1$ (mm)	C (mm)	G (mm)	n	Overall main unit mass (kg)	
Type A	Type B						Type A	Type B
30 (40.9)	—	100	159	60	20	2	0.55	—
80 (90.9)	35 (44.9)	150	209	120	15	3	0.69	0.81
130 (140.9)	85 (94.9)	200	259	120	40	3	0.84	0.96

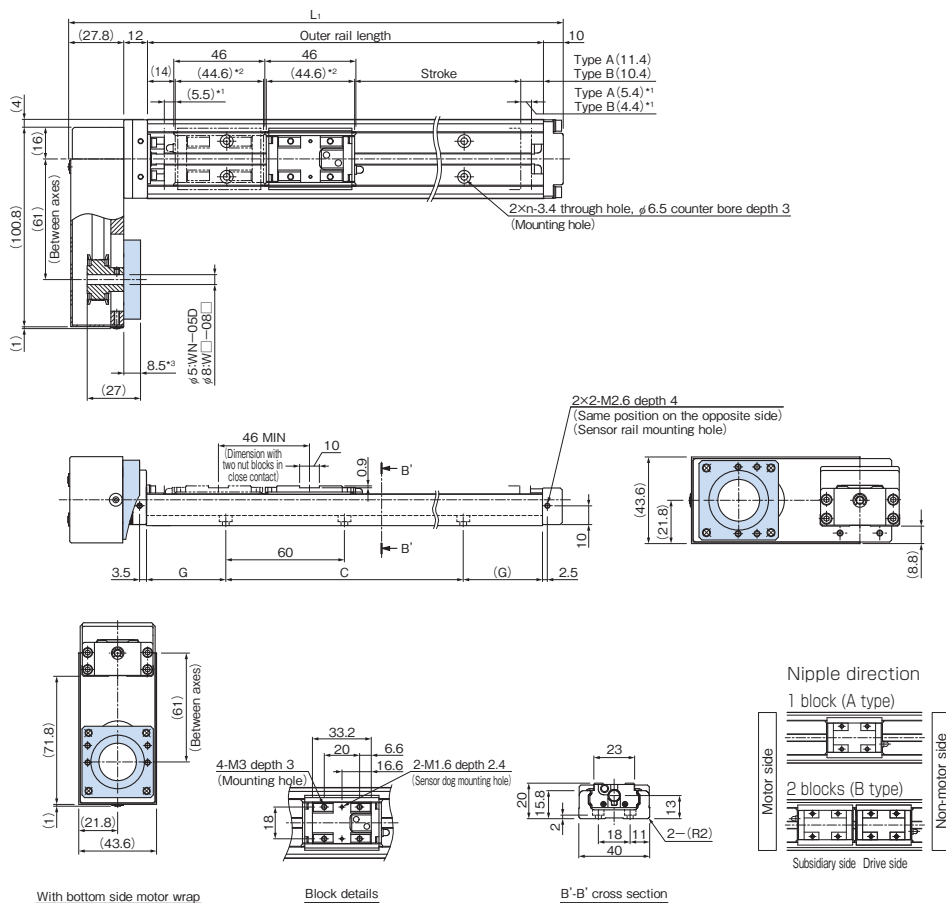
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR20 Without Cover, Motor Wrap

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

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

For model number coding, see **A2-28**.



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

\*2 This indicates the block length when calculating the possible stroke range.

It is 90.6 mm (total) for an SKR20 with 2 blocks in close contact with each other (B type).

\*3 Dimensions will vary if "WN" is selected for model number coding  $\text{H}$  Housing A/Intermediate flange. For details, see **A2-96**.

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length $L_1$ (mm)	C (mm)	G (mm)	n	Overall main unit mass (kg)	
Type A	Type B*						Type A	Type B
30 (40.9)	—	100	149.8	60	20	2	0.72	—
80 (90.9)	35 (44.9)	150	199.8	120	15	3	0.86	0.93
130 (140.9)	85 (94.9)	200	249.8	120	40	3	0.99	1.06

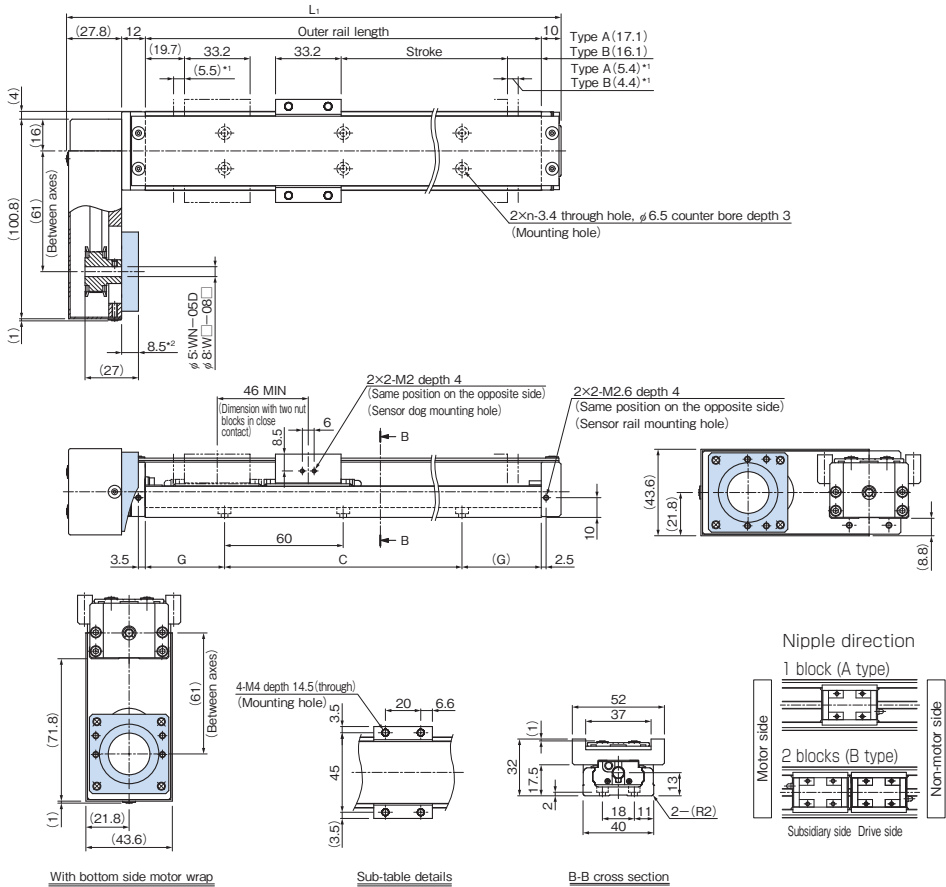
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR20 With Cover, Motor Wrap

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

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

For model number coding, see **A2-28**.



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

\*2 Dimensions will vary if "WN" is selected for model number coding @ Housing A/Intermediate flange. For details, see **A2-96**.

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length $L_1$ (mm)	C (mm)	G (mm)	n	Overall main unit mass (kg)	
Type A	Type B*						Type A	Type B
30 (40.9)	—	100	149.8	60	20	2	0.81	—
80 (90.9)	35 (44.9)	150	199.8	120	15	3	0.95	1.07
130 (140.9)	85 (94.9)	200	249.8	120	40	3	1.09	1.21

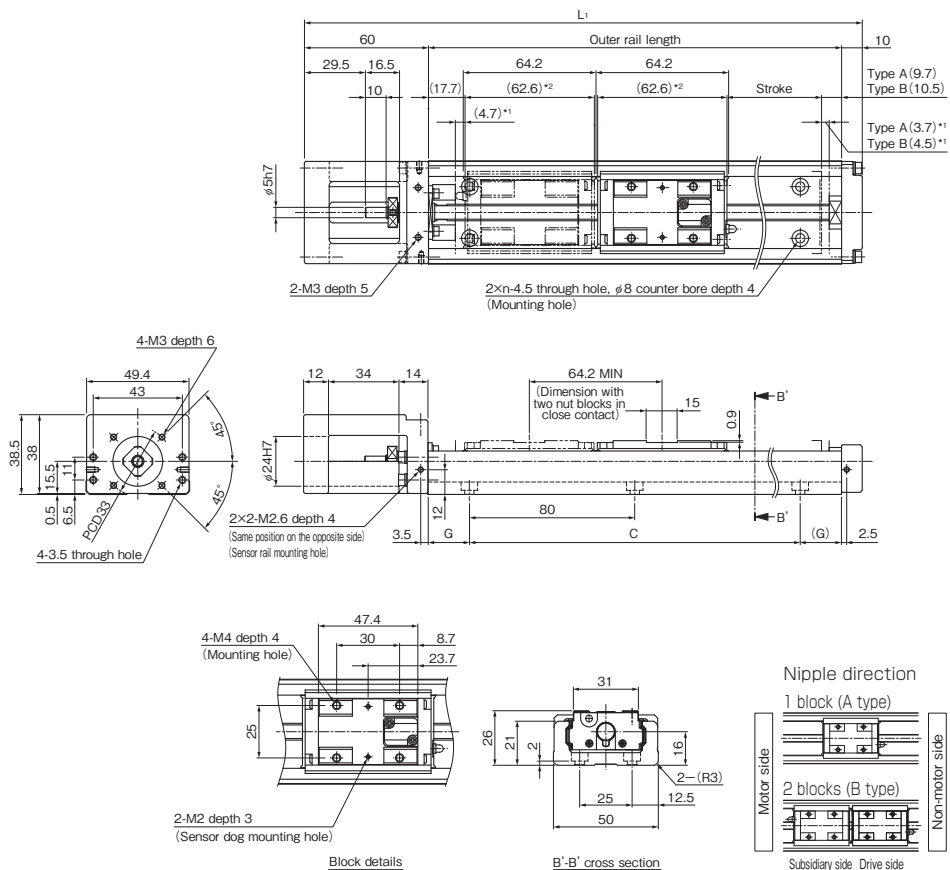
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR26 Without Cover, Direct Motor Coupling

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

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

For model number coding, see **A2-28**.



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

\*2 This indicates the block length when calculating the possible stroke range.

It is 126.8 mm (total) for an SKR26 with 2 blocks in close contact with each other (B type).

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length L <sub>1</sub> (mm)	C (mm)	G (mm)	n	Overall main unit mass (kg)	
Type A	Type B*						Type A	Type B
60 (68.4)	—	150	220	80	35	2	1.01	—
110 (118.4)	45 (54.2)	200	270	160	20	3	1.22	1.39
160 (168.4)	95 (104.2)	250	320	160	45	3	1.43	1.6
210 (218.4)	145 (154.2)	300	370	240	30	4	1.64	1.81

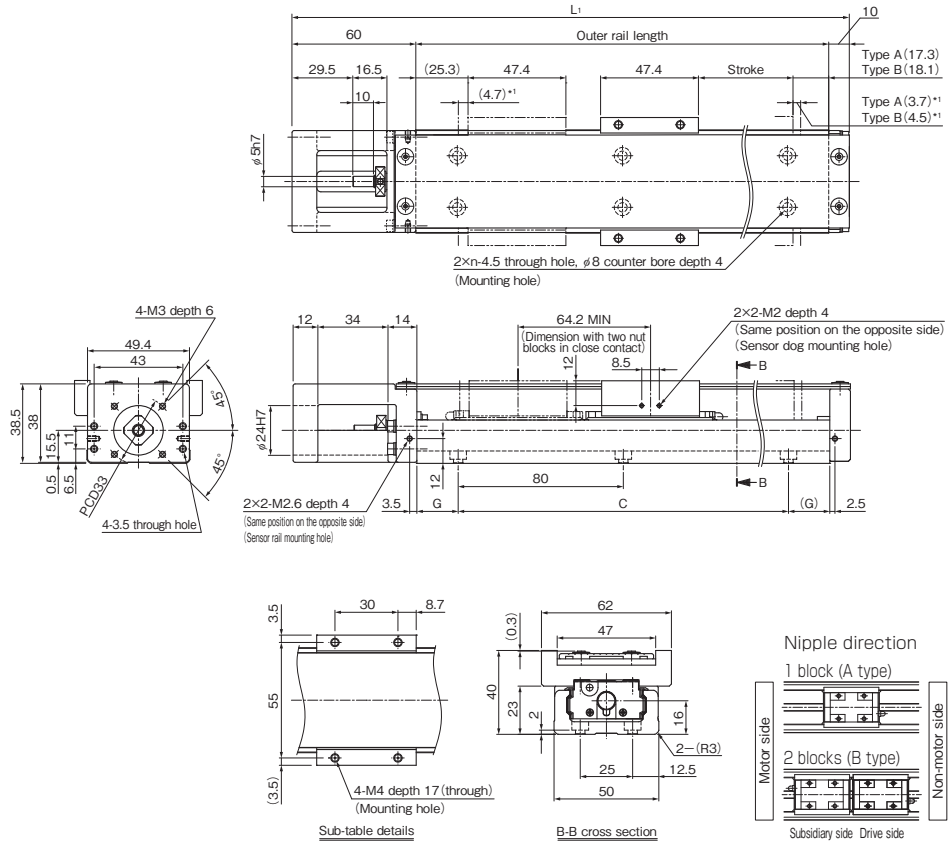
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR26 With Cover, Direct Motor Coupling

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

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

For model number coding, see **A2-28**.



