THK

LM Guide Actuator **KR**

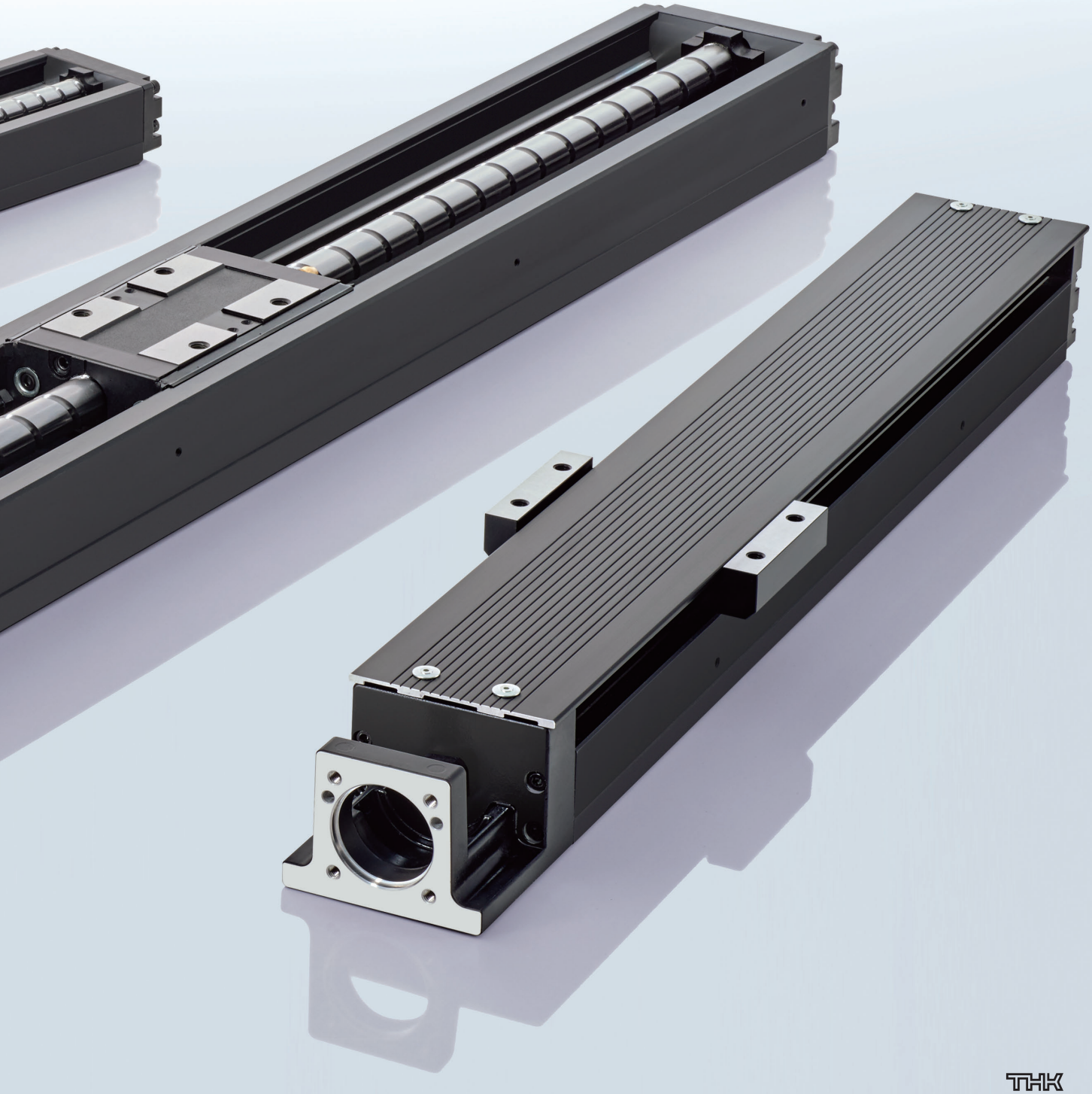
Modularized to reduce work hours and
make moving parts more compact.
Versatile size options.

Front Runner

KR

LM Guide Actuator

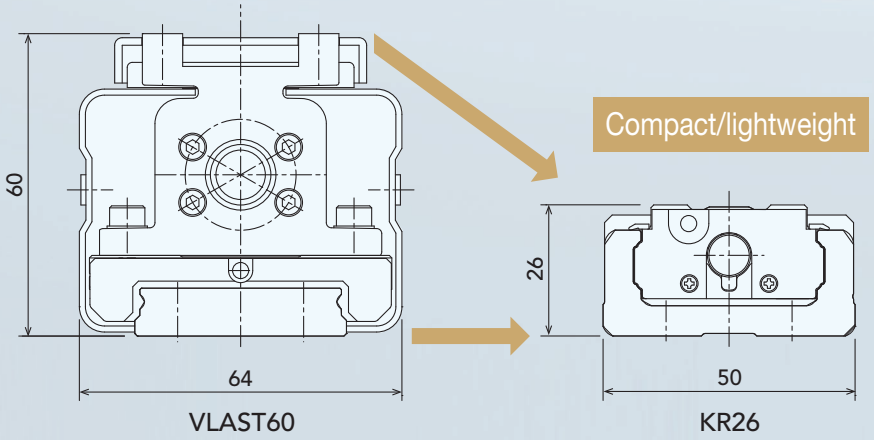
THK has sold LM Guide actuators for use in various applications
for over 30 years in more than 40 countries worldwide.
Introduced as a pioneer of modular products, the lineup has grown to include nine sizes and
has been met with high praise from customers.
Even now, as a compact actuator front runner, it continues to help
customers solve problems in a wide variety of fields,
such as transport, inspection, and assembly.



The many advantages of

Feature 1 Compact Structure (Combined Modules)

KR actuators have a structure embedding an inner block, which consists of an LM block and ball screw nut, in an outer rail with a U-shaped cross-section. They have achieved significant miniaturization compared to conventional products. They can easily be combined with other devices, which further contributes to miniaturization of those devices.

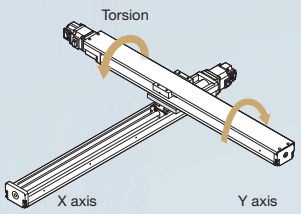


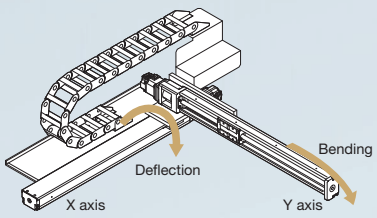
Sectional dimensions **66%**

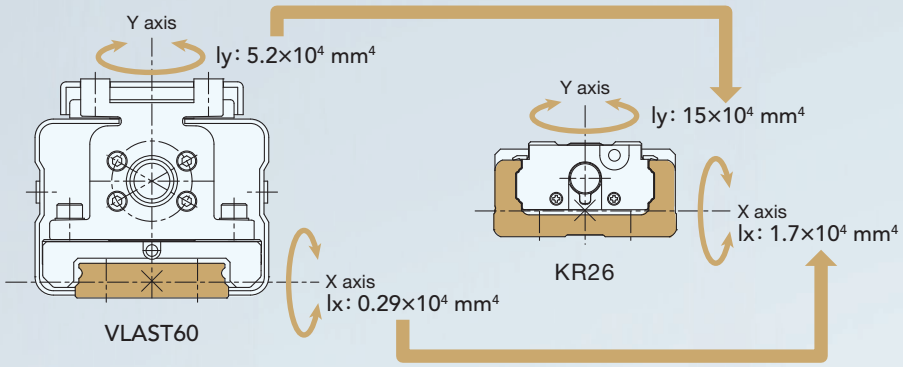
Mass **31%** reduction!

Feature 2 High-Rigidity Structure (Outer Rail with a U-Shaped Cross-Section)

Excellent high rigidity is achieved by using an outer rail with a U-shaped cross-section to create a structure resilient against torsion, bending, and deflection that enables a larger moment to be received. It is also suitable for applications with long overhangs such as the top axis of XY axes.







Geometric moment of inertia around the Y axis

Approx. **2.8x**

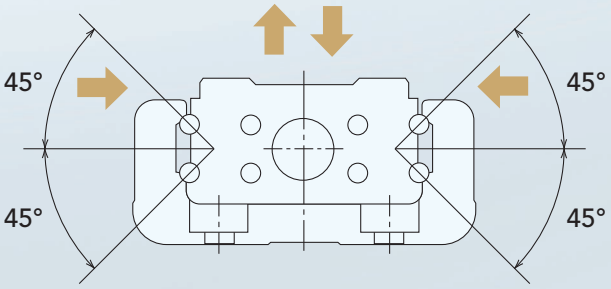
Geometric moment of inertia around the X axis

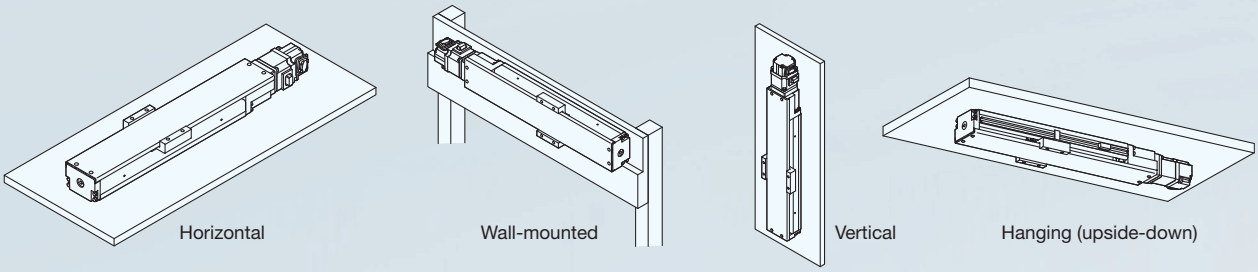
Approx. **5.8x**

THK's original structure

Feature 3 Can Be Used in Any Orientation (Same Rated Load in 4 Directions)

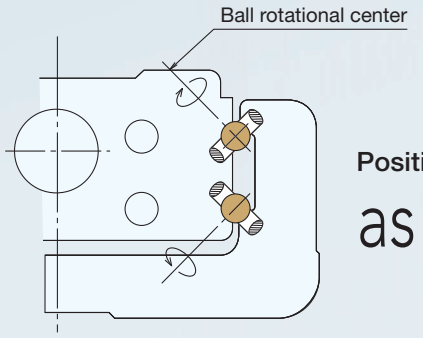
Each row of balls in the linear guide is arranged at a 45° contact angle, achieving the same rated load performance for each of the 4 directions (radial, reverse-radial, and horizontal directions) acting on the inner block.
It can be used in any orientation.





Feature 4 High Precision

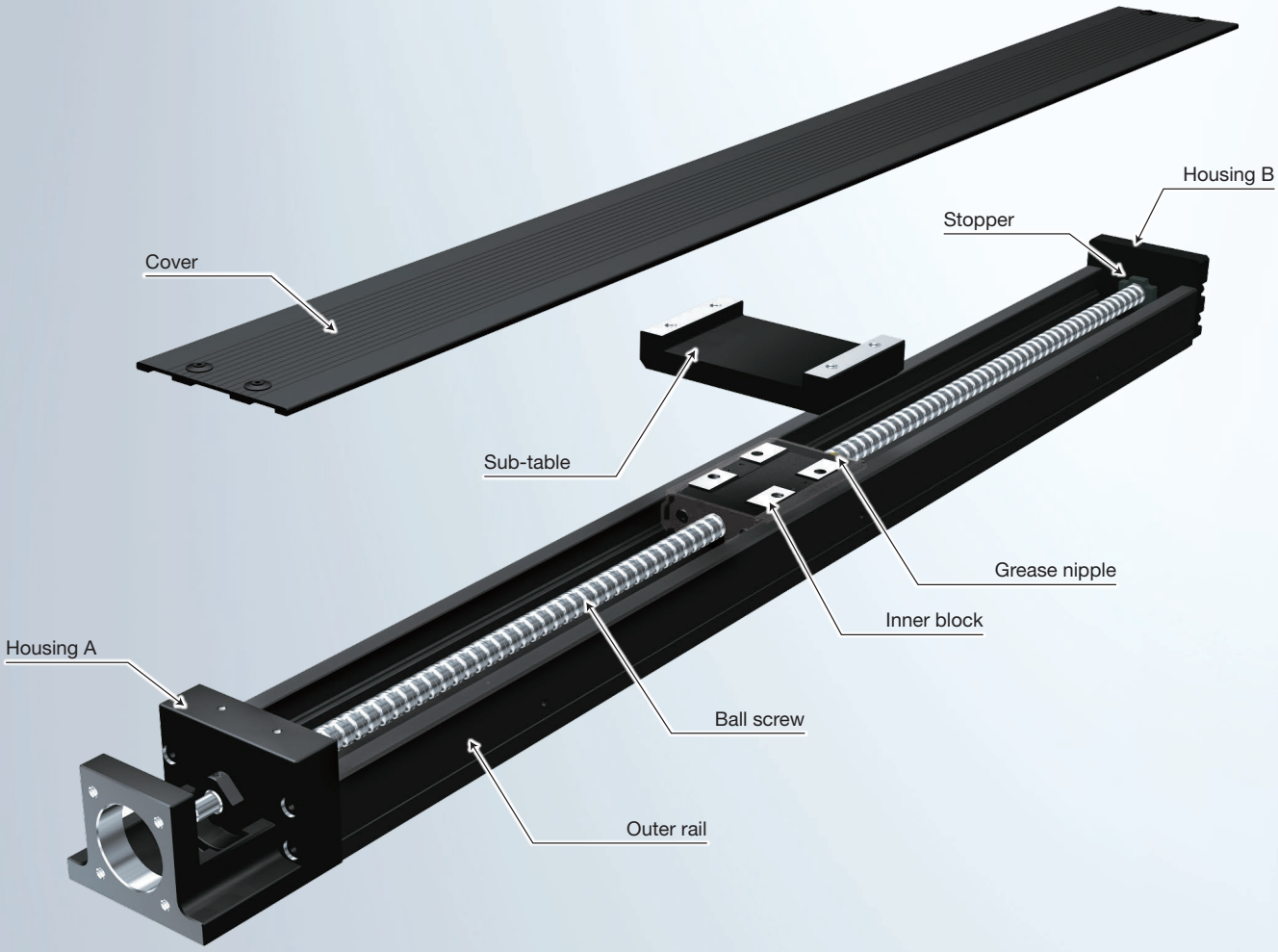
The linear motion guide is a clearance-free, highly rigid guide that features four rows of circular arc grooves with a two-point contact structure, which allows light movement even when a preload is applied. In addition, it enables high-precision feeding by minimizing changes in friction resistance caused by varying loads. It achieves precision-grade positioning for all types of devices, contributing to improved high-precision and high-quality performance.



Positioning repeatability

as precise as ±0.003 mm!!
(Precision Grade)

Modular structure with integrated

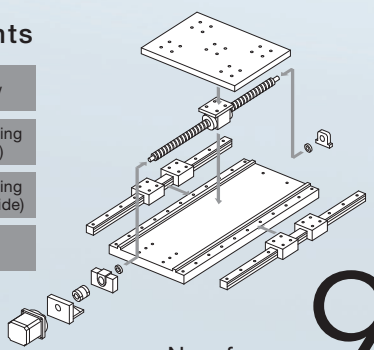


Reduces components by 1/3

Adopts a KR modular structure to greatly reduce the number of parts for components using an LM Guide and ball screw. In addition, the time required for procurement work, delivery management, design, and assembly is reduced, resulting in the lead time to complete the equipment being shortened.

General components

LM Guide	Ball screw
Base	Support bearing (fixed side)
Table	Support bearing (supported side)
Motor bracket	Coupling
Motor	

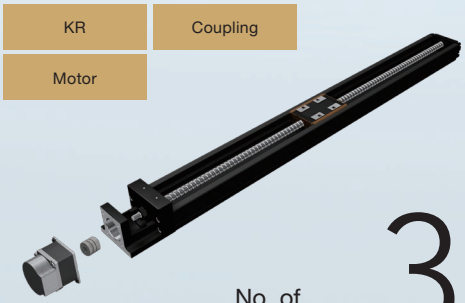


No. of components: 9

No. of components greatly reduced

KR

KR	Coupling
Motor	



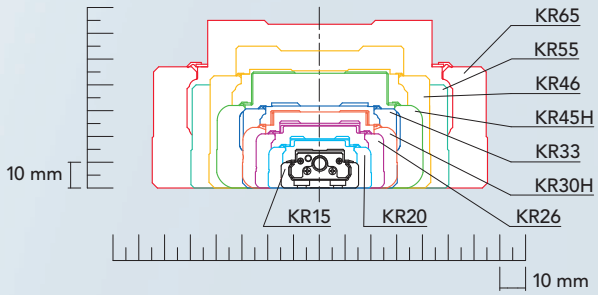
No. of components: 3

LM Guide and ball screw

Select the Optimal Model

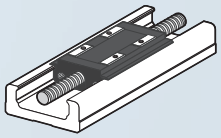
A lineup of different shapes and sizes with 4 types of blocks and motor mounting specifications (direct coupling or motor wrap) enables selection to suit the application.

Size Lineup



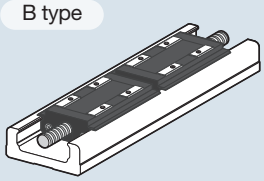
Block Types

A type



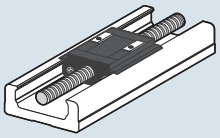
Typical block type.

B type



Shape using 2 A type inner blocks to achieve high rigidity and high load capacity.

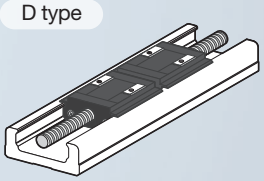
C type



Shorter overall length than the A type inner blocks as an extended stroke type.

Note: KR30H, 33, 45H, and 46 only.

D type



Shape using 2 C type inner blocks to achieve high rigidity and high load capacity.

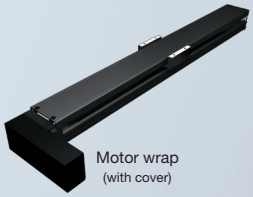
Note: KR30H, 33, 45H, and 46 only.

Shape Lineup

Direct motor coupling (without cover)

Motor wrap (without cover)

Direct motor coupling (with cover)



Motor wrap (with cover)

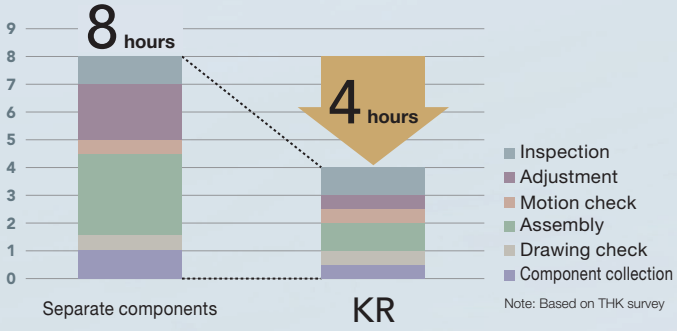
Reduces design time by Approx. 57%

Adopts a modular structure to greatly reduce design time when using an LM Guide and ball screw.

Note: Based on THK survey

Reduces assembly time by 50%

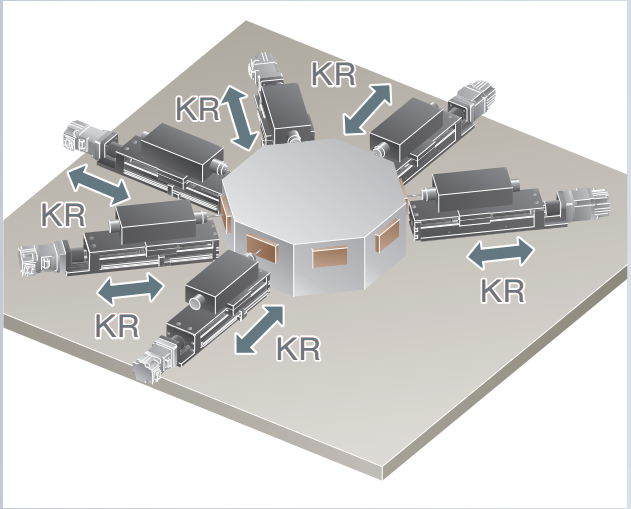
Adopts a modular structure to greatly reduce assembly time when using an LM Guide and ball screw.



Note: Based on THK survey

Machine tool industry

Workpiece Drilling Machine

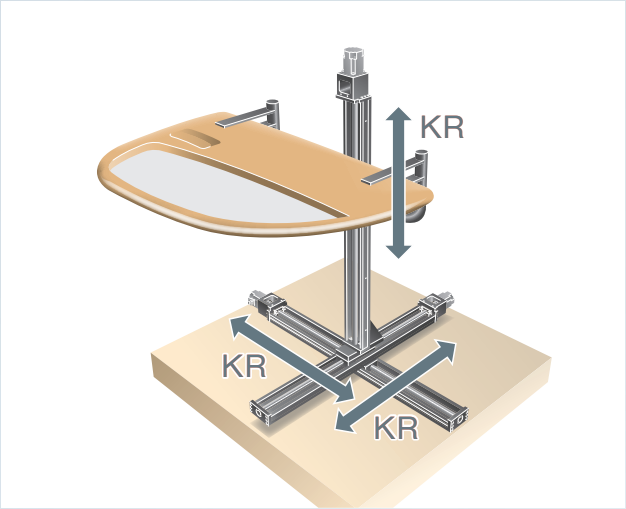


KR is used in workpiece drilling machines. KR's features include its compact form and high rigidity, which allow reduced machinery size while maintaining precision.

Model used: KR3306A

Automotive industry

Processing/Assembly Locater

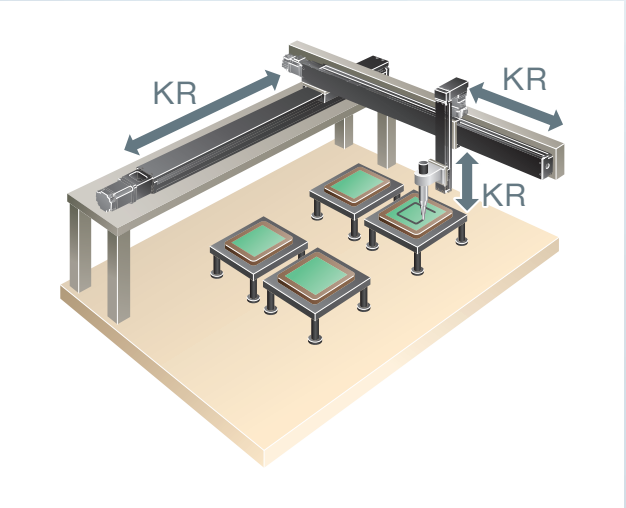


The KR is used for processing and conveying automobile doors. High precision positioning is enabled through the use of KR. KR also provides high rigidity and is able to withstand welding warpage force without an auxiliary guide.

Models used:
X axis: KR6525B
Y axis: KR5520B
Z axis: KR4610B

Electronic components industry

Sealing Equipment

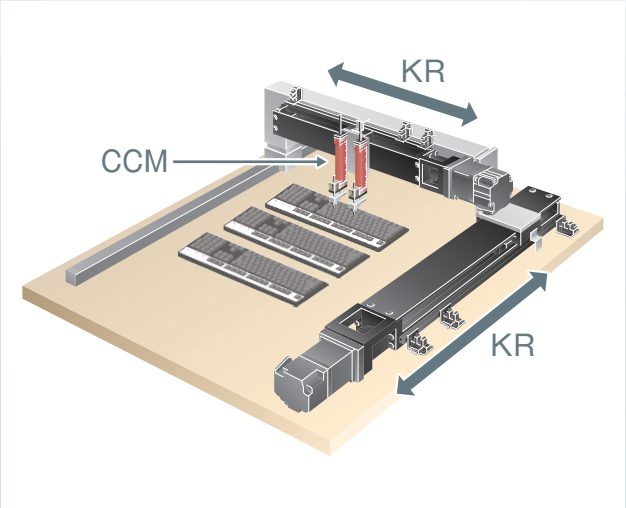


The KR is used for the moving nozzle section of sealing equipment. The KR has excellent rigidity to suppress vibrations at the overhang and nozzle tip, contributing to improved productivity.