LM Guide Actuator

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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length $L_1$ (mm)	C (mm)	G (mm)	n	Overall main unit mass (kg)	
Type A	Type B*						Type A	Type B
60 (68.4)	—	150	220	80	35	2	1.17	—
110 (118.4)	45 (54.2)	200	270	160	20	3	1.39	1.64
160 (168.4)	95 (104.2)	250	320	160	45	3	1.61	1.86
210 (218.4)	145 (154.2)	300	370	240	30	4	1.83	2.08

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

Options⇒ **A2-65**

THK

**A2-35**

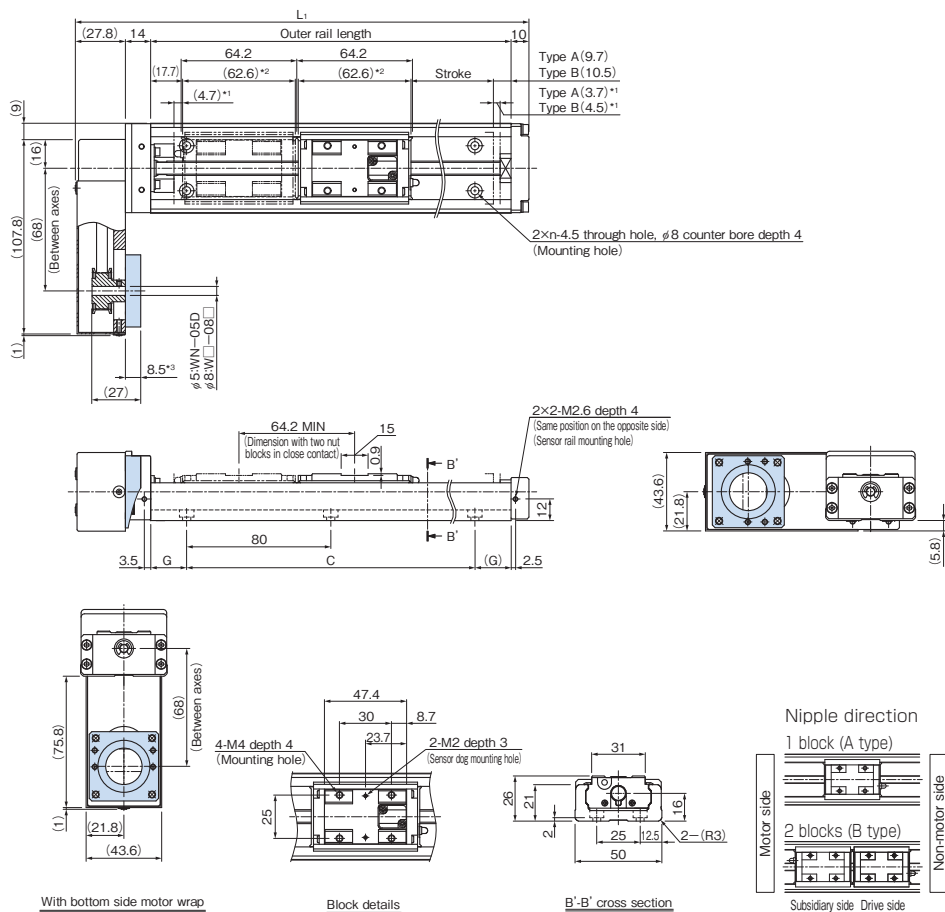


# SKR26 Without Cover, Motor Wrap

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

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

For model number coding, see **A2-28**.



With bottom side motor wrap

Block details

B'-B' cross section

Subsidiary side Drive side

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

\*2 This indicates the block length when calculating the possible stroke range.

It is 128.8 mm (total) for an SKR26 with 2 blocks in close contact with each other (B type).

\*3 Dimensions will vary if "WN" is selected for model number coding  $\text{\textcircled{W}}$  Housing A/Intermediate flange. For details, see **A2-99**.

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length $L_1$ (mm)	C (mm)	G (mm)	n	Overall main unit mass (kg)	
Type A	Type B*						Type A	Type B
60 (68.4)	—	150	201.8	80	35	2	1.24	—
110 (118.4)	45 (54.2)	200	251.8	160	20	3	1.45	1.62
160 (168.4)	95 (104.2)	250	301.8	160	45	3	1.66	1.83
210 (218.4)	145 (154.2)	300	351.8	240	30	4	1.87	2.04

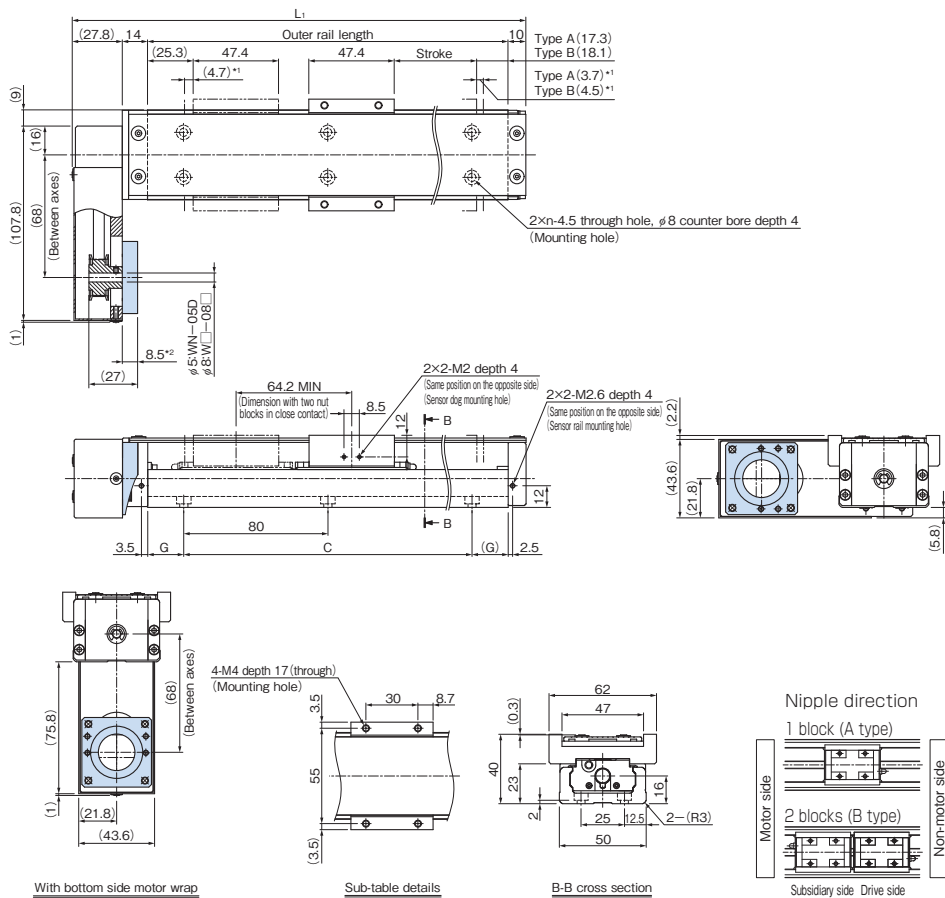
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR26 With Cover, Motor Wrap

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

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

For model number coding, see **A2-28**.



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

\*2 Dimensions will vary if "WN" is selected for model number coding @ Housing A/Intermediate flange.  
For details, see **A2-99**.

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length $L_1$ (mm)	C (mm)	G (mm)	n	Overall main unit mass (kg)	
Type A	Type B*						Type A	Type B
60 (68.4)	—	150	201.8	80	35	2	1.39	—
110 (118.4)	45 (54.2)	200	251.8	160	20	3	1.61	1.86
160 (168.4)	95 (104.2)	250	301.8	160	45	3	1.84	2.09
210 (218.4)	145 (154.2)	300	351.8	240	30	4	2.06	2.31

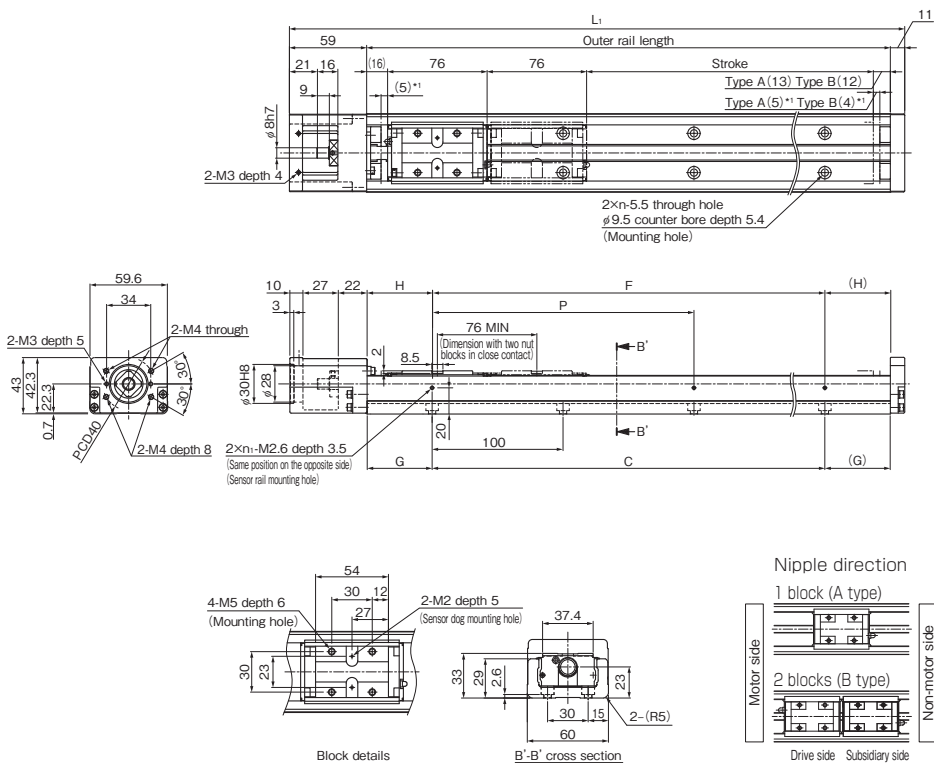
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR33 Without Cover, Direct Motor Coupling

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

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

For model number coding, see **A2-28**.



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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length L <sub>1</sub> (mm)	C (mm)	G (mm)	P (mm)	F (mm)	H (mm)	n	n <sub>1</sub>	Overall main unit mass (kg)	
Type A	Type B <sup>*</sup>										Type A	Type B
45 (55)	—	150	220	100	25	100	100	25	2	2	1.9	—
95 (105)	—	200	270	100	50	100	100	50	2	2	2.3	—
195 (205)	120 (129)	300	370	200	50	200	200	50	3	2	3	3.4
295 (305)	220 (229)	400	470	300	50	200	200	100	4	2	3.7	4.1
395 (405)	320 (329)	500	570	400	50	200	400	50	5	3	4.5	4.9
495 (505)	420 (429)	600	670	500	50	200	400	100	6	3	5.2	5.6
595 (605)	520 (529)	700	770	600	50	200	600	50	7	4	5.9	6.3

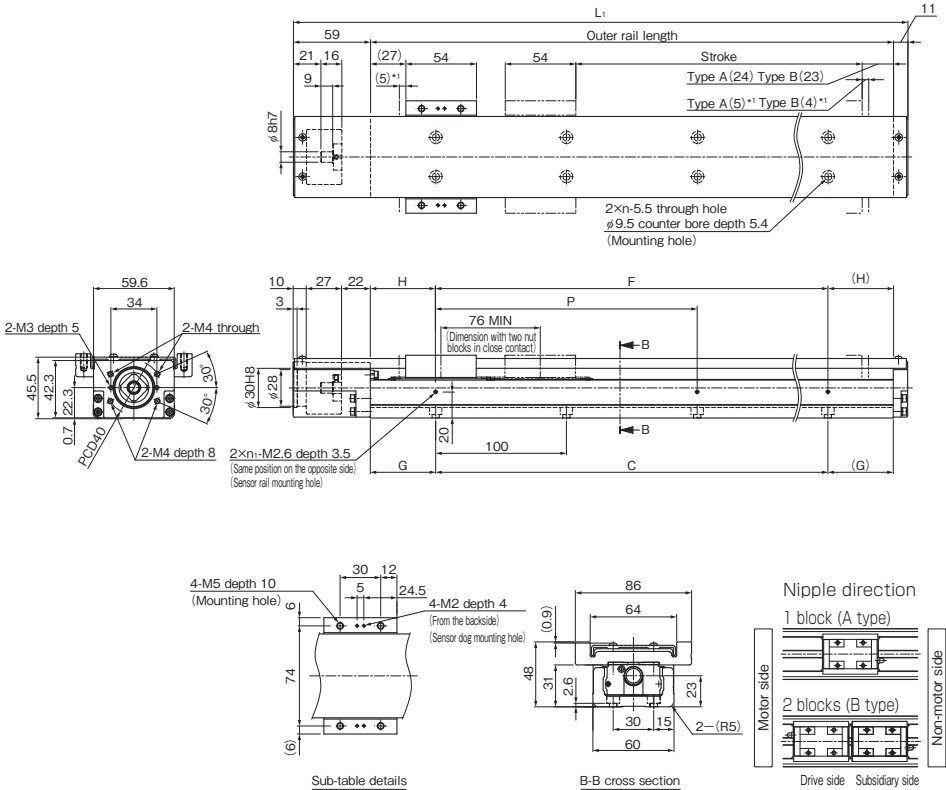
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR33 With Cover, Direct Motor Coupling

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

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

For model number coding, see **A2-28**.