Models used:
X axis: KR5520A
Y axis: KR3310A
Z axis: KR2006A

Electronic components industry

Push Button Inspection Equipment

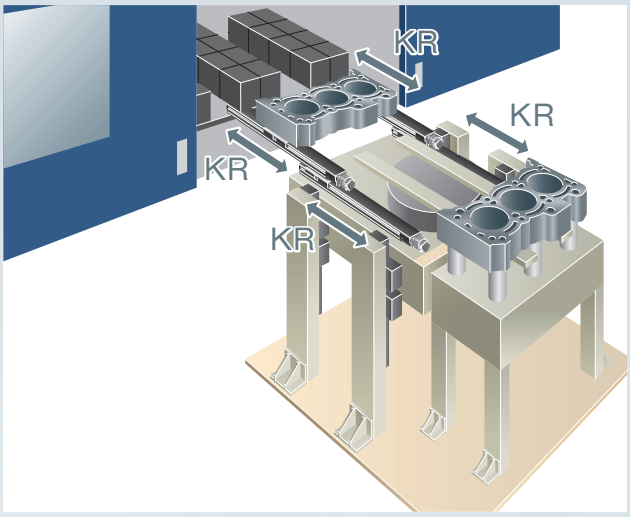


The KR and CCM are used in inspection equipment. Replacing the air cylinder on the Z axis with a linear motor allows for all axes to be motorized, and the high accuracy and high speed provided by the KR enables operations with fast cycle times while offering greater position accuracy.

Models used:
X axis: KR3310A
Y axis: KR2606A
Z axis: CCM05

Machine tool industry

Pallet Changer

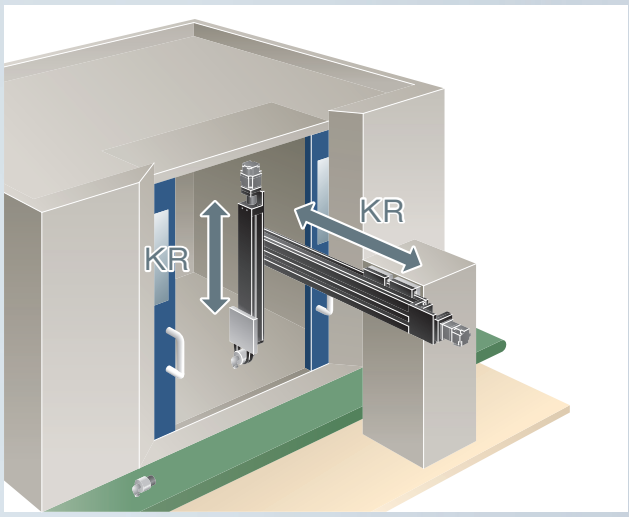


Two 2-block KRs are stacked in the changer. A high rigidity KR unit is used to carry the load of the large overhang. This also takes up less space than conventional multi-jointed robots.

Models used	Lower axis: KR4620B Upper axis: KR4620B

Machine tool industry

Workpiece Inserter

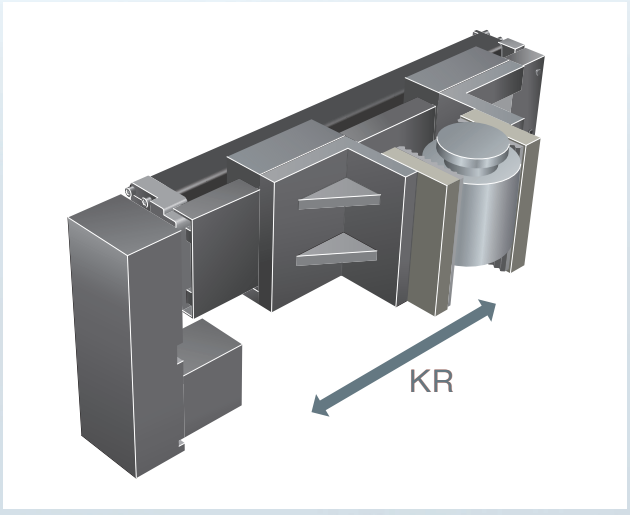


The KR is used in the workpiece inserter axis. The KR outer rail can move to insert items into the opening/closing part. The KR has high rigidity to support large loads.

Models used	Horizontal axis: KR4620B Lifting axis: KR3310B

General manufacturing

Servo Chuck

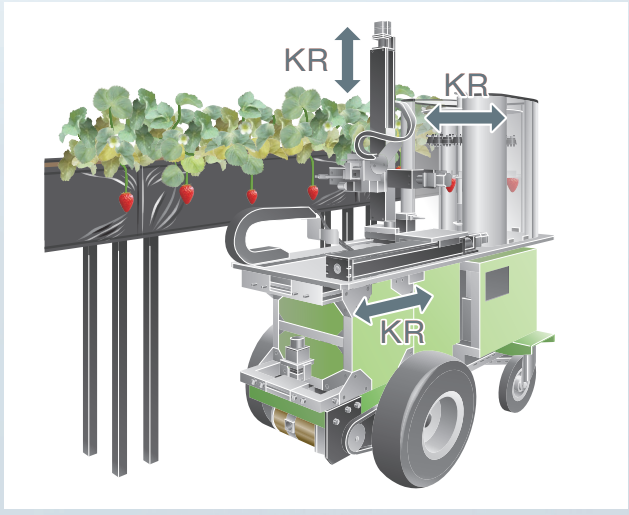


A special KR unit (left/right ball screw specification) is used for the hand chuck that conveys the workpiece. Using a modularized LM Guide and ball screw helps to reduce design/assembly time and achieve even smaller sizes.

Model used	Special KR (left/right ball screw specification)

Food industry

Strawberry Picking Robot



A 3-axis KR combination is used for the light sensor-equipped self-driving robot. A camera is used to measure the ripeness of strawberries and determine which ones to pick. The high-rigidity KR is used to pick ripe strawberries further away from the robot.

Models used	X axis: KR4620B Y axis: KR3310A Z axis: KR4610A

Series Overview

Model	Ball screw lead (mm)	Stroke[1] (mm)	Estimated motor capacity (W)	Maximum load capacity[2, 3] (kg)		
				Horizontal	Wall-mounted	Vertical
KR15	1	25 to 150	-	-	-	-
	2			-	-	-
KR20	1	30 to 130	50	12.5	10	3 (2.5)
	6			12.5	8.5	4
KR26	2	60 to 210	50	27.5	22	9.5 (6.5)
	6			27.5	19	7
KR30H	5	50 to 500	100	35	28	14.5 (14)
	6			35	28	15.5 (12)
	10			28.5	23	9
KR33	5	50 to 600	100	43.5	33	14.5 (14)
	6			43.5	33	15
	10			37.5	25.5	12 (11.5)
KR45H	5	200 to 800	200	65	52	35.5 (18.5)
	10			65	52	18
	20			42 (31)	36.5 (31)	8
	5		400	65	52	35.5 (18.5)
	10			65	52	24.5 (18.5)
	20			59.5	36.5	18
KR46	5	190 to 790	200	77	77	40 (18)
	10			77	64.5	18
	20			43.5 (30.5)	42.5 (30.5)	8
	5		400	96	77	40 (18)
	10			96	64.5	23 (18)
	20			66.5	42.5	18
KR55	20	800 to 1,200	400	68 (67.5)	68 (67.5)	17
	20		750	84	83	33.5
KR65	25	790 to 1,490	750	95	95	24

[1] The stroke is the value with 1 block (A type: without QZ).
[2] The maximum load capacity refers to the mass at the below speed and acceleration/deceleration.
Speed: Rated rotational speed of the motor (3,000 min^{-1})
Acceleration and deceleration rate: Less than 10 mm lead: 0.15 G, 10 mm lead: 0.3 G, 20 mm lead: 0.5 G
[3] The value in parentheses is with motor wrap specifications.
[4] The maximum speed is restricted by the permissible speed of the actuator.
It is also the speed when 1 block (A type: without QZ) and normal accuracy grade are selected.

Model Number Coding

Model	Ball screw lead	Block type	QZ specification		Stroke
①	②	③	④		⑤
KR46	10	A	QZA	-	0675
KR15	01: 1 mm	A: x1	No symbol: Without QZ		0020: 20 mm
KR20	02: 2 mm	B: x2	QZ		0030: 30 mm
KR26	05: 5 mm	C: x1	QZA		0035: 35 mm
KR30H	06: 6 mm	D: x2	QZB		0060: 60 mm
KR33	10: 10 mm		QZAD		0080: 80 mm
KR45H	20: 20 mm				0110: 110 mm
KR46	25: 25 mm				0140: 140 mm
KR55					0550: 550 mm
KR65					0590: 590 mm
					to
					1490: 1,490 mm

The available ball screw lead options vary based on the model.
KR15: "01," "02"
KR20: "01," "06"
KR26: "02," "06"
KR30H: "05," "06," "10"
KR33: "05," "06," "10"
KR45H: "05," "10," "20"
KR46: "05," "10," "20"
KR55: "20"
KR65: "25"

The following models allow selection of ④ QZ specifications.
KR33 → p. 61
KR46 → p. 103
KR55 → p. 131
KR65 → p. 149
Notes: 1. For KR33, when selecting 5 mm for the ball screw lead, QZ specification cannot be selected.
2. Selection is not possible for KR15, KR20, KR26, KR30H, and KR45H.

If "QZ," "QZA," "QZB," or "QZAD" is selected for ④ QZ specification, specify the stroke with QZ.
KR33 → p. 79 to p. 84
KR46 → p. 125 to p. 130
KR55 → p. 145 to p. 148
KR65 → p. 161 to p. 164
If 2: With bellows is selected for ⑧ Cover, specify the stroke with bellows.
→ p. 165 to p. 168

Maximum speed for each stroke[4] (mm/s)																	Product page
Stroke[1] (mm)																	
100	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500			
70																	p. 11
200																	
100																	p. 19
600																	
200																	p. 31
590																	
500			330														p. 43
470			390														
790			650														
500			330	230													p. 61
470			390	280													
790			650	470													
240						230											p. 85
520						430											
1,050						840											
240						230											
520						430											
1,050						840											
240						230											p. 103
520						430											
1,050						850											
240						230											
520						430											
1,050						850											
800									740	620	530						p. 131
800									740	620	530						
800											550						p. 149

Accuracy grade	With/without motor	Cover	Sensors	Housing A/Intermediate flange	
⑥	⑦	⑧	⑨	⑩	
- P	0	- 1	2	AV	
No symbol: Normal grade	With direct coupling	0: Without cover	0	With direct coupling	With motor wrap
H: High accuracy grade	0: Direct coupling (without motor)	1: With cover	1	A0	WN-05D
P: Precision grade	1: Direct coupling (THK will purchase and mount the motor you specify.)	2: With bellows	2	AN	WP-08D
	With motor wrap		6	AP	WP-08K
	R1: Non-standard side wrap (without motor)		7	AQ	WP-08M
	R2: Standard side wrap (without motor)		B	AR	WQ-08D
	R3: Bottom side wrap (without motor)		E	AS	WQ-08K
	R4: Non-standard side wrap (THK will purchase and mount the motor you specify.)		H	AT	WQ-08M
	R5: Standard side wrap (THK will purchase and mount the motor you specify.)		L	AU	WV-14M
	R6: Bottom side wrap (THK will purchase and mount the motor you specify.)		J	AV	WY-11M
			M	AY	WY-14M
				AZ	WZ-16M
				A5	WZ-19M
				A6	W5-19M
				10	
				20	
				30	
				40	
				60	

If "0" is selected:
A coupling is not provided. Indicate when placing an order if a coupling is required.

If "R1," "R2," or "R3" is selected:
A timing pulley and timing belt are provided.

If "1," "R4," "R5," or "R6" is selected:
The specified motor will be installed. Indicate the motor cable direction separately.
Select ⑩ Housing A/Intermediate flange to match the specified motor.

When selecting "QZ," "QZA," "QZB," or "QZAD" for ④ QZ specification,
2: With bellows cannot be selected.

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

KR15 A/B

Direct motor coupling | Motor wrap | Width 30 mm | Height 15 mm | Max. stroke 150 mm

Model Number Coding

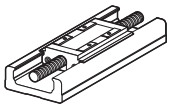
Model ①	Ball screw lead ②	Block type ③	Stroke ④	Accuracy grade ⑤	With/without motor ⑥	Cover ⑦	Sensors ⑧	Housing A/ Intermediate flange ⑨
KR15	01	A	0025	P	O	1	1	AN
KR15	01: 1 mm	A: x1	0025: 25 mm	H: High accuracy grade	With direct coupling	0: Without cover	0	With direct coupling
	02: 2 mm	B: x2	to	P: Precision grade	0: Direct coupling (without motor)	1: With cover	1	A0
			0150: 150 mm		1: Direct coupling (THK will purchase and mount the motor you specify.)	2: With bellows	7	AN
					With motor wrap		B	AS
					R1: Non-standard side wrap (without motor)		E	20
					R2: Standard side wrap (without motor)		Sensor details → p. 15	With motor wrap
					R3: Bottom side wrap (without motor)			WN-05D
					R4: Non-standard side wrap (THK will purchase and mount the motor you specify.)			With direct coupling → p. 16
					R5: Standard side wrap (THK will purchase and mount the motor you specify.)			With motor wrap → p. 17
					R6: Bottom side wrap (THK will purchase and mount the motor you specify.)			

When selecting 2: With bellows for ⑦ Cover, specify the stroke with bellows.
→ p. 165 to p. 166

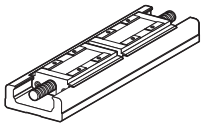
When selecting "0":
A coupling is not provided. Indicate when placing an order if a coupling is required.

When selecting "1," "R4," "R5," or "R6":
The specified motor will be installed. Indicate the motor cable direction separately. Select ⑨ Intermediate flange to match the specified motor.

③ Block Type

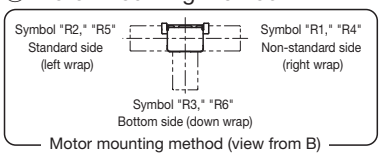


A: 1 block (A type)



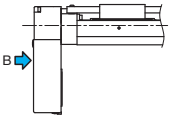
B: 2 blocks (B type)

⑥ Motor Mounting Method



Motor mounting method (view from B)

With motor wrap



Selection Information

Basic Specifications

LM Guide	Basic dynamic load rating C (N)		1,930	
	Basic static load rating C_0 (N)		3,450	
	Radial clearance (mm)	High accuracy grade (H)	-0.001 to +0.002	
		Precision grade (P)	-0.005 to -0.002	
	Geometric moment of inertia	I_X[1] (mm⁴)	9.08×10^2	
		I_Y[2] (mm⁴)	1.42×10^4	
		Mass (kg/m)	1.04	
Ball screw	Ball screw lead (mm)		1	2
	Basic dynamic load rating Ca (N)	High accuracy grade (H)	340	230
		Precision grade (P)		
	Basic static load rating C_0a (N)	High accuracy grade (H)	660	410
		Precision grade (P)		
	Screw shaft diameter (mm)		Ø5	
	Thread minor diameter (mm)		Ø4.5	
	Ball center-to-center diameter (mm)		Ø5.15	
	Permissible rotational speed[3] (min⁻¹)	High accuracy grade (H)	4,500	
		Precision grade (P)		
Bearing unit (fixed side)	Axial direction	Basic dynamic load rating Ca (N)	590	
		Static permissible load P_0a (N)	290	
Permissible input torque (N·m)		Direct coupling	0.05	0.10
		Motor wrap		
Static permissible moment[4, 5] (N·m)			M_A: 12.1 (70.3), M_B: 12.1 (70.3), M_C: 38 (76)	
Standard grease			THK AFF Grease	

[1] I_X is the geometric moment of inertia about the X axis.
[2] I_Y is the geometric moment of inertia about the Y axis.
[3] The permissible rotational speed may decrease as the stroke becomes longer.
[4] The value in parentheses is with 2 blocks (B type) attached.
[5] See p. 168 for the values if "1" or "2" is selected for item ⑦ in the Model Number Coding.
Note 1: LM Guide load rating is the load rating per block.

Accuracy

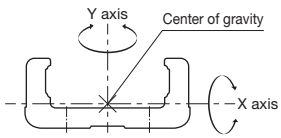
Accuracy grade	Item	Stroke[6] 25	50	75	100	125	150
High accuracy grade (H)	Positioning repeatability (mm)	±0.004					
	Positioning accuracy (mm)	0.04					
	Running parallelism (vertical direction) (mm)	0.02					
	Backlash (mm)	0.01					
	Starting torque (N·cm)	0.4					

Accuracy grade	Item	Stroke[6] 25	50	75	100	125	150
Precision grade (P)	Positioning repeatability (mm)	±0.003					
	Positioning accuracy (mm)	0.02					
	Running parallelism (vertical direction) (mm)	0.01					
	Backlash (mm)	0.002					
	Starting torque (N·cm)	0.8					

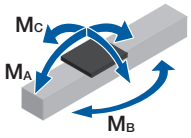
[6] Stroke with 1 block (A type).

Notes: 2. Precision evaluation in accordance with THK standards.
3. Measured using a motor for inspection. With motor wrap specifications, measurements are not made in the completed motor wrap state.
4. The starting torque represents the value when containing THK AFF Grease.
5. The starting torque may exceed standards if using vacuum grease, clean room grease, or other high-viscosity greases, so care should be taken when selecting a motor.
6. Contact THK for accuracy higher than the standard stroke.

Geometric Moment of Inertia



Static Permissible Moment



Motor Selection Information

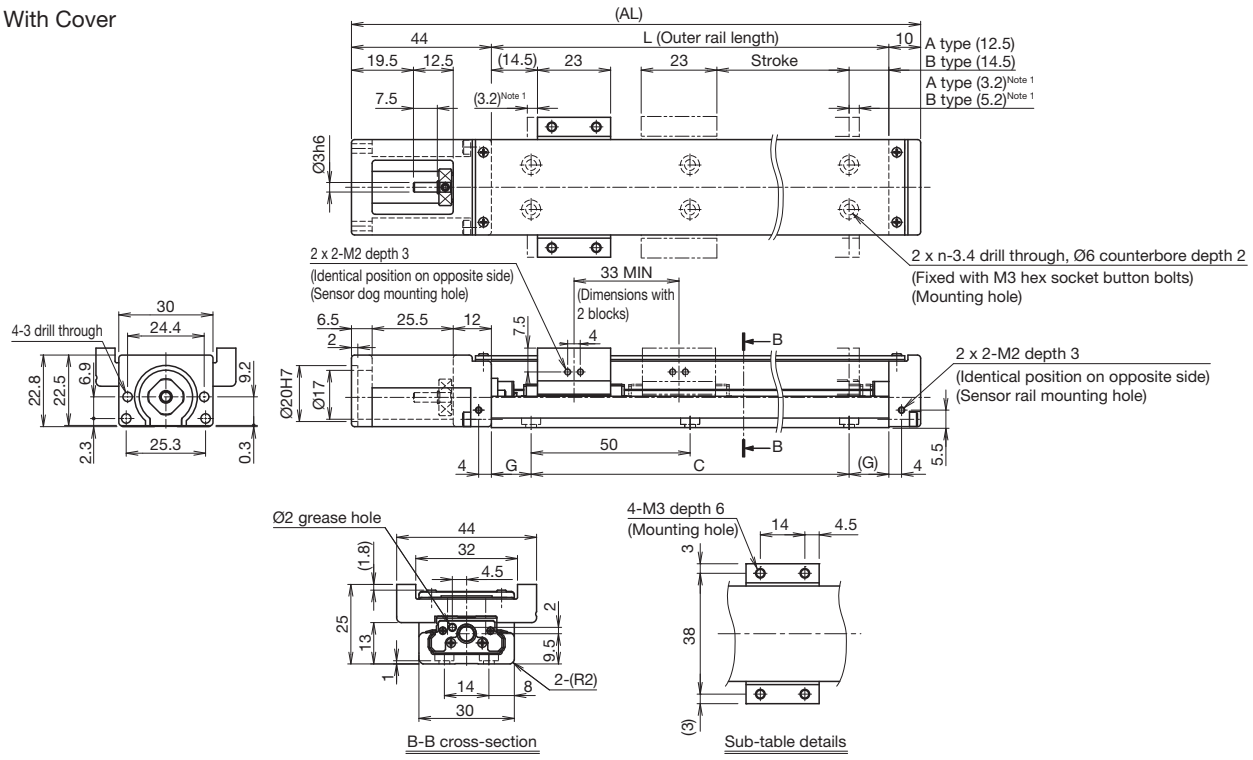
Stroke[1] (mm)	Outer rail length (mm)	LM Guide				Ball screw		Motor mounting part	
		Moving part mass (kg)			Sliding resistance value[2] (N)	Lead (mm)	Shaft length (mm)	Direct coupling	Motor wrap
		Block mass	Sub-table mass	Total mass				Shaft end diameter (mm)	Timing pulley (sum of two) Inertial moment x 10^{-4} (kg·m^2)
25 to 150	75 to 200	A type: 0.04 B type: 0.08	A type: 0.03 B type: 0.06	A type: 0.07 B type: 0.14	0.9	1, 2	106 to 231	Ø3h6	0.004

[1] Stroke with 1 block (A type).
[2] Value with 1 block (A type). This value is the sum of the rolling resistance value and seal resistance value.
Note: Refer to p. 16 for applicable couplings.

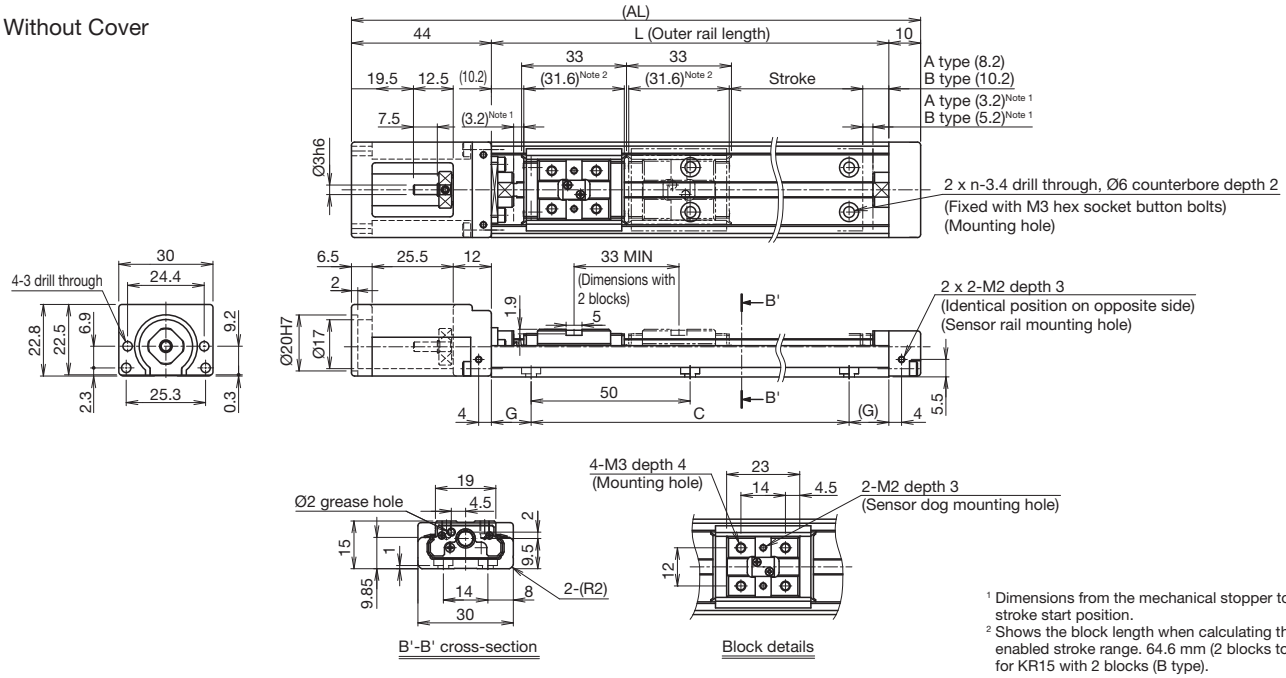
With Cover/Without Cover
Direct Motor Coupling

Dimensions

With Cover



Without Cover



[1] Dimensions from the mechanical stopper to the stroke start position.
[2] Shows the block length when calculating the enabled stroke range. 64.6 mm (2 blocks total) for KR15 with 2 blocks (B type).