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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length $L_1$ (mm)	C (mm)	G (mm)	P (mm)	F (mm)	H (mm)	n	$n_1$	Overall main unit mass (kg)	
Type A	Type B*										Type A	Type B
45 (55)	—	150	220	100	25	100	100	25	2	2	2.3	—
95 (105)	—	200	270	100	50	100	100	50	2	2	2.6	—
195 (205)	120 (129)	300	370	200	50	200	200	50	3	2	3.4	4
295 (305)	220 (229)	400	470	300	50	200	200	100	4	2	4.2	4.8
395 (405)	320 (329)	500	570	400	50	200	400	50	5	3	4.9	5.5
495 (505)	420 (429)	600	670	500	50	200	400	100	6	3	5.7	6.3
595 (605)	520 (529)	700	770	600	50	200	600	50	7	4	6.4	7

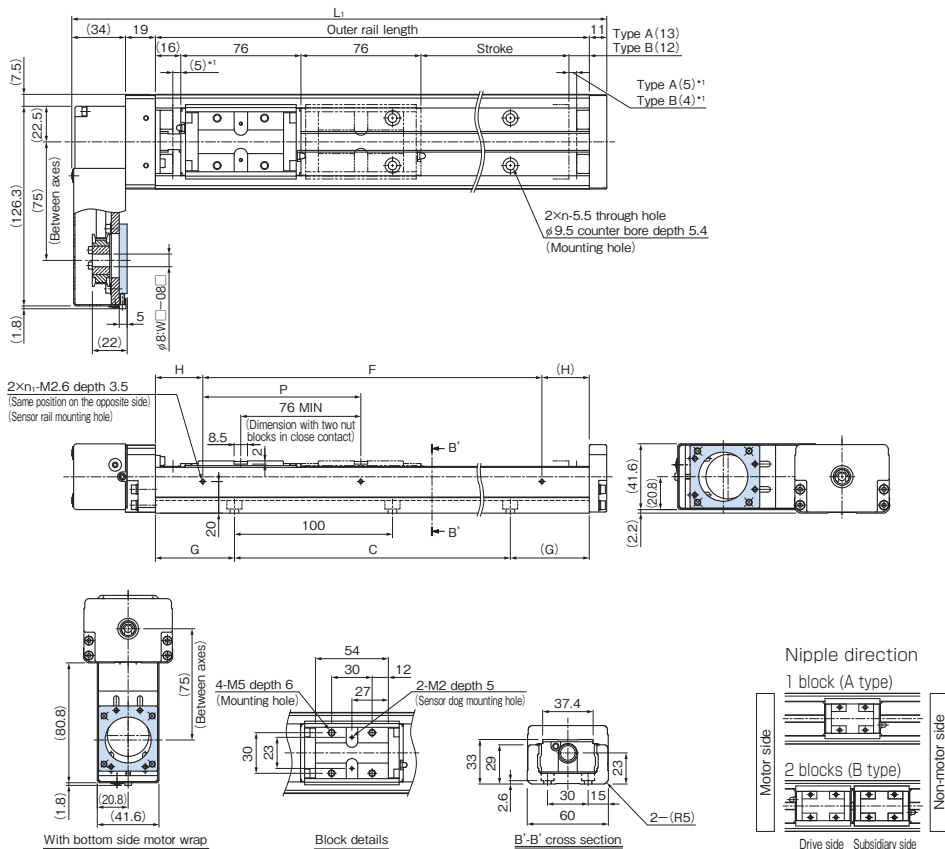
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR33 Without Cover, Motor Wrap

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

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

For model number coding, see **A2-28**.



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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length L <sub>1</sub> (mm)	C (mm)	G (mm)	P (mm)	F (mm)	H (mm)	n	n <sub>1</sub>	Overall main unit mass (kg)	
Type A	Type B										Type A	Type B
45 (55)	—	150	214	100	25	100	100	25	2	2	2.2	—
95 (105)	—	200	264	100	50	100	100	50	2	2	2.6	—
195 (205)	120 (129)	300	364	200	50	200	200	50	3	2	3.3	3.7
295 (305)	220 (229)	400	464	300	50	200	200	100	4	2	4	4.4
395 (405)	320 (329)	500	564	400	50	200	400	50	5	3	4.8	5.2
495 (505)	420 (429)	600	664	500	50	200	400	100	6	3	5.5	5.9
595 (605)	520 (529)	700	764	600	50	200	600	50	7	4	6.2	6.6

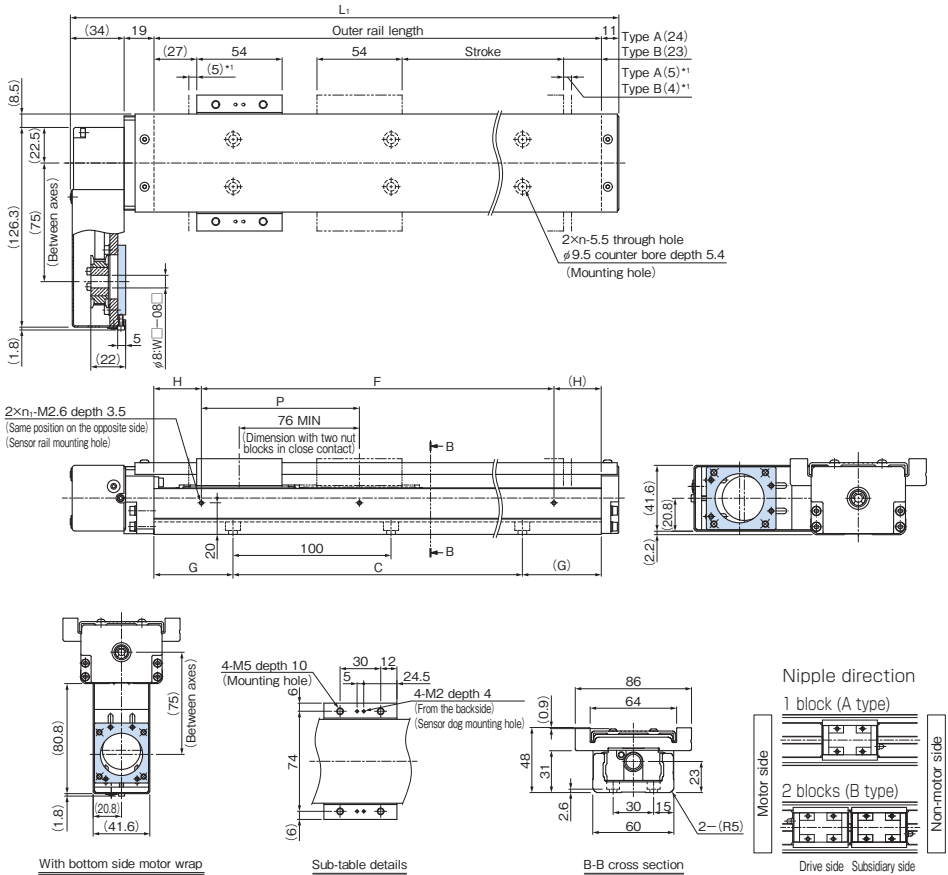
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR33 With Cover, Motor Wrap

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

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

For model number coding, see **A2-28**.



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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length L <sub>1</sub> (mm)	C (mm)	G (mm)	P (mm)	F (mm)	H (mm)	n	n <sub>1</sub>	Overall main unit mass (kg)	
Type A	Type B*										Type A	Type B
45 (55)	—	150	214	100	25	100	100	25	2	2	2.5	—
95 (105)	—	200	264	100	50	100	100	50	2	2	2.9	—
195 (205)	120 (129)	300	364	200	50	200	200	50	3	2	3.7	4.3
295 (305)	220 (229)	400	464	300	50	200	200	100	4	2	4.4	5
395 (405)	320 (329)	500	564	400	50	200	400	50	5	3	5.2	5.8
495 (505)	420 (429)	600	664	500	50	200	400	100	6	3	6	6.6
595 (605)	520 (529)	700	764	600	50	200	600	50	7	4	6.7	7.3

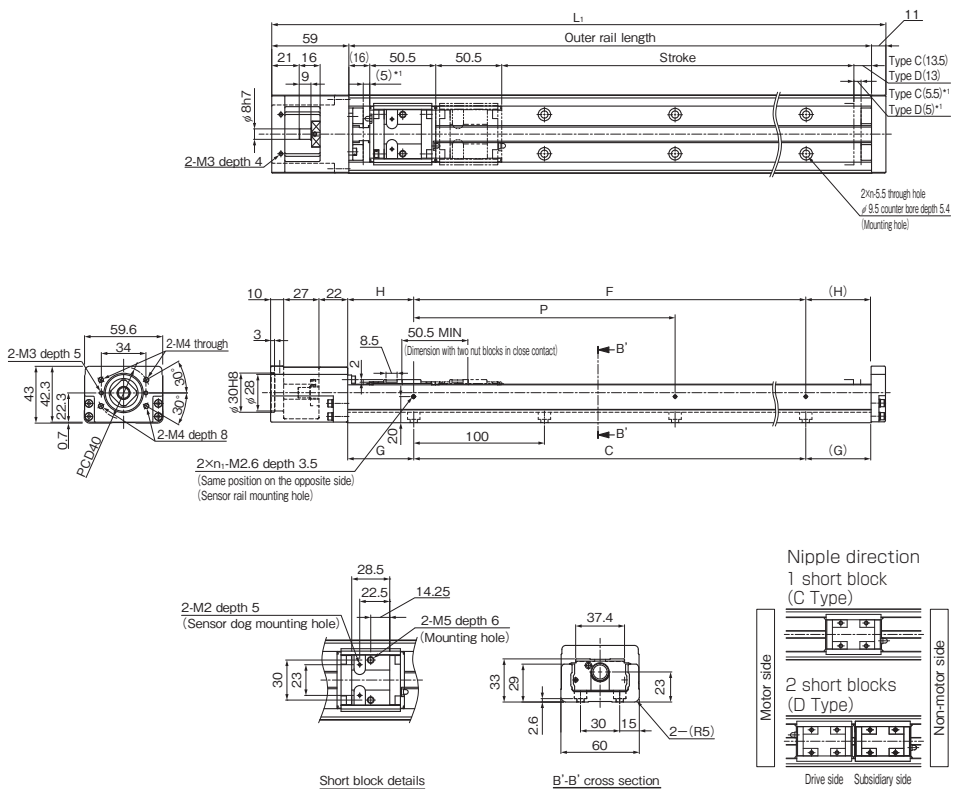
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR33 Without Cover, Direct Motor Coupling

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

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

For model number coding, see **A2-28**.



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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length L <sub>1</sub> (mm)	C (mm)	G (mm)	P (mm)	F (mm)	H (mm)	n	n <sub>1</sub>	Overall main unit mass (kg)	
Type C	Type D										Type C	Type D
70 (80.5)	20 (30)	150	220	100	25	100	100	25	2	2	1.7	1.9
120 (130.5)	70 (80)	200	270	100	50	100	100	50	2	2	2.1	2.3
220 (230.5)	170 (180)	300	370	200	50	200	200	50	3	2	2.8	3
320 (330.5)	270 (280)	400	470	300	50	200	200	100	4	2	3.5	3.7
420 (430.5)	370 (380)	500	570	400	50	200	400	50	5	3	4.3	4.5
520 (530.5)	470 (480)	600	670	500	50	200	400	100	6	3	5	5.2
620 (630.5)	570 (580)	700	770	600	50	200	600	50	7	4	5.7	5.9

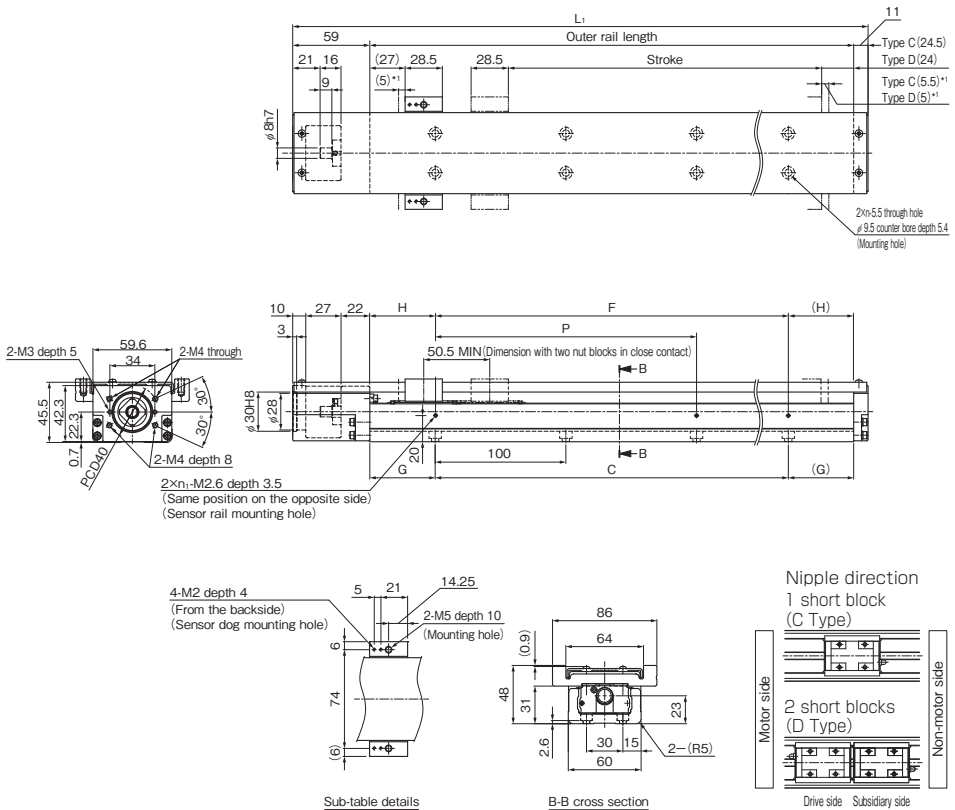
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR33 With Cover, Direct Motor Coupling

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

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

For model number coding, see **A2-28**.