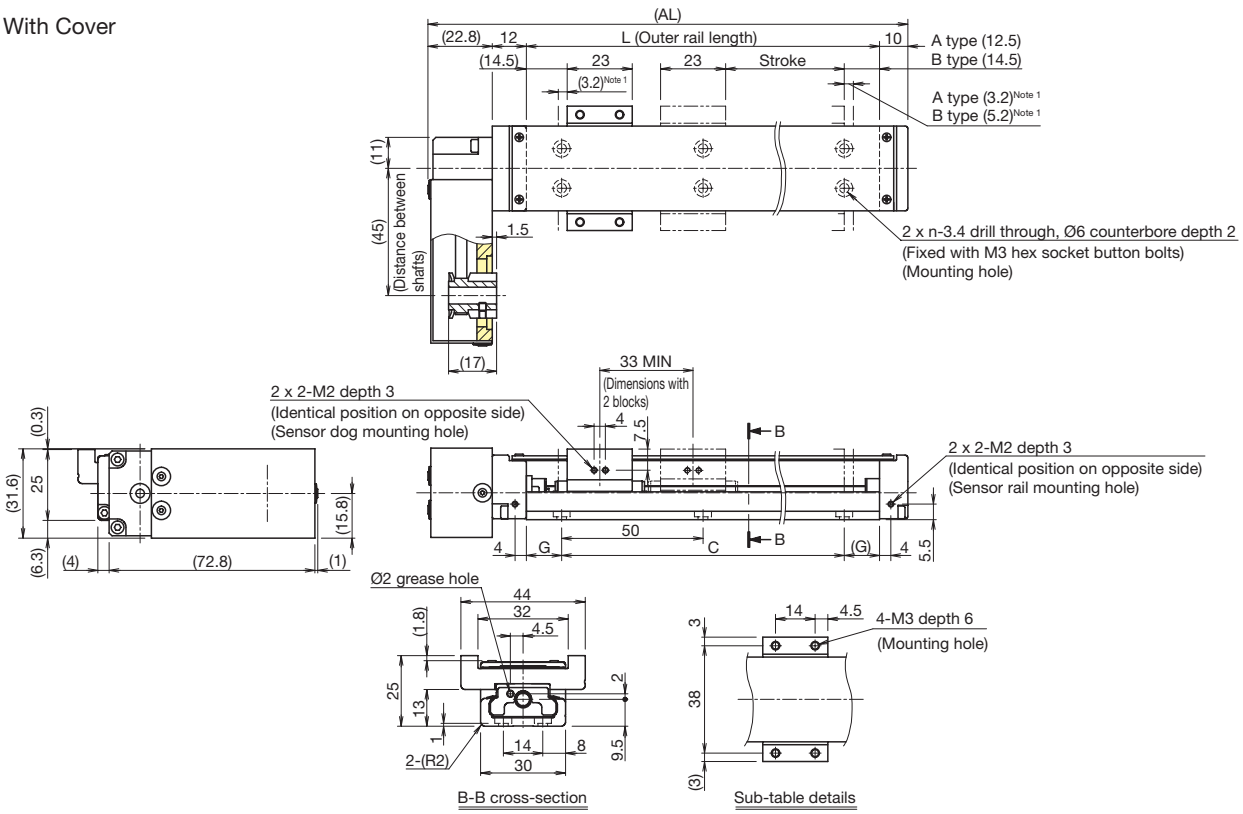
Stroke (mm) (Stroke between mechanical stoppers)	A type	25 (31.4)	50 (56.4)	75 (81.4)	100 (106.4)	125 (131.4)	150 (156.4)
	B type[3]	-	-	40 (48.4)	65 (73.4)	90 (98.4)	115 (123.4)
Maximum speed[4] (mm/s)	Ball screw lead: 1 mm	75					
	Ball screw lead: 2 mm	150					
Dimensions (mm)	AL	129	154	179	204	229	254
	L	75	100	125	150	175	200
	C	50	50	100	100	150	150
	G	12.5	25	12.5	25	12.5	25
No. of mounting holes	n	2	2	3	3	4	4
Mass[5, 6] (kg)		0.25 (0.2)	0.28 (0.23)	0.32 (0.26)	0.35 (0.29)	0.38 (0.32)	0.41 (0.35)

[3] The value with 2 blocks (B type) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 blocks (B type) has 0.07 kg (with cover) or 0.04 kg added.
[6] Parentheses show the values without cover.

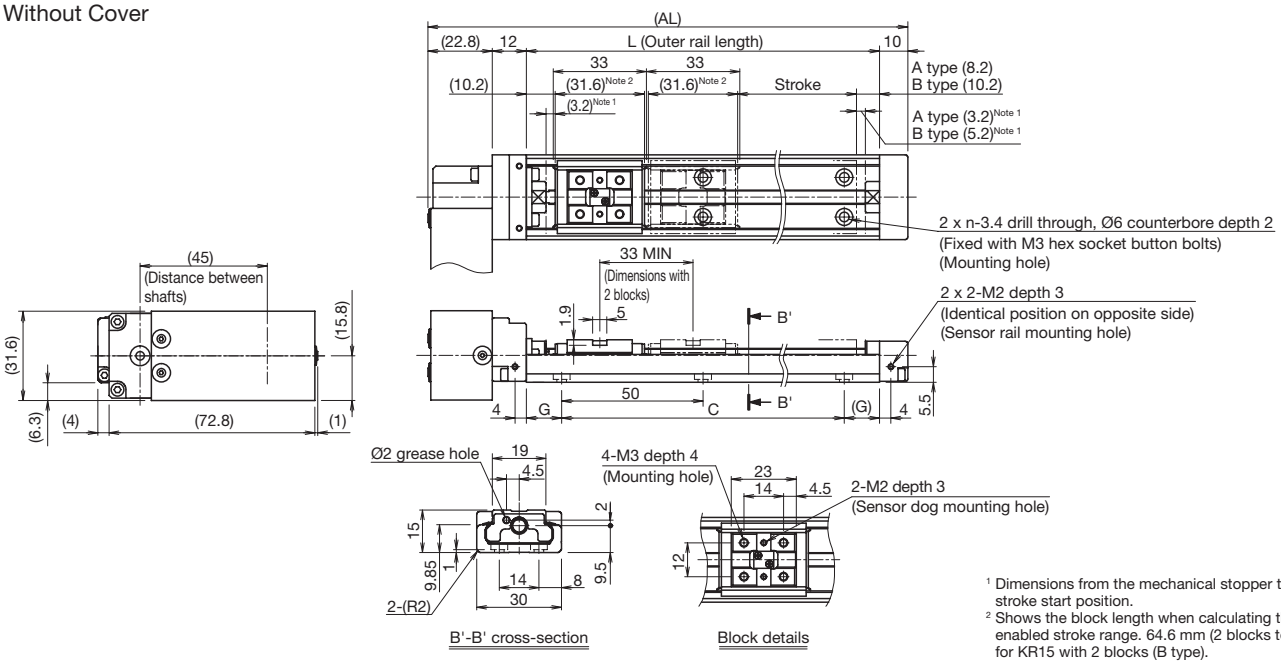
With Cover/Without Cover
Motor Wrap

Dimensions

With Cover



Without Cover



[1] Dimensions from the mechanical stopper to the stroke start position.
[2] Shows the block length when calculating the enabled stroke range. 64.6 mm (2 blocks total) for KR15 with 2 blocks (B type).

Stroke (mm) (Stroke between mechanical stoppers)	A type	25 (31.4)	50 (56.4)	75 (81.4)	100 (106.4)	125 (131.4)	150 (156.4)
	B type[3]	-	-	40 (48.4)	65 (73.4)	90 (98.4)	115 (123.4)
Maximum speed[4] (mm/s)	Ball screw lead: 1 mm	75					
	Ball screw lead: 2 mm	150					
Dimensions (mm)	AL	119.8	144.8	169.8	194.8	219.8	244.8
	L	75	100	125	150	175	200
	C	50	50	100	100	150	150
	G	12.5	25	12.5	25	12.5	25
No. of mounting holes	n	2	2	3	3	4	4
Mass[5, 6] (kg)		0.43 (0.38)	0.46 (0.41)	0.49 (0.44)	0.53 (0.47)	0.56 (0.5)	0.59 (0.53)

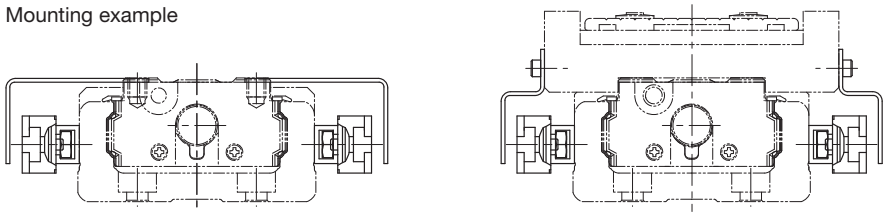
[3] The value with 2 blocks (B type) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 blocks (B type) has 0.07 kg (with cover) or 0.04 kg added.
[6] Parentheses show the values without cover.

Options

Sensors

Optional proximity sensors are available. Sensor-equipped models also feature a dedicated sensor rail and sensor dog. Sensors, sensor rails, and sensor dogs can be mounted on both sides when the stroke is less than 70 mm.

Mounting example

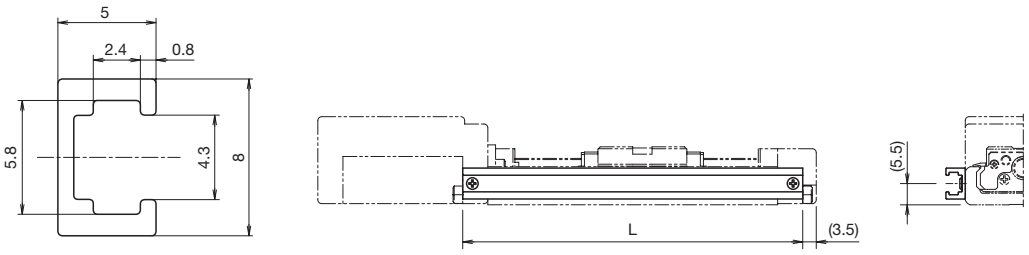


Symbol	Description	Model	Accessories
0	None	-	-
1	With sensor rail	-	Mounting screws, sensor rail (x1 or 2)
7	Proximity sensor N.O. contact[1] (x3)	APM-D3A1-001 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
B	Proximity sensor N.C. contact[2] (x3)	APM-D3B1-003 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
E	Proximity sensor N.O. contact[1] (x1) N.C. contact[2] (x2)	APM-D3A1-001 (Azbil Corporation) APM-D3B1-003 (Azbil Corporation)	Mounting screws, nuts, sensor dog, sensor rail (x1 or 2)

[1] N.O. contact: Normally open contact point
[2] N.C. contact: Normally closed contact point
Notes: 1. If proximity sensors are close to one another, they may not function properly. If that happens, please prepare a type with a different frequency.
2. Mounting of sensors other than those in the table above is possible. Contact THK for details.

Sensor Rail Mounting Dimensions

Mounting only a sensor rail is also possible.



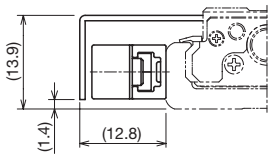
Sensor rail details

Stroke[3] (mm)	Outer rail length (mm)	L (mm)
25	75	88
50	100	113
75	125	138
100	150	163
125	175	188
150	200	213

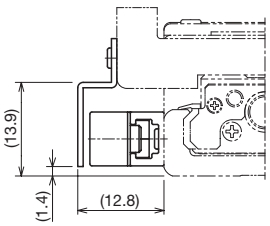
[3] Stroke with 1 block (A type).

Proximity Sensor Mounting Dimensions

Without cover



With cover



Symbol	Model	Manufacturer
7, B, E	APM-D3A1-001	Azbil Corporation
	APM-D3B1-003	

Sensor dog width (without cover): 5 mm
Sensor dog width (with cover): 8 mm

Intermediate Flange (Direct Coupling)

Several types of intermediate flanges for mounting motors are available.
When selecting "0" or "1" for Model Number Coding ⑥ With/without motor, specify an intermediate flange that matches the motor used.