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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length $L_1$ (mm)	C (mm)	G (mm)	P (mm)	F (mm)	H (mm)	n	$n_1$	Overall main unit mass (kg)	
Type C	Type D										Type C	Type D
70 (80.5)	20 (30)	150	220	100	25	100	100	25	2	2	2	2.3
120 (130.5)	70 (80)	200	270	100	50	100	100	50	2	2	2.3	2.6
220 (230.5)	170 (180)	300	370	200	50	200	200	50	3	2	3.1	3.4
320 (330.5)	270 (280)	400	470	300	50	200	200	100	4	2	3.9	4.2
420 (430.5)	370 (380)	500	570	400	50	200	400	50	5	3	4.6	4.9
520 (530.5)	470 (480)	600	670	500	50	200	400	100	6	3	5.4	5.7
620 (630.5)	570 (580)	700	770	600	50	200	600	50	7	4	6.1	6.4

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

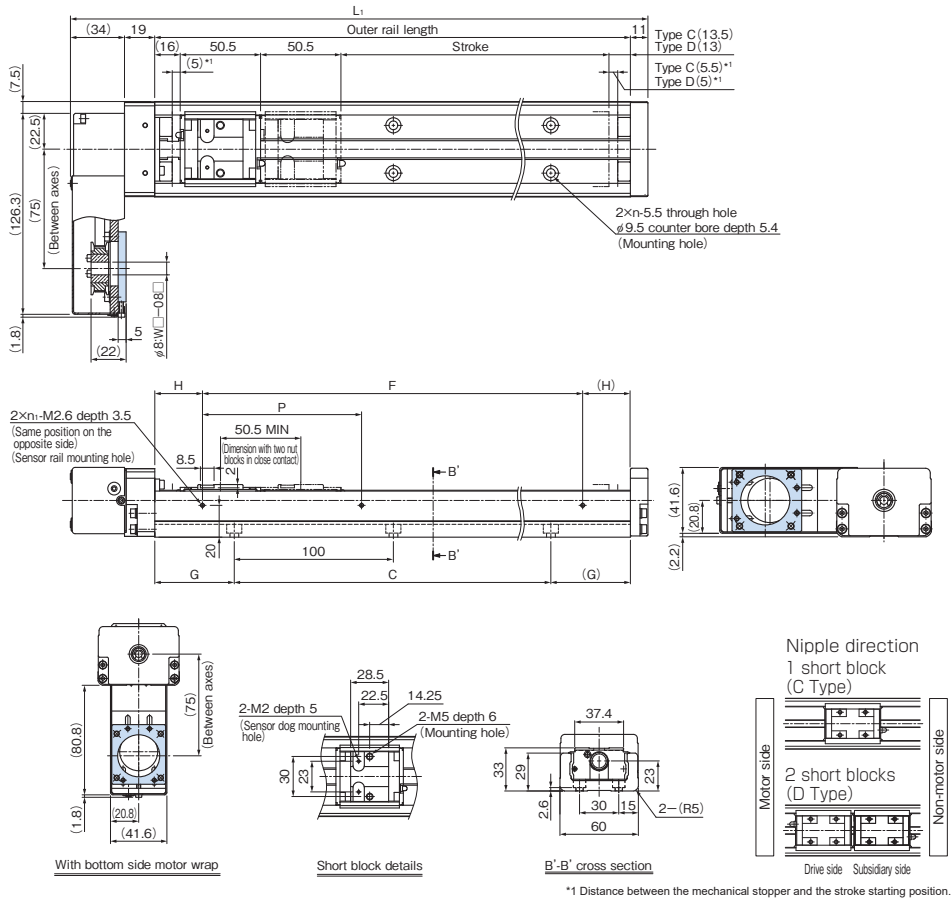


# SKR33 Without Cover, Motor Wrap

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

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

For model number coding, see **A2-28**.



Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length L <sub>1</sub> (mm)	C (mm)	G (mm)	P (mm)	F (mm)	H (mm)	n	n <sub>1</sub>	Overall main unit mass (kg)	
Type C	Type D										Type C	Type D
70 (80.5)	20 (30)	150	214	100	25	100	100	25	2	2	2	2.2
120 (130.5)	70 (80)	200	264	100	50	100	100	50	2	2	2.4	2.6
220 (230.5)	170 (180)	300	364	200	50	200	200	50	3	2	3.1	3.3
320 (330.5)	270 (280)	400	464	300	50	200	200	100	4	2	3.8	4
420 (430.5)	370 (380)	500	564	400	50	200	400	50	5	3	4.6	4.8
520 (530.5)	470 (480)	600	664	500	50	200	400	100	6	3	5.3	5.5
620 (630.5)	570 (580)	700	764	600	50	200	600	50	7	4	6	6.2

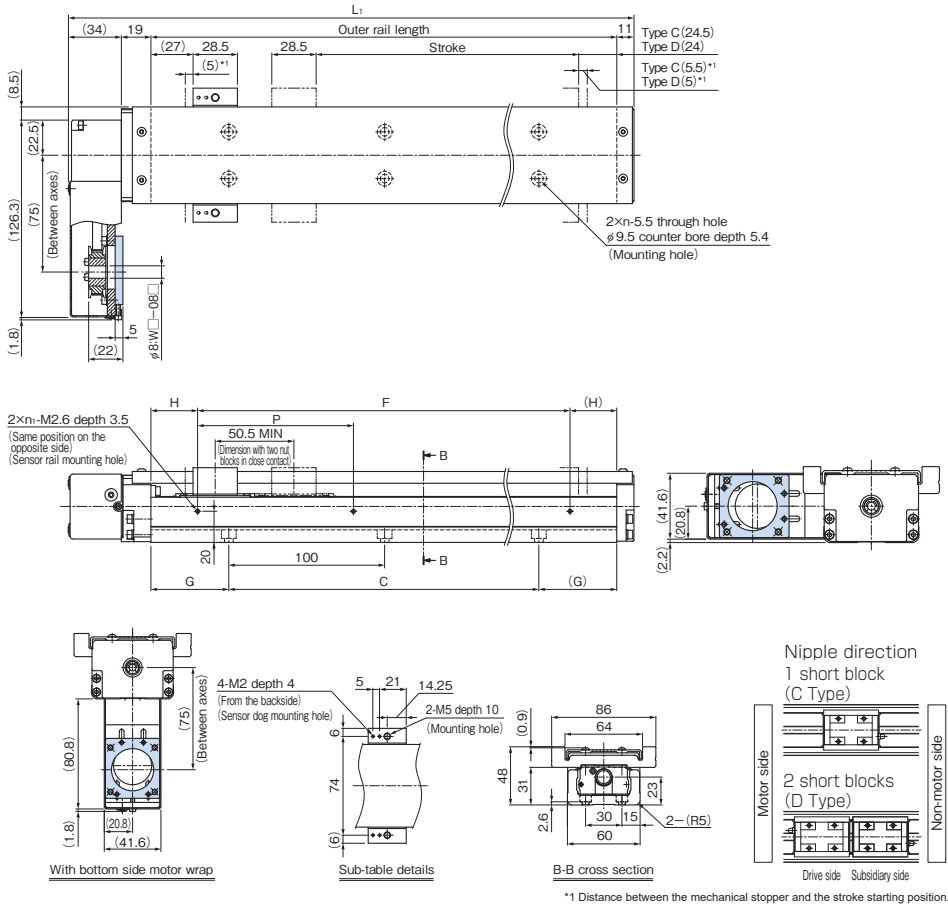
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR33 With Cover, Motor Wrap

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

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

For model number coding, see **A2-28**.



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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length L <sub>1</sub> (mm)	C (mm)	G (mm)	P (mm)	F (mm)	H (mm)	n	n <sub>1</sub>	Overall main unit mass (kg)	
Type C	Type D*										Type C	Type D
70 (80.5)	20 (30)	150	214	100	25	100	100	25	2	2	2.2	2.5
120 (130.5)	70 (80)	200	264	100	50	100	100	50	2	2	2.6	2.9
220 (230.5)	170 (180)	300	364	200	50	200	200	50	3	2	3.4	3.7
320 (330.5)	270 (280)	400	464	300	50	200	200	100	4	2	4.1	4.4
420 (430.5)	370 (380)	500	564	400	50	200	400	50	5	3	4.9	5.2
520 (530.5)	470 (480)	600	664	500	50	200	400	100	6	3	5.7	6
620 (630.5)	570 (580)	700	764	600	50	200	600	50	7	4	6.4	6.7

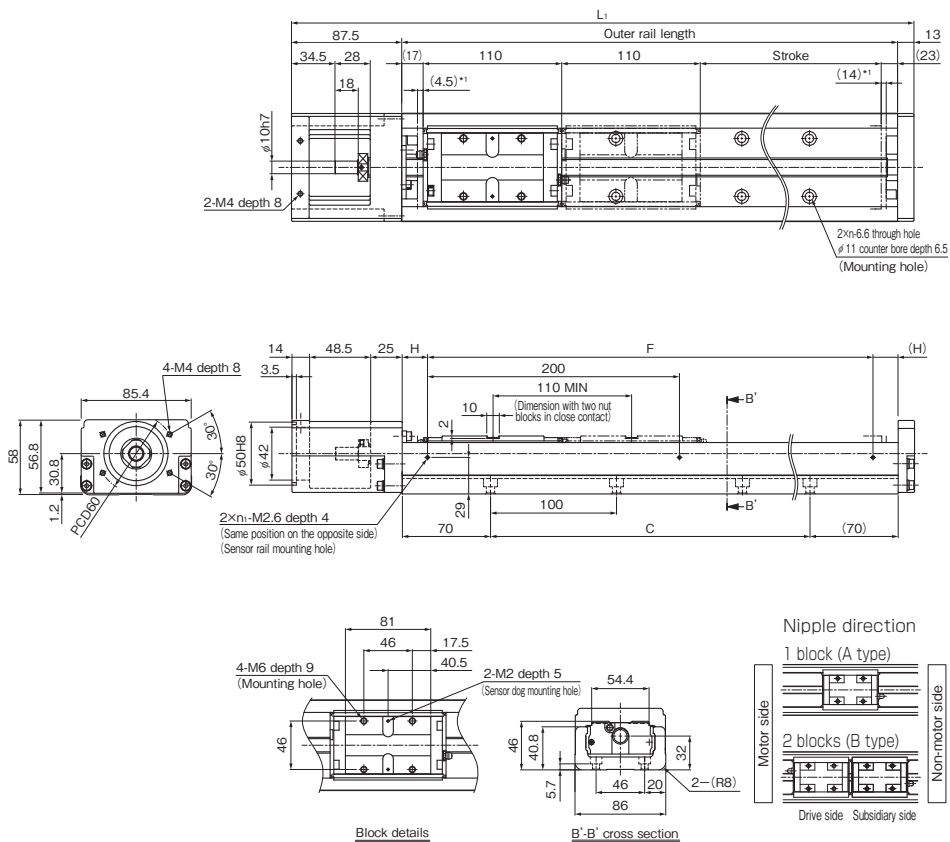
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR46 Without Cover, Direct Motor Coupling

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

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

For model number coding, see **A2-28**.



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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length L <sub>1</sub> (mm)	C (mm)	F (mm)	H (mm)	n	n <sub>1</sub>	Overall main unit mass (kg)	
Type A	Type B*								Type A	Type B
190 (208.5)	80 (98.5)	340	440.5	200	200	70	3	2	6.7	7.7
290 (308.5)	180 (198.5)	440	540.5	300	400	20	4	3	8.1	9.1
390 (408.5)	280 (298.5)	540	640.5	400	400	70	5	3	9.5	10.5
490 (508.5)	380 (398.5)	640	740.5	500	600	20	6	4	10.9	11.9
590 (608.5)	480 (498.5)	740	840.5	600	600	70	7	4	12.3	13.3
690 (708.5)	580 (598.5)	840	940.5	700	800	20	8	5	13.8	14.8
790 (808.5)	680 (698.5)	940	1040.5	800	800	70	9	5	15.2	16.2

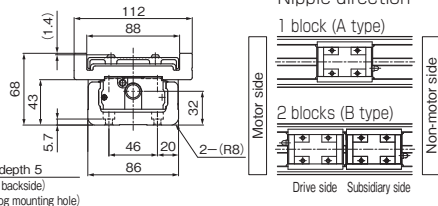
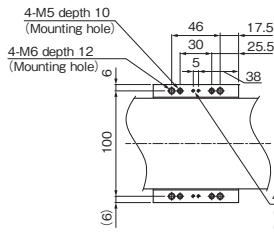
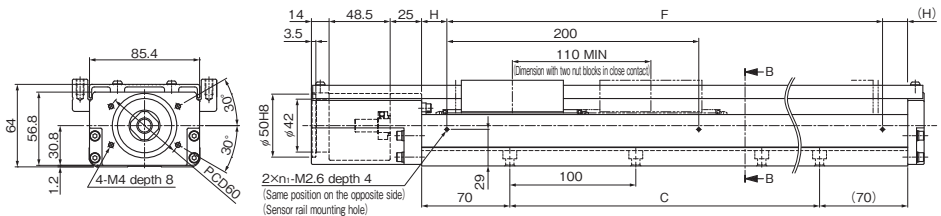
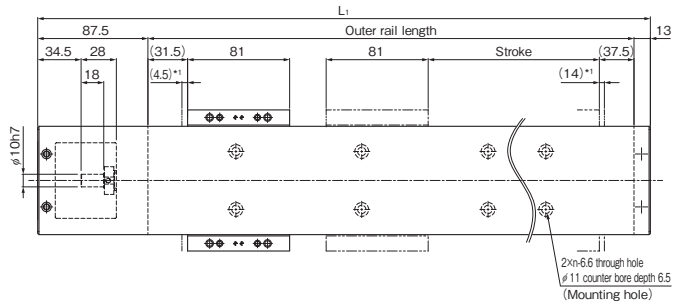
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR46 With Cover, Direct Motor Coupling

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

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

For model number coding, see **A2-28**.