Compatibility Table: Motors Used, Intermediate Flanges, and Couplings

Motor type	Manufacturer	Series		Motor model	Motor rated output (W)	Flange size	Housing A/ Intermediate flange	Compatible coupling models	
								MIKI PULLEY CO., LTD.	Nabeya Bi-tech Kaisha (NBK)
AC servo motor	YASKAWA Electric Corporation	Σ-Vmini		SGMMV-A1	10	25×25	AN	SFC-005DA2-3B-5B	XGT2-15C-3-5
				SGMMV-A2	20				
				SGMMV-A3	30				
	Mitsubishi Electric Corporation	MELSERVO	J4	HG-AK0136	10	25×25	AN	SFC-005DA2-3B-5B	XGT2-15C-3-5
				HG-AK0236	20				
				HG-AK0336	30				

Motor type	Manufacturer	Series		Motor model	Flange size	Housing A/ Intermediate flange	Compatible coupling models	
							MIKI PULLEY CO., LTD.	Nabeya Bi-tech Kaisha (NBK)
Stepper motor	ORIENTAL MOTOR CO., LTD.	α step		AZ2*, AR2*	28×28	AS	SFC-005DA2-3B-5B-L26	XGT2-15C-3-5
		5-phase	CRK	CRK52*				
			PKP	PKP52*				
		2-phase	PKP/CVD	PKP22*				
	KEYENCE CORPORATION	2-phase		QS-M28	28×28	AS	SFC-005DA2-3B-5B-L26	XGT2-15C-3-5
	SANYO DENKI CO., LTD.	PB		PBDM28*	28×28	AS	SFC-005DA2-3B-5B	XGT2-15C-3-5
		5-phase		FAF/FDF52*			SFC-005DA2-3B-5B-L26	
		2-phase		D*14S28*				

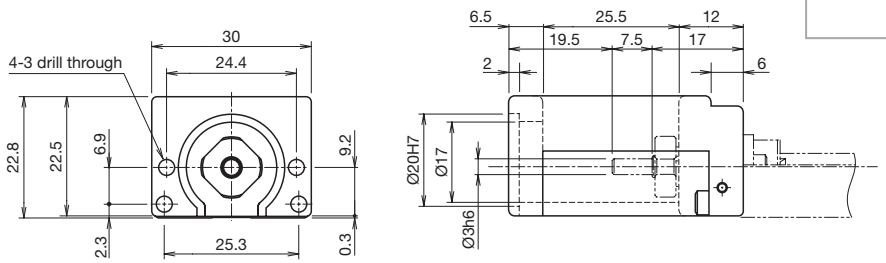
Notes: 1. The table shows only a portion of the model numbers for motors. For details regarding model numbers, please see the catalog for each respective motor manufacturer.
2. If the maximum torque for motors exceeds the permissible input torque (p. 11), please consider a safety measure to limit the torque.
3. When installing a motor other than the motor model numbers listed above, contact THK.

KR**
●◇

Actuator model
●: Housing A
◇: Intermediate flange

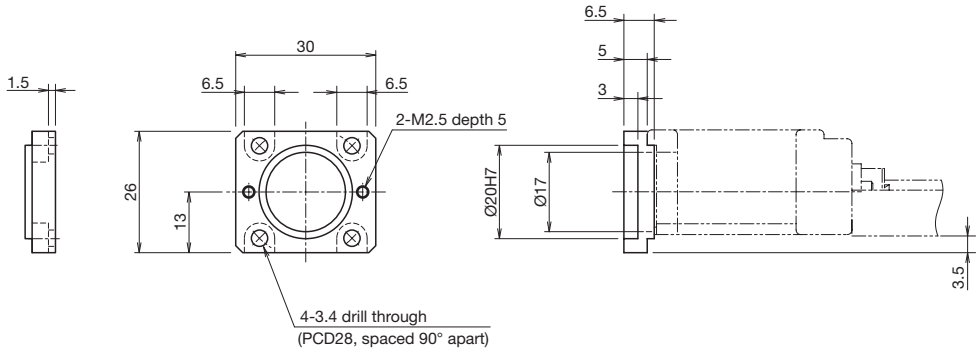
Housing A

KR15
A0

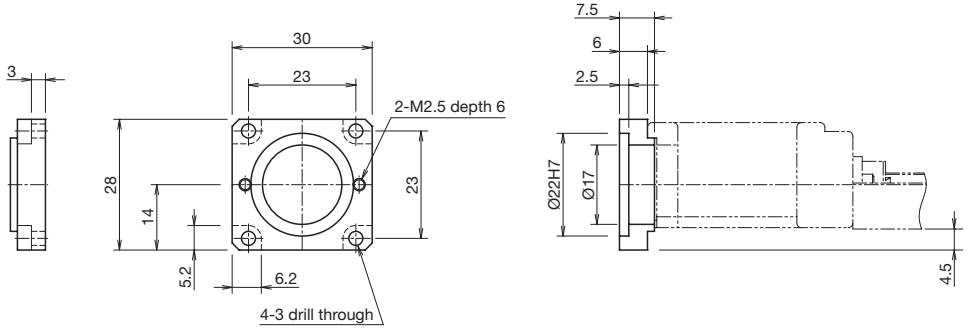


Intermediate Flange

KR15
AN



KR15
AS



Options

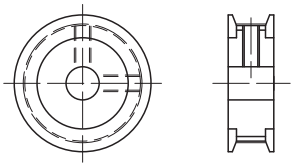
Intermediate Flange (Motor Wrap)

Several types of intermediate flanges for mounting motors are available.
When selecting "R1," "R2," "R3," "R4," "R5," or "R6" for Model Number Coding ⑥ With/without motor, specify an intermediate flange that matches the motor used.

Symbol Coding

Motor wrap symbol ①	Intermediate flange ②		Motor shaft diameter (mm) ③	Motor shaft securing method ④
W	N	-	05	D
W	Refer to the Compatibility Table: Motors Used and Motor Wrap Symbols below.		Specify a motor shaft diameter. (Refer to the Compatibility Table: Motors Used and Motor Wrap Symbols below.)	D: D-cut

Motor Shaft Securing Method



D-cut

Compatibility Table: Motors Used and Motor Wrap Symbols

Motor type	Manufacturer	Series		Motor model	Motor rated output (W)	Flange size	Housing A/Intermediate flange
AC servo motor	YASKAWA Electric Corporation	Σ-Vmini		SGMMV-A1	10	25×25	WN-05D
				SGMMV-A2	20		
				SGMMV-A3	30		
	Mitsubishi Electric Corporation	MELSERVO	J4	HG-AK0136	10	25×25	WN-05D
				HG-AK0236	20		
				HG-AK0336	30		

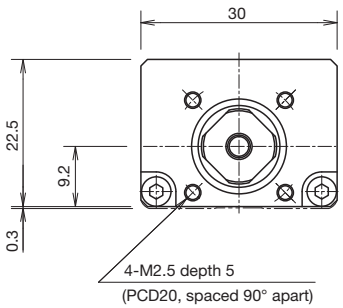
Notes: 1. The table shows only a portion of the model numbers for motors. For details regarding model numbers, please see the catalog for each respective motor manufacturer.
2. If the maximum torque for motors exceeds the permissible input torque (p. 11), please consider a safety measure to limit the torque.
3. When installing a motor other than the motor model numbers listed above, contact THK.

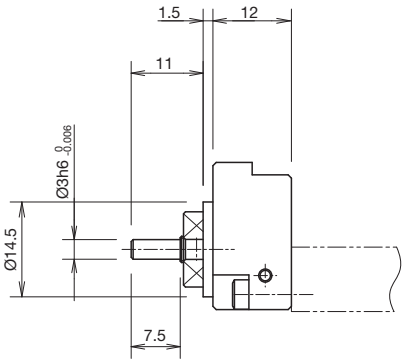
Motor Wrap Housing A

KR**
●◇

Actuator model
●: Housing A
◇: Intermediate flange

KR15
20





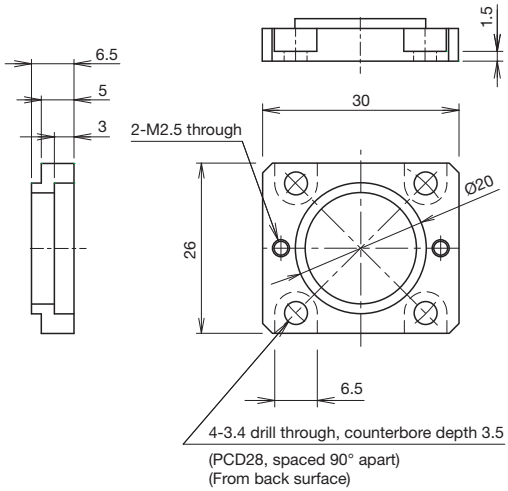
Note: The shaft end must be considered separately with motor wrap types. Contact THK for details.

Motor Wrap Specification (Intermediate Flange)

KR**
W□

Actuator model
□: Intermediate flange

KR15
WN



KR20 A/B

Direct motor coupling | Motor wrap | Width 40 mm | Height 20 mm | Max. stroke 130 mm

Model Number Coding

Model ①	Ball screw lead ②	Block type ③	Stroke ④	Accuracy grade ⑤	With/without motor ⑥	Cover ⑦	Sensors ⑧	Housing A/ Intermediate flange ⑨
KR20	01	A	0030	P	0	1	2	AQ
KR20	01: 1 mm	A: x1	0030: 30 mm	No symbol: Normal grade	With direct coupling	0: Without cover	0	With direct coupling
	06: 6 mm	B: x2	to	H: High accuracy grade	0: Direct coupling (without motor)	1: With cover	1	A0
			0130: 130 mm	P: Precision grade	1: Direct coupling (THK will purchase and mount the motor you specify.)	2: With bellows	2	AN
					With motor wrap		6	AP
					R1: Non-standard side wrap (without motor)		7	AQ
					R2: Standard side wrap (without motor)		B	AR
					R3: Bottom side wrap (without motor)		E	AS
					R4: Non-standard side wrap (THK will purchase and mount the motor you specify.)		H	20
					R5: Standard side wrap (THK will purchase and mount the motor you specify.)		L	With motor wrap
					R6: Bottom side wrap (THK will purchase and mount the motor you specify.)		J	WN-05D
							M	WP-08D
								WP-08K
								WQ-08D
								WQ-08K

When selecting 2: With bellows for ⑦ Cover, specify the stroke with bellows.
→ p. 165 to p. 166

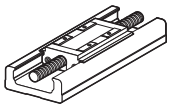
When selecting "0":
A coupling is not provided. Indicate when placing an order if a coupling is required.

When selecting "1," "R4," "R5," or "R6":
The specified motor will be installed. Indicate the motor cable direction separately. Select ⑨ Intermediate flange to match the specified motor.

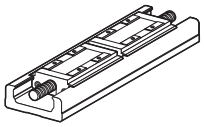
Sensor details
→ p. 25

With direct coupling → p. 27
With motor wrap → p. 29

③ Block Type

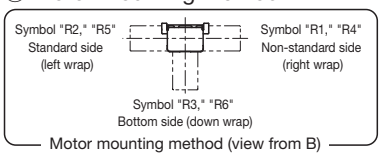


A: 1 block (A type)



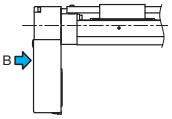
B: 2 blocks (B type)

⑥ Motor Mounting Method



Motor mounting method (view from B)

With motor wrap



Selection Information

Basic Specifications

LM Guide	Basic dynamic load rating C (N)		3,590	
	Basic static load rating C_0 (N)		6,300	
	Radial clearance (mm)	Normal grade/High accuracy grade (H)	-0.003 to +0.002	
		Precision grade (P)	-0.007 to -0.003	
	Geometric moment of inertia	I_X[1] (mm^4)	6.1×10^3	
		I_Y[2] (mm^4)	6.2×10^4	
		Mass (kg/m)	2.6	
Ball screw	Ball screw lead (mm)		1	6
	Basic dynamic load rating Ca (N)	Normal grade/High accuracy grade (H)	660	860
		Precision grade (P)		1,060
	Basic static load rating C_0a (N)	Normal grade/High accuracy grade (H)	1,170	1,450
		Precision grade (P)		1,600
	Screw shaft diameter (mm)		Ø6	
	Thread minor diameter (mm)		Ø5.3	Ø5
	Ball center-to-center diameter (mm)		Ø6.15	Ø6.3
	Permissible rotational speed[3] (min^{-1})	Normal grade/High accuracy grade (H)	6,000	
		Precision grade (P)		
Bearing unit (fixed side)	Axial direction	Basic dynamic load rating Ca (N)	1,000	
		Static permissible load P_0a (N)	1,240	
Permissible input torque (N·m)		Direct coupling	0.20	0.42
		Motor wrap		0.40
Static permissible moment[4, 5] (N·m)			M_A: 31 (176), M_B: 31 (176), M_C: 83 (165)	
Service life[6] (km)			3,000	5,000
Standard grease/Grease nipple used			THK AFA Grease/PB107	

[1] I_X is the geometric moment of inertia about the X axis.
[2] I_Y is the geometric moment of inertia about the Y axis.
[3] The permissible rotational speed may decrease as the stroke becomes longer.
[4] The value in parentheses is with 2 blocks (B type) attached.
[5] See p. 168 for the values if "1" or "2" is selected for item ⑦ in the Model Number Coding.
[6] Calculated under the following conditions.
Stroke: 80 mm (A type), 85 mm (B type) / Speed: 50 mm/s (for 1 mm lead), 300 mm/s (for 6 mm lead) / Load mass: Maximum load capacity (p. 9) / Acceleration/deceleration: As when set to maximum load capacity (p. 9) / Center of gravity: Center of the table's upper surface.
Note 1: LM Guide load rating is the load rating per block.