Sub-table details

B-B cross section

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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length L <sub>1</sub> (mm)	C (mm)	F (mm)	H (mm)	n	n <sub>1</sub>	Overall main unit mass (kg)	
Type A	Type B <sup>*</sup>								Type A	Type B
190 (208.5)	80 (98.5)	340	440.5	200	200	70	3	2	7.7	9.1
290 (308.5)	180 (198.5)	440	540.5	300	400	20	4	3	9.2	10.6
390 (408.5)	280 (298.5)	540	640.5	400	400	70	5	3	10.7	12.1
490 (508.5)	380 (398.5)	640	740.5	500	600	20	6	4	12.2	13.6
590 (608.5)	480 (498.5)	740	840.5	600	600	70	7	4	13.7	15.1
690 (708.5)	580 (598.5)	840	940.5	700	800	20	8	5	15.2	16.6
790 (808.5)	680 (698.5)	940	1040.5	800	800	70	9	5	16.7	18.1

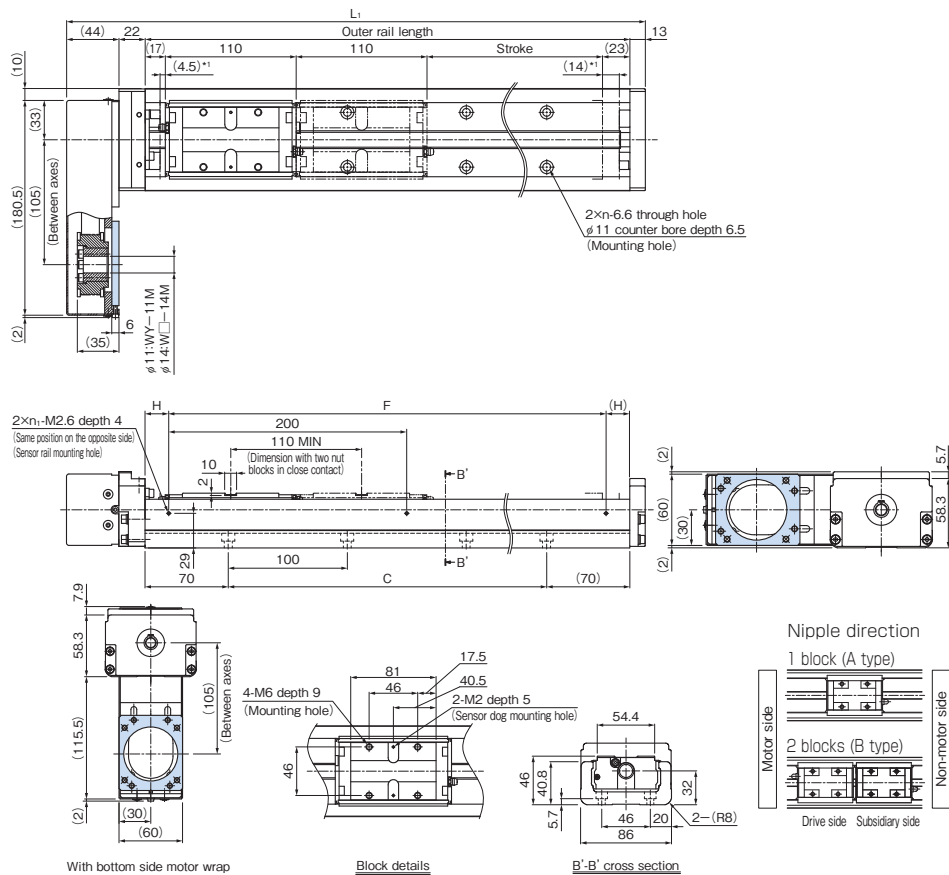
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR46 Without Cover, Motor Wrap

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

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

For model number coding, see **A2-28**.



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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length $L_1$ (mm)	C (mm)	F (mm)	H (mm)	n	$n_1$	Overall main unit mass (kg)	
Type A	Type B								Type A	Type B
190 (208.5)	80 (98.5)	340	419	200	200	70	3	2	7.7	8.7
290 (308.5)	180 (198.5)	440	519	300	400	20	4	3	9.1	10.1
390 (408.5)	280 (298.5)	540	619	400	400	70	5	3	10.5	11.5
490 (508.5)	380 (398.5)	640	719	500	600	20	6	4	11.9	12.9
590 (608.5)	480 (498.5)	740	819	600	600	70	7	4	13.3	14.3
690 (708.5)	580 (598.5)	840	919	700	800	20	8	5	14.7	15.7
790 (808.5)	680 (698.5)	940	1019	800	800	70	9	5	16.1	17.1

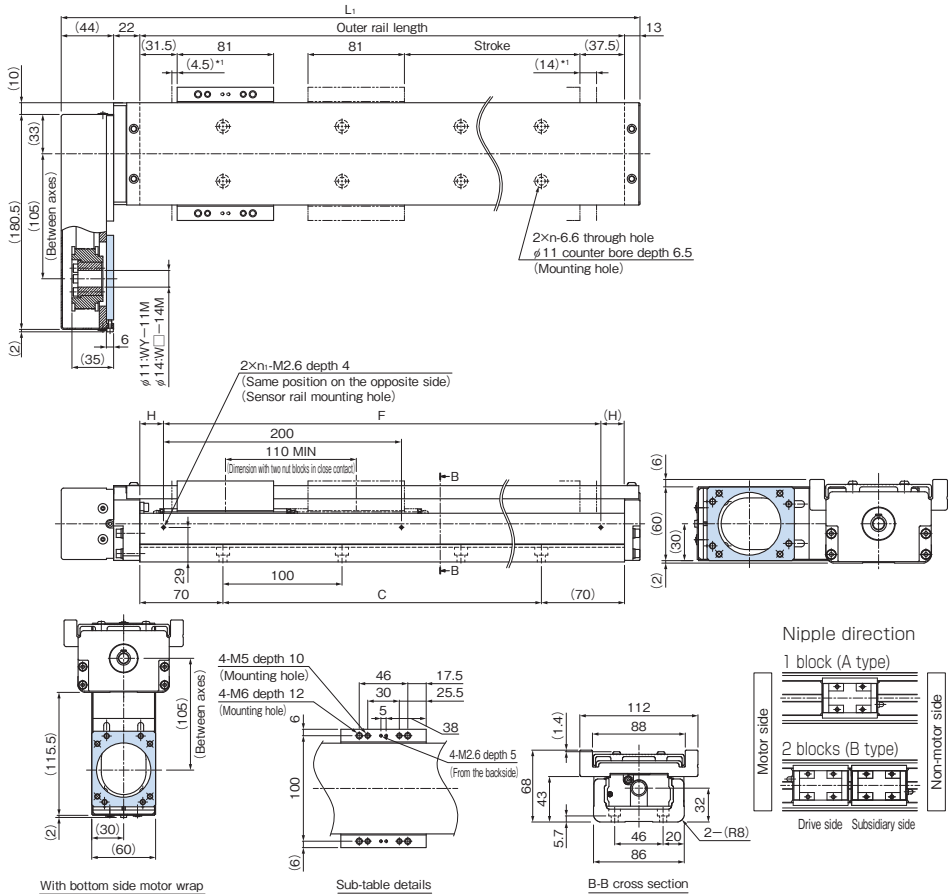
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR46 With Cover, Motor Wrap

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

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

For model number coding, see **A2-28**.



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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length $L_1$ (mm)	C (mm)	F (mm)	H (mm)	n	$n_1$	Overall main unit mass (kg)	
Type A	Type B*								Type A	Type B
190 (208.5)	80 (98.5)	340	419	200	200	70	3	2	8.6	10
290 (308.5)	180 (198.5)	440	519	300	400	20	4	3	10.1	11.5
390 (408.5)	280 (298.5)	540	619	400	400	70	5	3	11.6	13
490 (508.5)	380 (398.5)	640	719	500	600	20	6	4	13.1	14.5
590 (608.5)	480 (498.5)	740	819	600	600	70	7	4	14.6	16
690 (708.5)	580 (598.5)	840	919	700	800	20	8	5	16.1	17.5
790 (808.5)	680 (698.5)	940	1019	800	800	70	9	5	17.6	19

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

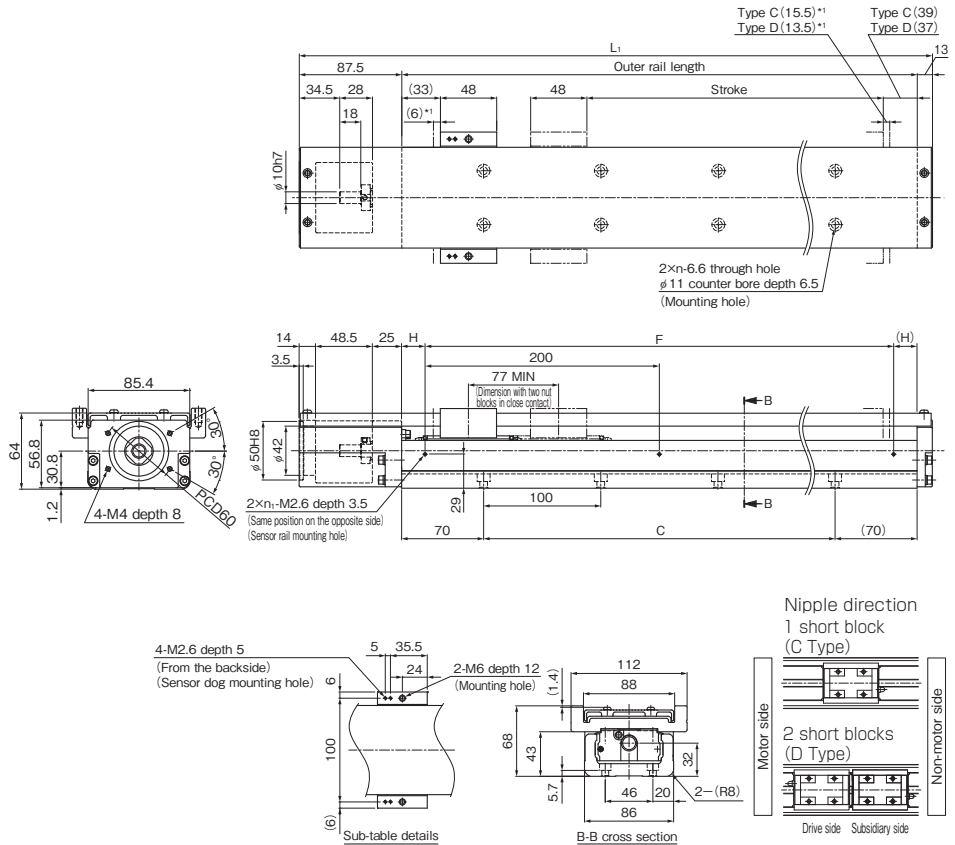


# SKR46 With Cover, Direct Motor Coupling

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

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

For model number coding, see **A2-28**.



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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length $L_1$ (mm)	C (mm)	F (mm)	H (mm)	n	$n_1$	Overall main unit mass (kg)	
Type C	Type D*								Type C	Type D
220 (241.5)	145 (164.5)	340	440.5	200	200	70	3	2	7.1	7.9
320 (341.5)	245 (264.5)	440	540.5	300	400	20	4	3	8.6	9.4
420 (441.5)	345 (364.5)	540	640.5	400	400	70	5	3	10.1	10.9
520 (541.5)	445 (464.5)	640	740.5	500	600	20	6	4	11.6	12.4
620 (641.5)	545 (564.5)	740	840.5	600	600	70	7	4	13.1	13.9
720 (741.5)	645 (664.5)	840	940.5	700	800	20	8	5	14.6	15.4
820 (841.5)	745 (764.5)	940	1040.5	800	800	70	9	5	16.1	16.9

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

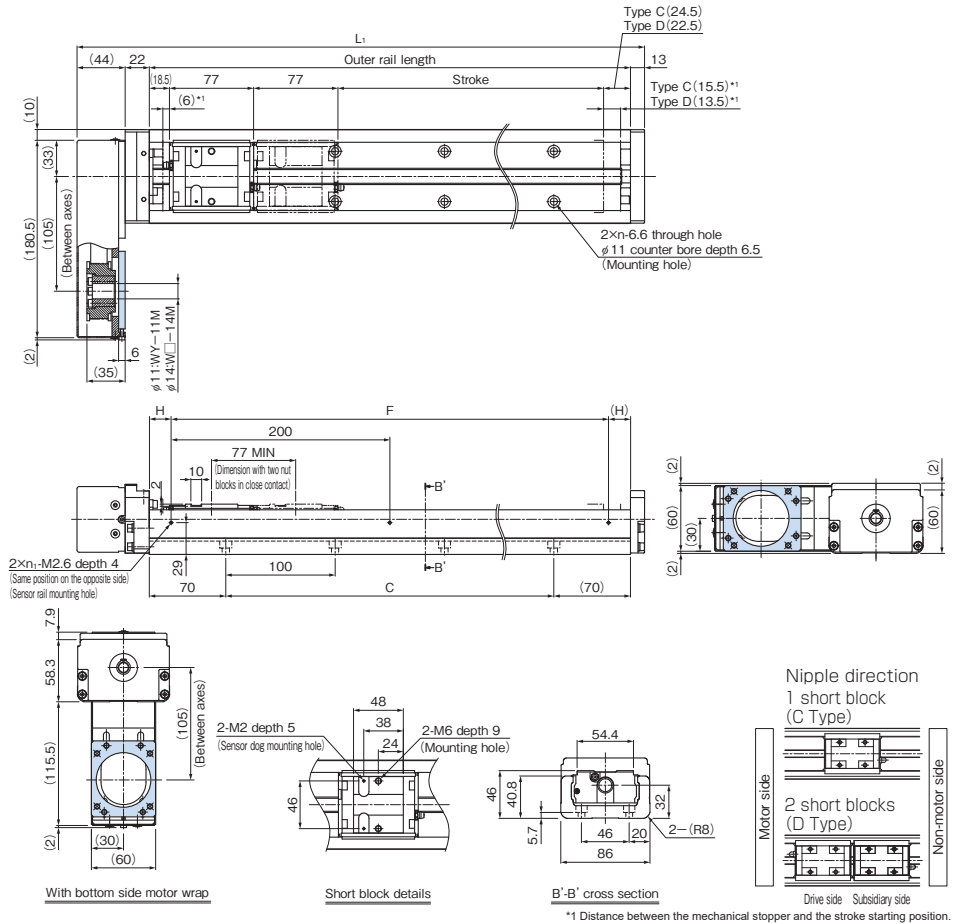


# SKR46 Without Cover, Motor Wrap

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

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

For model number coding, see **A2-28**.



Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length $L_1$ (mm)	C (mm)	F (mm)	H (mm)	n	$n_1$	Overall main unit mass (kg)	
Type C	Type D								Type C	Type D
220 (241.5)	145 (164.5)	340	419	200	200	70	3	2	7.3	7.9
320 (341.5)	245 (264.5)	440	519	300	400	20	4	3	8.7	9.3
420 (441.5)	345 (364.5)	540	619	400	400	70	5	3	10.1	10.7
520 (541.5)	445 (464.5)	640	719	500	600	20	6	4	11.5	12.1
620 (641.5)	545 (564.5)	740	819	600	600	70	7	4	12.9	13.5
720 (741.5)	645 (664.5)	840	919	700	800	20	8	5	14.3	14.9
820 (841.5)	745 (764.5)	940	1019	800	800	70	9	5	15.7	16.3

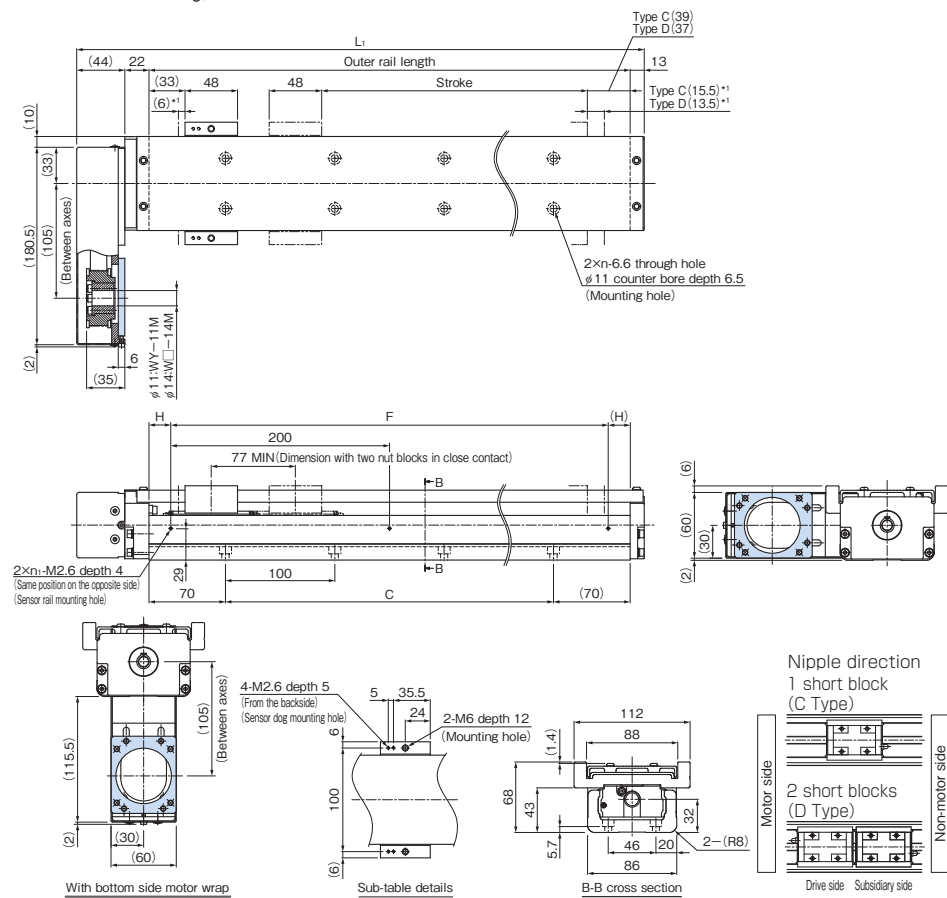
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR46 With Cover, Motor Wrap

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

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

For model number coding, see **A2-28**.



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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length L <sub>1</sub> (mm)	C (mm)	F (mm)	H (mm)	n	n <sub>1</sub>	Overall main unit mass (kg)	
Type C	Type D*								Type C	Type D
220 (241.5)	145 (164.5)	340	419	200	200	70	3	2	8	8.8
320 (341.5)	245 (264.5)	440	519	300	400	20	4	3	9.5	10.3
420 (441.5)	345 (364.5)	540	619	400	400	70	5	3	11	11.8
520 (541.5)	445 (464.5)	640	719	500	600	20	6	4	12.5	13.3
620 (641.5)	545 (564.5)	740	819	600	600	70	7	4	14	14.8
720 (741.5)	645 (664.5)	840	919	700	800	20	8	5	15.5	16.3
820 (841.5)	745 (764.5)	940	1019	800	800	70	9	5	17	17.8

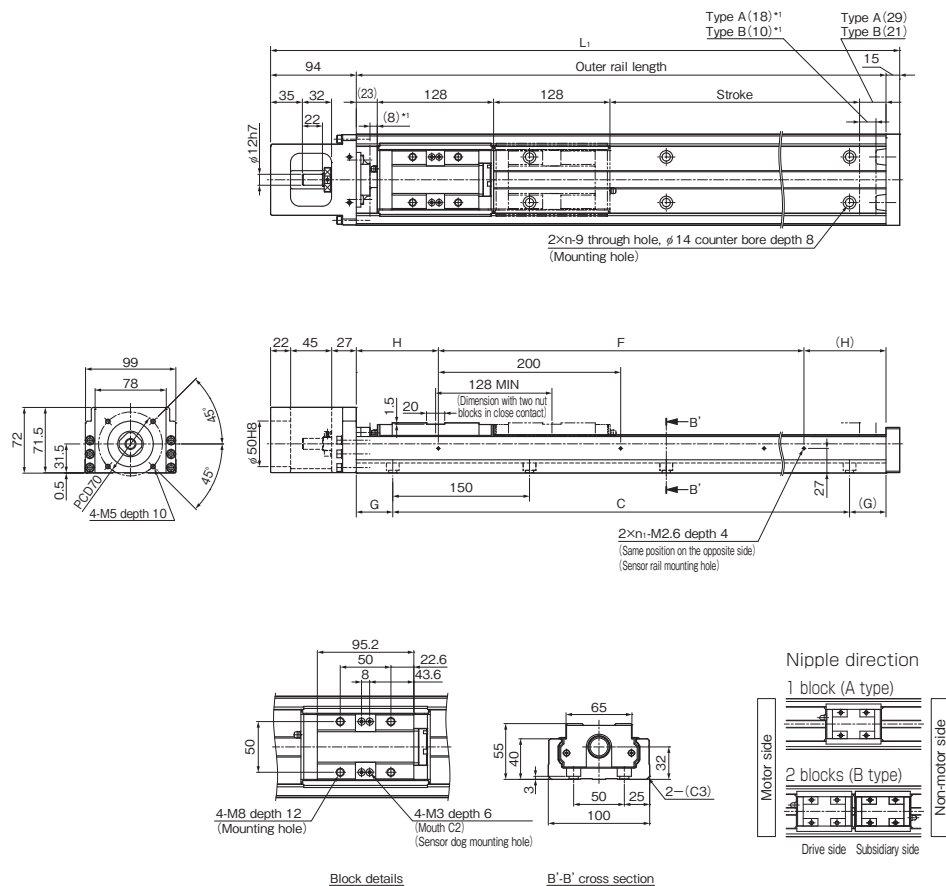
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR55 Without Cover, Direct Motor Coupling

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

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

For model number coding, see **A2-28**.



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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length L <sub>1</sub> (mm)	C (mm)	G (mm)	F (mm)	H (mm)	n	n <sub>1</sub>	Overall main unit mass (kg)	
Type A	Type B'									Type A	Type B
800 (826)	680 (698)	980	1089	900	40	800	90	7	5	20.9	22.8
900 (926)	780 (798)	1080	1189	1050	15	1000	40	8	6	22.6	24.5
1000 (1026)	880 (898)	1180	1289	1050	65	1000	90	8	6	24.4	26.3
1100 (1126)	980 (998)	1280	1389	1200	40	1200	40	9	7	26.2	28.1
1200 (1226)	1080 (1098)	1380	1489	1350	15	1200	90	10	7	27.9	29.8

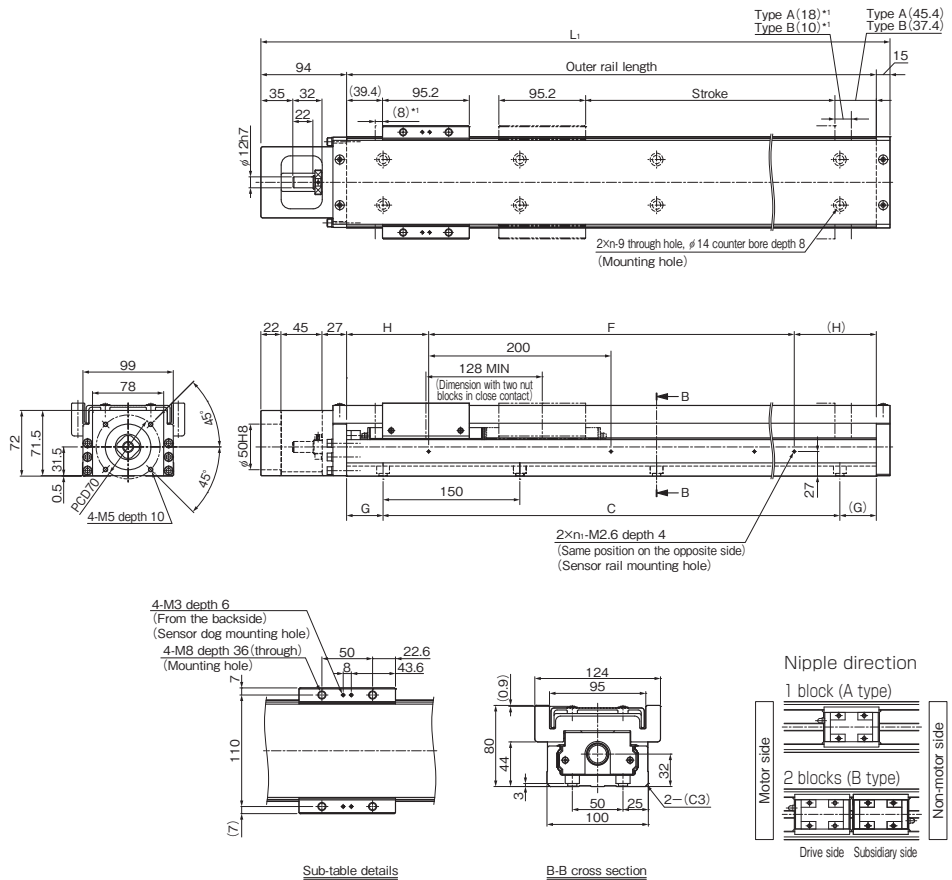
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR55 With Cover, Direct Motor Coupling

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

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

For model number coding, see **A2-28**.



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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length L <sub>1</sub> (mm)	C (mm)	G (mm)	F (mm)	H (mm)	n	n <sub>1</sub>	Overall main unit mass (kg)	
Type A	Type B*									Type A	Type B
800 (826)	680 (698)	980	1089	900	40	800	90	7	5	23.8	27.6
900 (926)	780 (798)	1080	1189	1050	15	1000	40	8	6	25.7	29.5
1000 (1026)	880 (898)	1180	1289	1050	65	1000	90	8	6	27.6	31.4
1100 (1126)	980 (998)	1280	1389	1200	40	1200	40	9	7	29.5	33.3
1200 (1226)	1080 (1098)	1380	1489	1350	15	1200	90	10	7	31.4	35.2

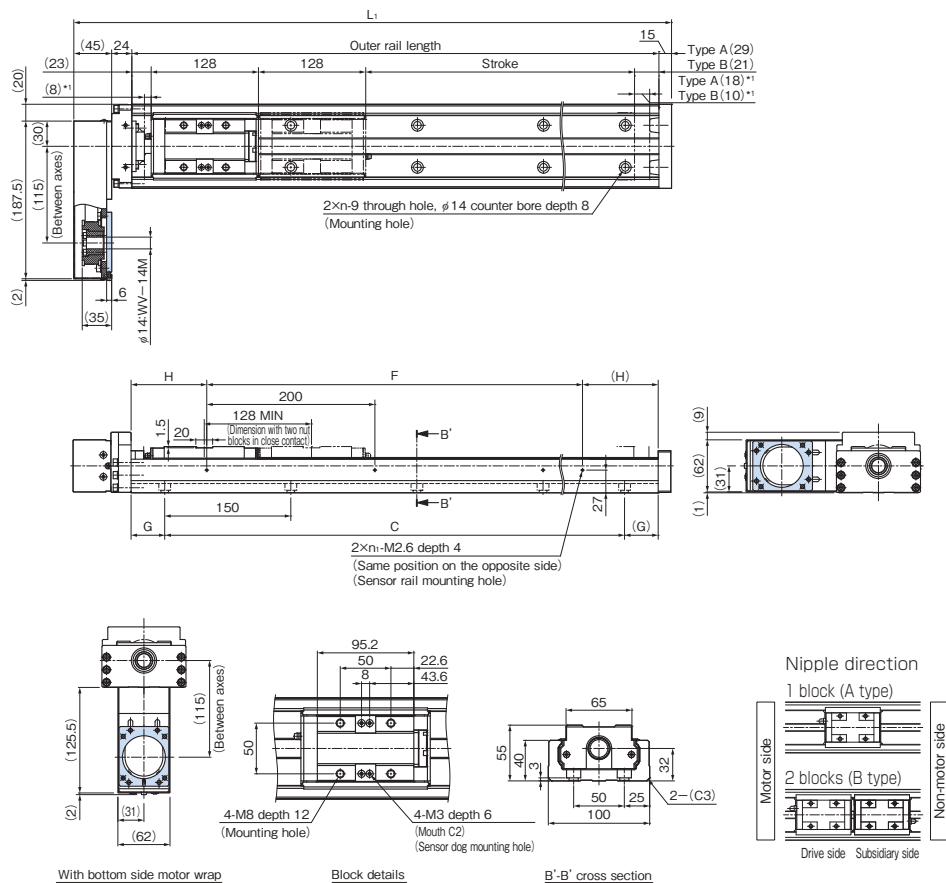
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR55 Without Cover, Motor Wrap Motor Flange Size, 60×60

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

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

For model number coding, see **A2-28**.