Accuracy

Accuracy grade	Item	Stroke[7] 30	80	130
Normal grade (no symbol)	Positioning repeatability (mm)	±0.01		
	Positioning accuracy (mm)	Not specified		
	Running parallelism (vertical direction) (mm)	Not specified		
	Backlash (mm)	0.02		
	Starting torque (N·cm)	0.5		

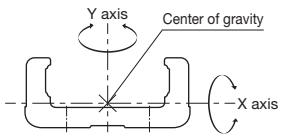
Accuracy grade	Item	Stroke[7] 30	80	130
High accuracy grade (H)	Positioning repeatability (mm)	±0.005		
	Positioning accuracy (mm)	0.06		
	Running parallelism (vertical direction) (mm)	0.025		
	Backlash (mm)	0.01		
	Starting torque (N·cm)	0.5		

Accuracy grade	Item	Stroke[7] 30	80	130
Precision grade (P)	Positioning repeatability (mm)	±0.003		
	Positioning accuracy (mm)	0.02		
	Running parallelism (vertical direction) (mm)	0.01		
	Backlash (mm)	0.003		
	Starting torque (N·cm)	1.2		

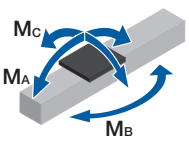
[7] Stroke with 1 block (A type).

Notes: 2. Precision evaluation in accordance with THK standards.
3. Measured using a motor for inspection. With motor wrap specifications, measurements are not made in the completed motor wrap state.
4. The starting torque represents the value when containing THK AFA Grease.
5. The starting torque may exceed standards if using vacuum grease, clean room grease, or other high-viscosity greases, so care should be taken when selecting a motor.
6. Contact THK for accuracy higher than the standard stroke.

Geometric Moment of Inertia



Static Permissible Moment



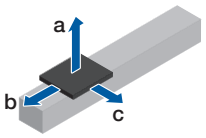
Motor Selection Information

Stroke[1] (mm)	Outer rail length (mm)	LM Guide				Ball screw		Motor mounting part	
		Moving part mass (kg)			Sliding resistance value[2] (N)	Lead (mm)	Shaft length (mm)	Direct coupling	Motor wrap
		Block mass	Sub-table mass	Total mass				Shaft end diameter (mm)	Timing pulley (sum of two) Inertial moment x 10^{-4} (kg·m²)
30 to 130	100 to 200	A type: 0.08 B type: 0.16	A type: 0.05 B type: 0.1	A type: 0.13 B type: 0.26	1.2	1, 6	133 to 233	Ø4h7	0.013

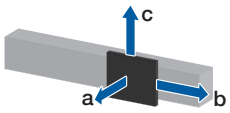
[1] Stroke with 1 block (A type).
[2] Value with 1 block (A type). This value is the sum of the rolling resistance value and seal resistance value.
Note: Refer to p. 27 for applicable couplings.

Permissible Overhang Length[3]

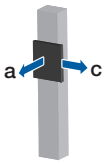
Horizontal



Wall-Mounted



Vertical



Estimated motor capacity 50 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	A type	1	3	350	90	160
			6	160	40	80
			12.5	70	20	40
		6	3	350	80	160
			6	160	30	80
			12.5	70	10	40
	B type	1	4	400	370	250
			8.5	400	170	110
			17.5	260	80	50
		6	4	400	340	250
			8.5	400	160	110
			17.5	260	70	50
Motor wrap	A type	1	3	350	90	160
			6	160	40	80
			12.5	70	20	40
		6	3	350	80	160
			6	160	30	80
			12.5	70	10	40
	B type	1	4	400	370	250
			8.5	400	170	110
			17.5	260	80	50
		6	4	400	340	250
			8.5	400	160	110
			17.5	260	70	50

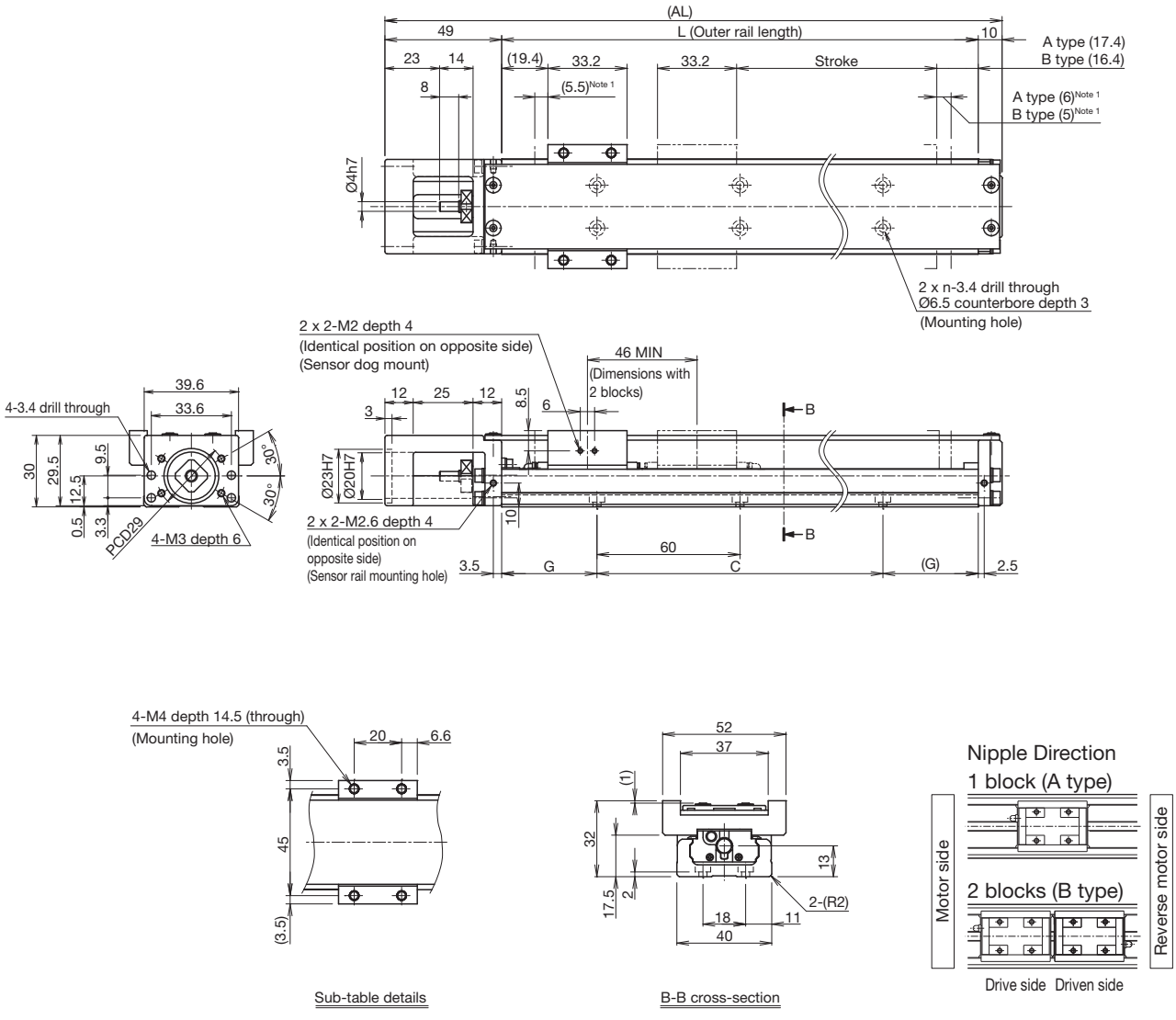
Estimated motor capacity 50 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	A type	1	2.5	170	110	360
			5	70	50	180
			10	20	20	90
		6	2	220	120	400
			4	100	50	220
			8	40	20	110
	B type	1	3.5	260	300	400
			7	120	150	400
			14	50	70	250
		6	3.5	260	300	400
			7	120	150	400
			14	50	70	250
Motor wrap	A type	1	2.5	170	110	360
			5	70	50	180
			10	20	20	90
		6	2	220	120	400
			4	100	50	220
			8	40	20	110
	B type	1	3.5	260	300	400
			7	120	150	400
			14	50	70	250
		6	3.5	260	300	400
			7	120	150	400
			14	50	70	250

Estimated motor capacity 50 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	c (mm)
Direct coupling	A type	1	0.5	400	400
			1.5	150	140
			3	60	70
		6	1	240	210
			2	110	100
			4	40	40
	B type	1	0.5	400	400
			1.5	400	400
			3.5	310	230
		6	1.5	400	400
			3.5	310	230
			7	140	110
Motor wrap	A type	1	0.5	400	400
			1	230	210
			2.5	80	80
		6	1	240	210
			2	110	100
			4	40	40
	B type	1	0.5	400	400
			1.5	400	400
			3.5	310	230
		6	1.5	400	400
			3	360	260
			6.5	150	120

[3] This is the value with the service life of the LM Guide limited to 5,000 km (3,000 km for 1 mm lead only). The calculation conditions are as follows.
Stroke: 80 mm (A type), 60 mm (B type) / Acceleration/deceleration: 0.3 G / Speed: 50 mm/s (for 1 mm lead), 300 mm/s (for 6 mm lead) / Overhang direction: Loaded only in a single direction.
Dimensions a, b, and c are from the center of the table's upper surface.

With Cover
Direct Motor Coupling

Dimensions



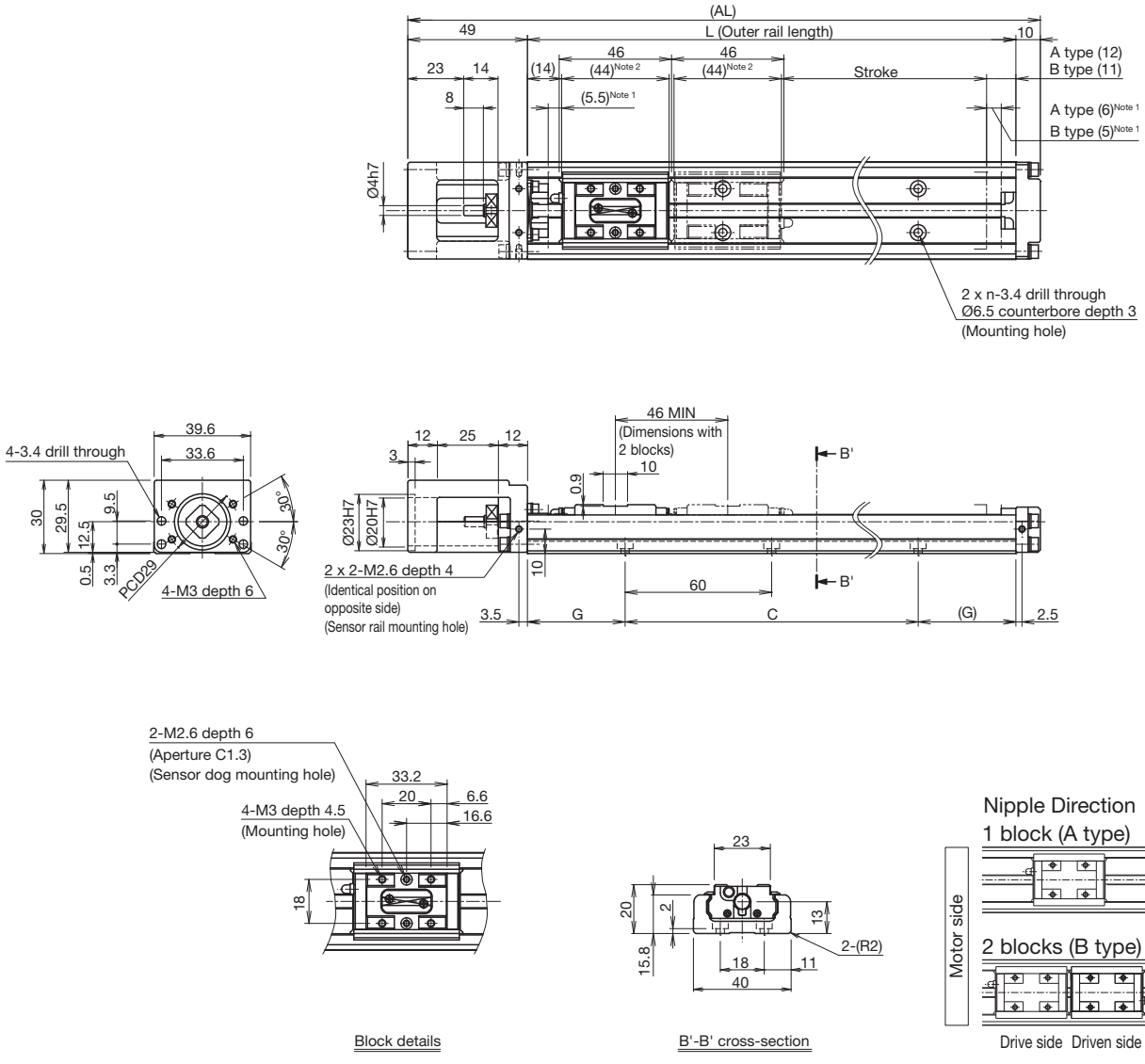
[1] Dimensions from the mechanical stopper to the stroke start position.