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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length L <sub>1</sub> (mm)	C (mm)	G (mm)	F (mm)	H (mm)	n	n <sub>1</sub>	Overall main unit mass (kg)	
Type A	Type B*									Type A	Type B
800 (826)	680 (698)	980	1064	900	40	800	90	7	5	21.8	23.7
900 (926)	780 (798)	1080	1164	1050	15	1000	40	8	6	23.6	25.5
1000 (1026)	880 (898)	1180	1264	1050	65	1000	90	8	6	25.3	27.2
1100 (1126)	980 (998)	1280	1364	1200	40	1200	40	9	7	27.1	29
1200 (1226)	1080 (1098)	1380	1464	1350	15	1200	90	10	7	28.9	30.8

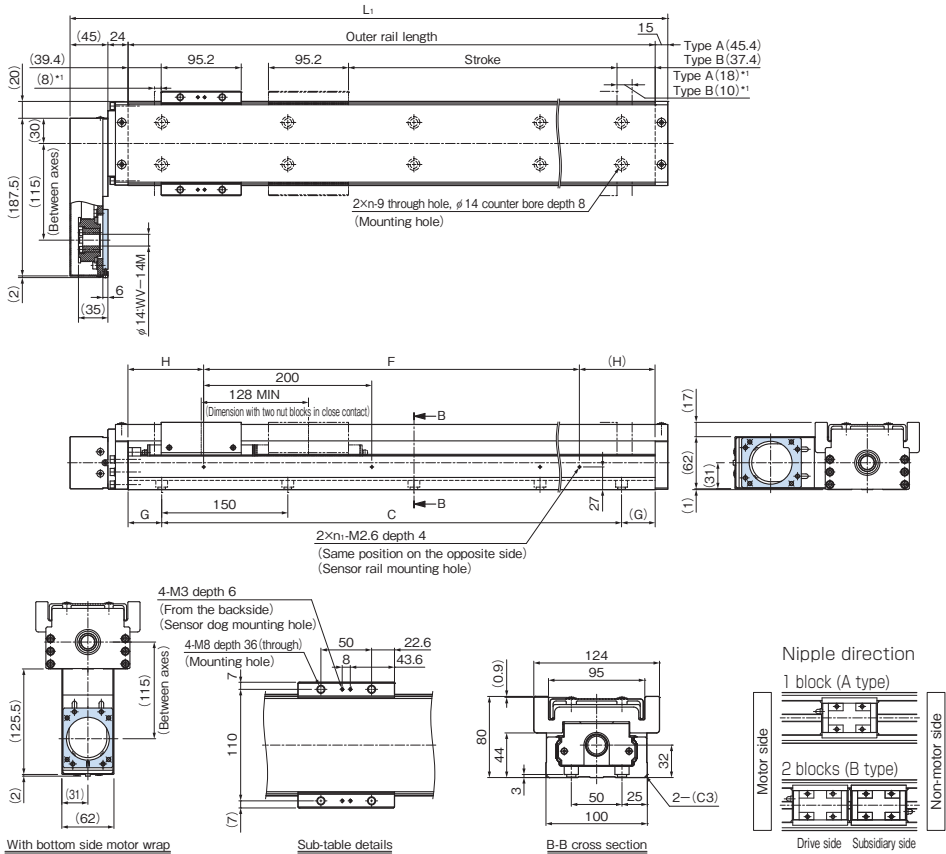
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR55 With Cover, Motor Wrap Motor Flange Size, 60×60

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

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

For model number coding, see **A2-28**.



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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length L <sub>1</sub> (mm)	C (mm)	G (mm)	F (mm)	H (mm)	n	n <sub>1</sub>	Overall main unit mass (kg)	
Type A	Type B*									Type A	Type B
800 (826)	680 (698)	980	1064	900	40	800	90	7	5	24.8	28.6
900 (926)	780 (798)	1080	1164	1050	15	1000	40	8	6	26.7	30.5
1000 (1026)	880 (898)	1180	1264	1050	65	1000	90	8	6	28.6	32.4
1100 (1126)	980 (998)	1280	1364	1200	40	1200	40	9	7	30.5	34.3
1200 (1226)	1080 (1098)	1380	1464	1350	15	1200	90	10	7	32.4	36.2

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

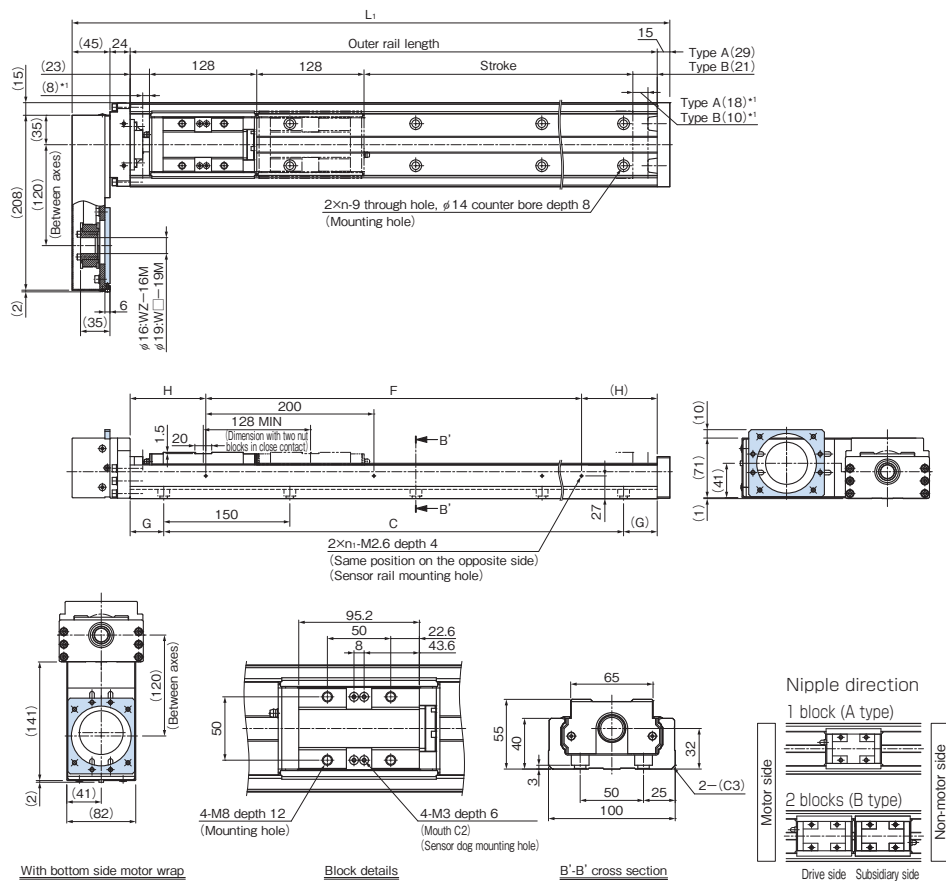
# SKR55 Without Cover, Motor Wrap

## Motor Flange Size, 80×80

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

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

For model number coding, see **A2-28**.



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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length $L_1$ (mm)	C (mm)	G (mm)	F (mm)	H (mm)	n	$n_1$	Overall main unit mass (kg)	
Type A	Type B'									Type A	Type B
800 (826)	680 (698)	980	1064	900	40	800	90	7	5	21.8	23.7
900 (926)	780 (798)	1080	1164	1050	15	1000	40	8	6	23.6	25.5
1000 (1026)	880 (898)	1180	1264	1050	65	1000	90	8	6	25.3	27.2
1100 (1126)	980 (998)	1280	1364	1200	40	1200	40	9	7	27.1	29
1200 (1226)	1080 (1098)	1380	1464	1350	15	1200	90	10	7	28.9	30.8

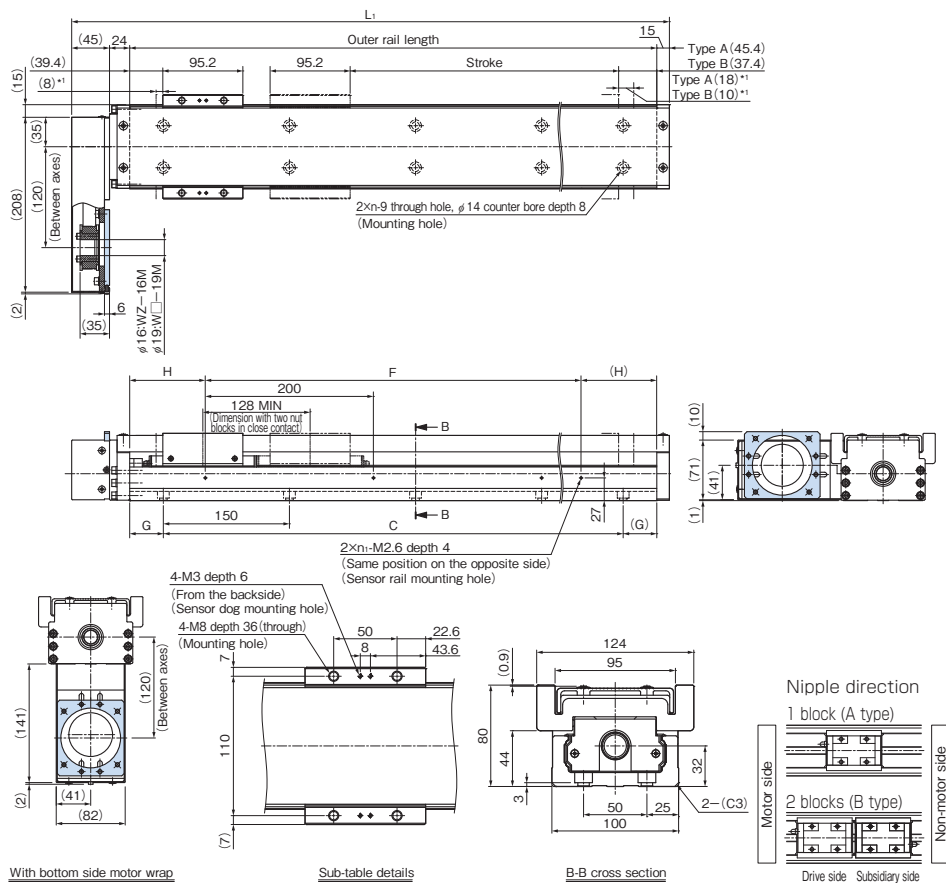
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR55 With Cover, Motor Wrap Motor Flange Size, 80×80

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

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

For model number coding, see **A2-28**.



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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length $L_1$ (mm)	C (mm)	G (mm)	F (mm)	H (mm)	n	$n_1$	Overall main unit mass (kg)	
Type A	Type B <sup>1</sup>									Type A	Type B
800 (826)	680 (698)	980	1064	900	40	800	90	7	5	24.8	28.6
900 (926)	780 (798)	1080	1164	1050	15	1000	40	8	6	26.7	30.5
1000 (1026)	880 (898)	1180	1264	1050	65	1000	90	8	6	28.6	32.4
1100 (1126)	980 (998)	1280	1364	1200	40	1200	40	9	7	30.5	34.3
1200 (1226)	1080 (1098)	1380	1464	1350	15	1200	90	10	7	32.4	36.2

<sup>1</sup>Indicates a value when two inner blocks are in close contact with each other.

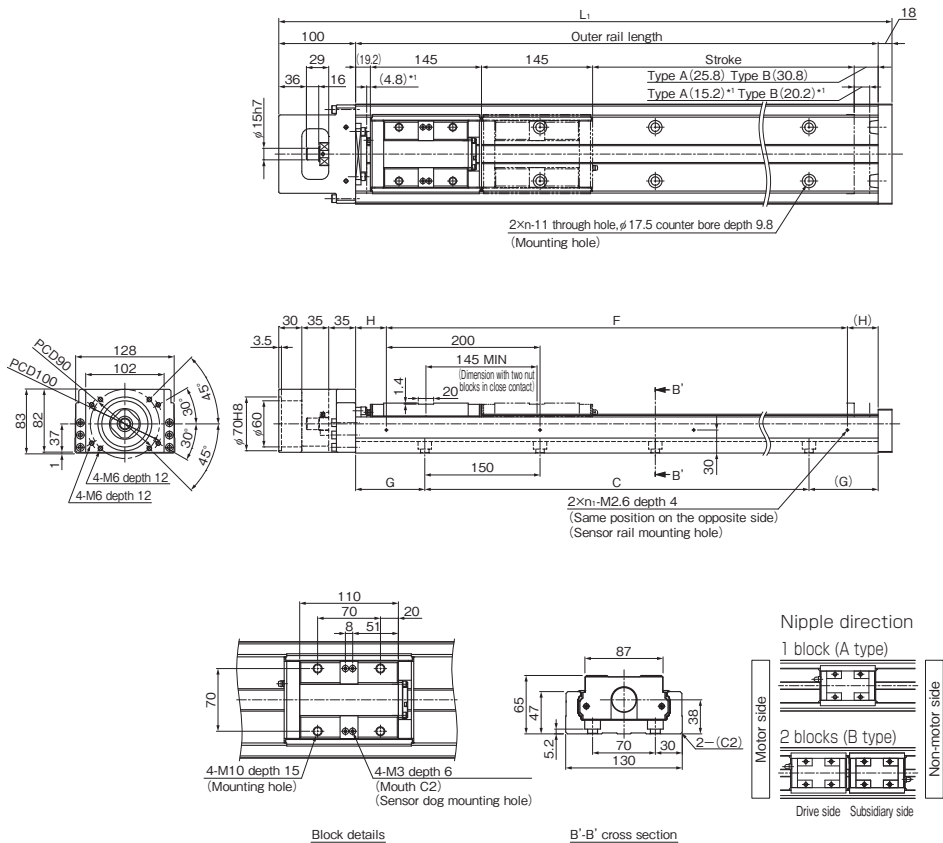


# SKR65 Without Cover, Direct Motor Coupling

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

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

For model number coding, see **A2-28**.



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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length L <sub>1</sub> (mm)	C (mm)	G (mm)	F (mm)	H (mm)	n	n <sub>1</sub>	Overall main unit mass (kg)	
Type A	Type B <sup>*</sup>									Type A	Type B
790 (810)	640 (665)	980	1098	900	40	800	90	7	5	30.3	33.3
990 (1010)	840 (865)	1180	1298	1050	65	1000	90	8	6	35.5	38.5
1190 (1210)	1040 (1065)	1380	1498	1200	90	1200	90	9	7	40.7	43.7
1490 (1510)	1340 (1365)	1680	1798	1500	90	1600	40	11	9	48.4	51.4

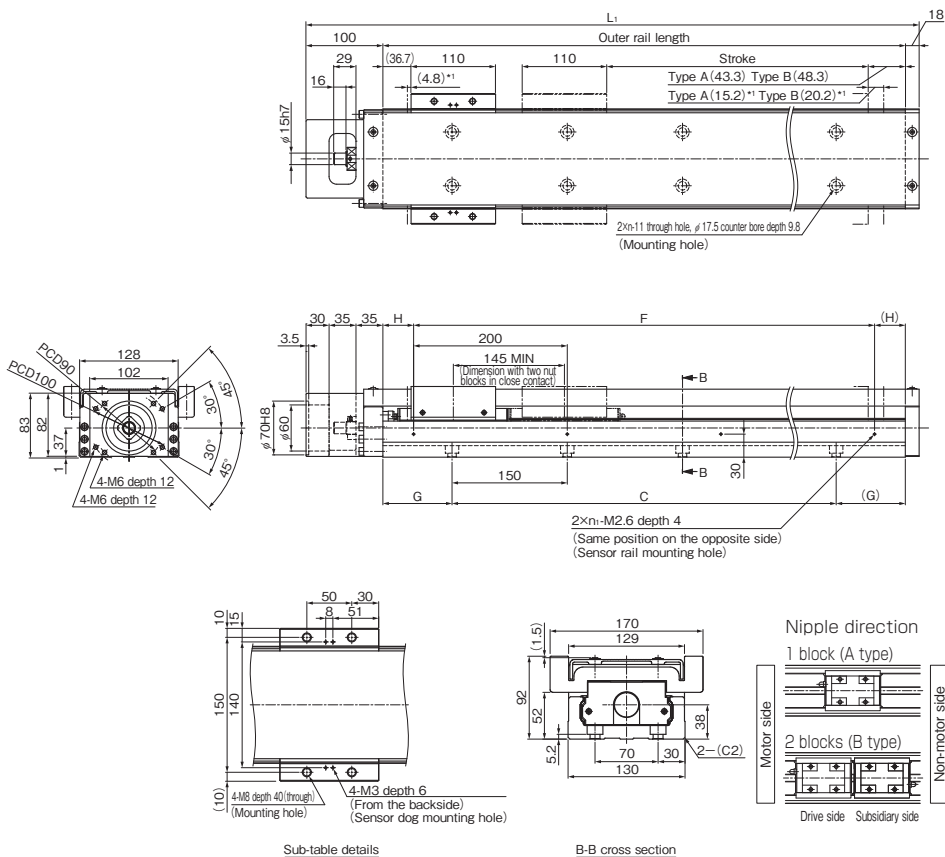
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR65 With Cover, Direct Motor Coupling

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

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

For model number coding, see **A2-28**.



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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length L <sub>1</sub> (mm)	C (mm)	G (mm)	F (mm)	H (mm)	n	n <sub>1</sub>	Overall main unit mass (kg)	
Type A	Type B <sup>*</sup>									Type A	Type B
790 (810)	640 (665)	980	1098	900	40	800	90	7	5	33.5	40.2
990 (1010)	840 (865)	1180	1298	1050	65	1000	90	8	6	38.9	45.6
1190 (1210)	1040 (1065)	1380	1498	1200	90	1200	90	9	7	44.3	51
1490 (1510)	1340 (1365)	1680	1798	1500	90	1600	40	11	9	52.4	59.1

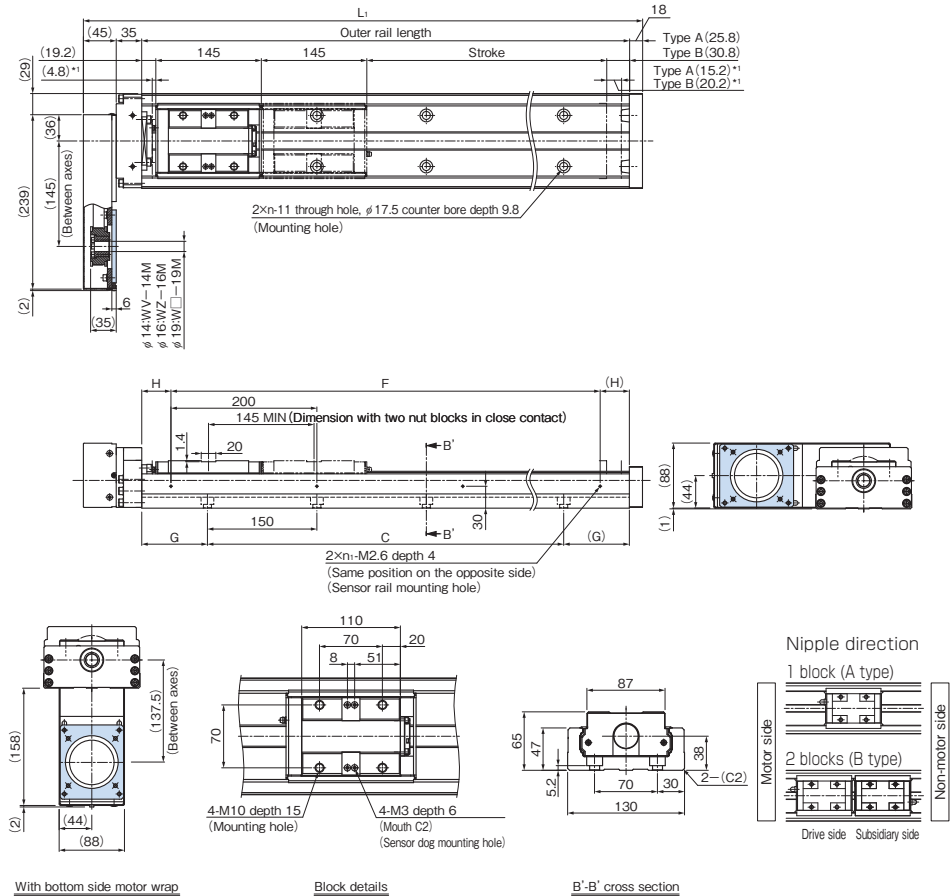
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR65 Without Cover, Motor Wrap

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

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

For model number coding, see **A2-28**.



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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length $L_1$ (mm)	C (mm)	G (mm)	F (mm)	H (mm)	n	$n_1$	Overall main unit mass (kg)	
Type A	Type B									Type A	Type B
790 (810)	640 (665)	980	1078	900	40	800	90	7	5	31.9	34.9
990 (1010)	840 (865)	1180	1278	1050	65	1000	90	8	6	37.1	40.1
1190 (1210)	1040 (1065)	1380	1478	1200	90	1200	90	9	7	42.3	45.3
1490 (1510)	1340 (1365)	1680	1778	1500	90	1600	40	11	9	50	53

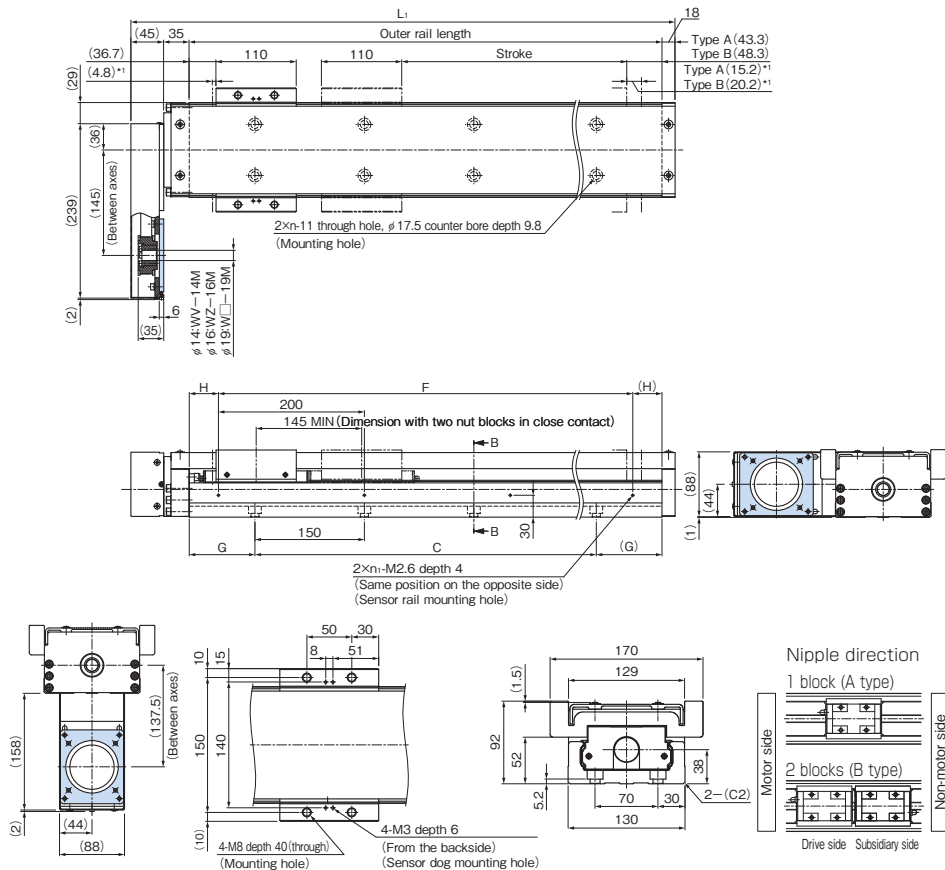
\*Indicates a value when two inner blocks are in close contact with each other.

# SKR65 With Cover, Motor Wrap

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

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

For model number coding, see **A2-28**.



With bottom side motor wrap

Sub-table details

B-B cross section

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

Stroke (mm) (stroke between mechanical stoppers)		Outer rail length (mm)	Overall length $L_1$ (mm)	C (mm)	G (mm)	F (mm)	H (mm)	n	$n_1$	Overall main unit mass (kg)	
Type A	Type B*									Type A	Type B
790 (810)	640 (665)	980	1078	900	40	800	90	7	5	35.1	41.8
990 (1010)	840 (865)	1180	1278	1050	65	1000	90	8	6	40.5	47.2
1190 (1210)	1040 (1065)	1380	1478	1200	90	1200	90	9	7	45.9	52.6
1490 (1510)	1340 (1365)	1680	1778	1500	90	1600	40	11	9	54	60.7

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

## Mass of Moving Elements

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				Short nut block types			
	A/B	Inner block	Top table	Total mass	C/D	Inner block	Top table	Total mass
SKR20	Type A	0.07	0.05	0.12	Type C	—	—	—
	Type B	0.14	0.1	0.24	Type D	—	—	—
SKR26	Type A	0.17	0.08	0.25	Type C	—	—	—
	Type B	0.34	0.16	0.5	Type D	—	—	—
SKR33	Type A	0.4	0.2	0.6	Type C	0.2	0.1	0.3
	Type B	0.8	0.4	1.2	Type D	0.4	0.2	0.6
SKR46	Type A	1.0	0.4	1.4	Type C	0.6	0.2	0.8
	Type B	2.0	0.8	2.8	Type D	1.2	0.4	1.6
SKR55	Type A	1.9	1.9	3.8	Type C	—	—	—
	Type B	3.8	3.8	7.6	Type D	—	—	—
SKR65	Type A	3.0	3.7	6.7	Type C	—	—	—
	Type B	6.0	7.4	13.4	Type D	—	—	—