Stroke (mm) (Stroke between mechanical stoppers)	A type	30 (41.5)	80 (91.5)	130 (141.5)
	B type[2]	-	35 (45.5)	85 (95.5)
Maximum speed[3] (mm/s)	Ball screw lead: 1 mm	100		
	Ball screw lead: 6 mm	600		
Dimensions (mm)	AL	159	209	259
	L	100	150	200
	C	60	120	120
	G	20	15	40
No. of mounting holes	n	2	3	3
Mass[4] (kg)		0.56	0.71	0.85

[2] The value with 2 blocks (B type) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 blocks (B type) has 0.13 kg added.

Without Cover
Direct Motor Coupling

Dimensions



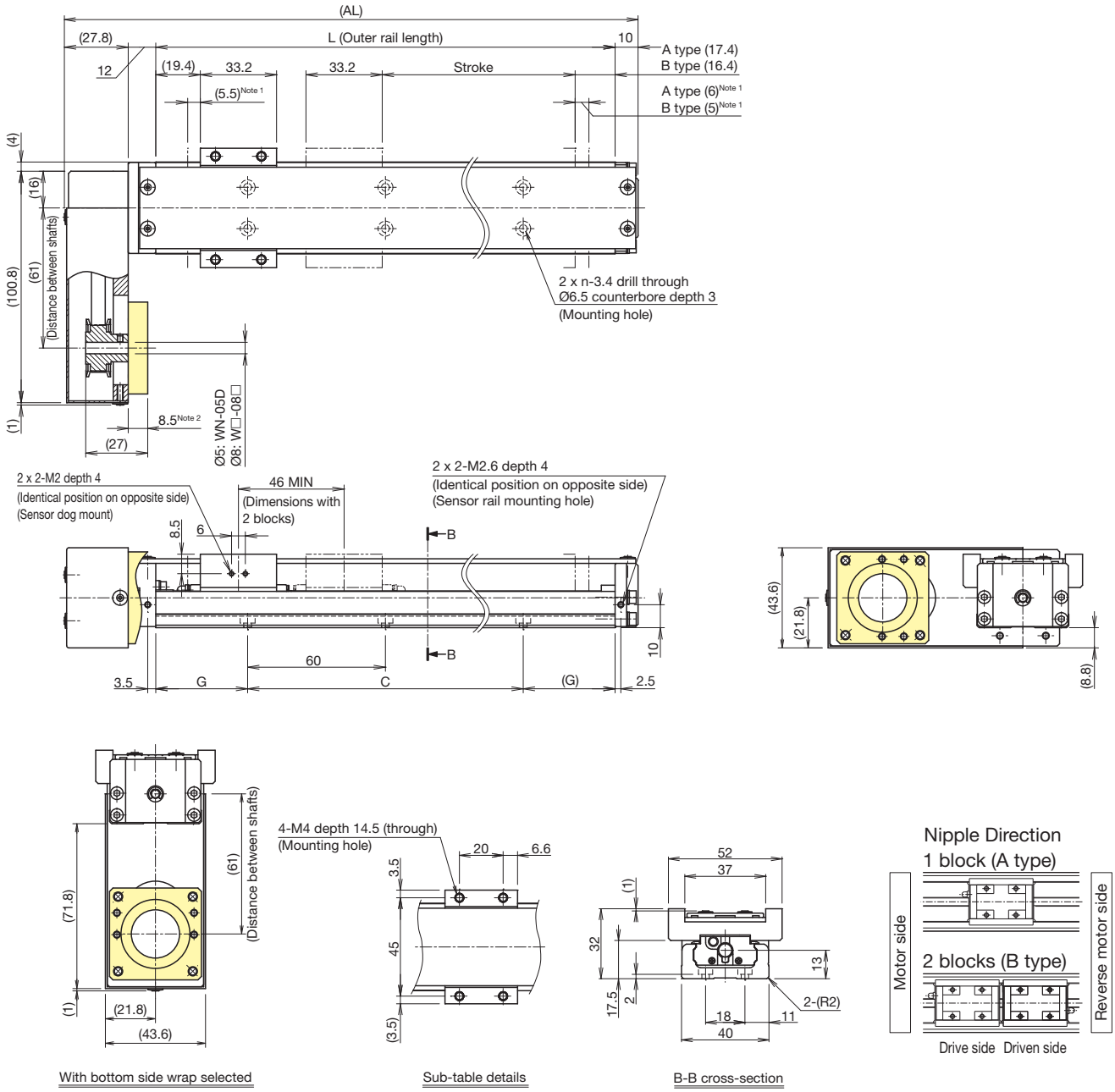
[1] Dimensions from the mechanical stopper to the stroke start position.
[2] Shows the block length when calculating the enabled stroke range. 90 mm (2 blocks total) for KR20 with 2 blocks (B type).

Stroke (mm) (Stroke between mechanical stoppers)	A type	30 (41.5)	80 (91.5)	130 (141.5)
	B type[3]	-	35 (45.5)	85 (95.5)
Maximum speed[4] (mm/s)	Ball screw lead: 1 mm	100		
	Ball screw lead: 6 mm	600		
Dimensions (mm)	AL	159	209	259
	L	100	150	200
	C	60	120	120
	G	20	15	40
No. of mounting holes	n	2	3	3
Mass[5] (kg)		0.48	0.61	0.75

[3] The value with 2 blocks (B type) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 blocks (B type) has 0.08 kg added.

With Cover
Motor Wrap

Dimensions



With bottom side wrap selected

Sub-table details

B-B cross-section

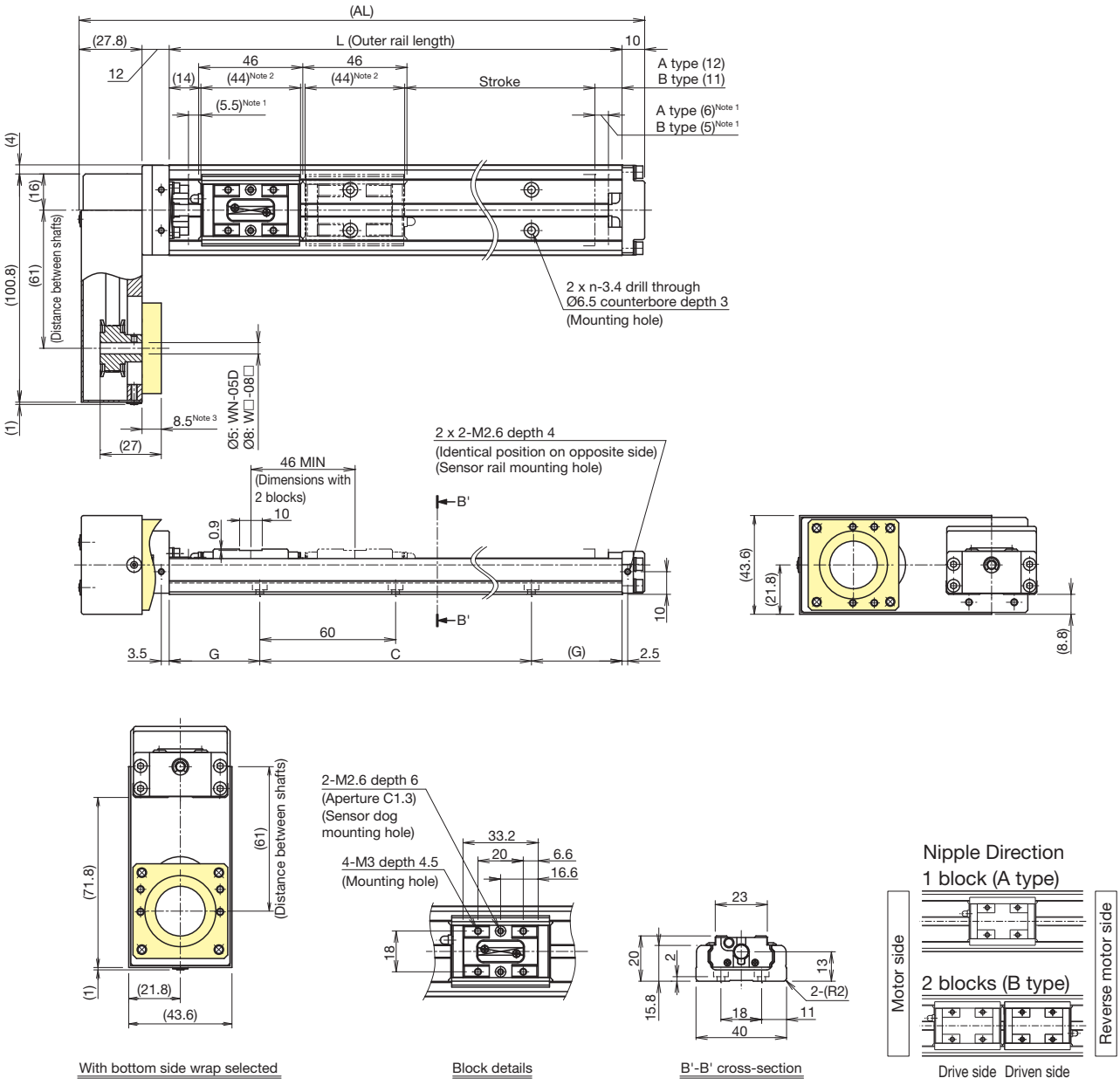
[1] Dimensions from the mechanical stopper to the stroke start position.
[2] This dimension will be different if "WN" was selected for ⑨ Housing A/ Intermediate flange in the model number coding. See p. 30 for details.

Stroke (mm) (Stroke between mechanical stoppers)	A type	30 (41.5)	80 (91.5)	130 (141.5)
	B type[2]	-	35 (45.5)	85 (95.5)
Maximum speed[3] (mm/s)	Ball screw lead: 1 mm	100		
	Ball screw lead: 6 mm	600		
Dimensions (mm)	AL	149.8	199.8	249.8
	L	100	150	200
	C	60	120	120
	G	20	15	40
No. of mounting holes	n	2	3	3
Mass[4] (kg)		0.82	0.96	1.11

[2] The value with 2 blocks (B type) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 blocks (B type) has 0.13 kg added.

Without Cover
Motor Wrap

Dimensions



With bottom side wrap selected

Block details

B'-B' cross-section

[1] Dimensions from the mechanical stopper to the stroke start position.
[2] Shows the block length when calculating the enabled stroke range. 90 mm (2 blocks total) for KR20 with 2 blocks (B type).
[3] This dimension will be different if "WN" was selected for ⑨ Housing A/ Intermediate flange in the model number coding. See p. 30 for details.

Stroke (mm) (Stroke between mechanical stoppers)	A type	30 (41.5)	80 (91.5)	130 (141.5)
	B type[3]	-	35 (45.5)	85 (95.5)
Maximum speed[4] (mm/s)	Ball screw lead: 1 mm	100		
	Ball screw lead: 6 mm	600		
Dimensions (mm)	AL	149.8	199.8	249.8
	L	100	150	200
	C	60	120	120
	G	20	15	40
No. of mounting holes	n	2	3	3
Mass[5] (kg)		0.73	0.87	1.01

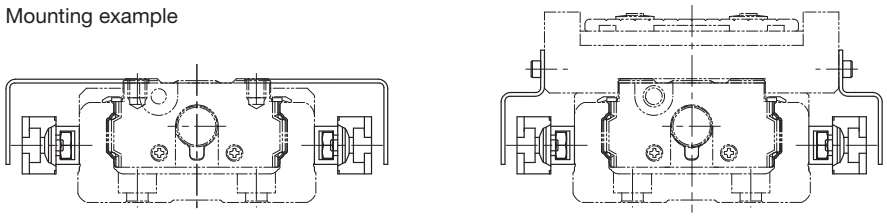
[3] The value with 2 blocks (B type) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 blocks (B type) has 0.08 kg added.

Options

Sensors

Optional photo sensors and proximity sensors are available. Sensor-equipped models also feature a dedicated sensor rail and sensor dog.
Sensors, sensor rails, and sensor dogs can be mounted on both sides when the stroke is less than 70 mm.

Mounting example

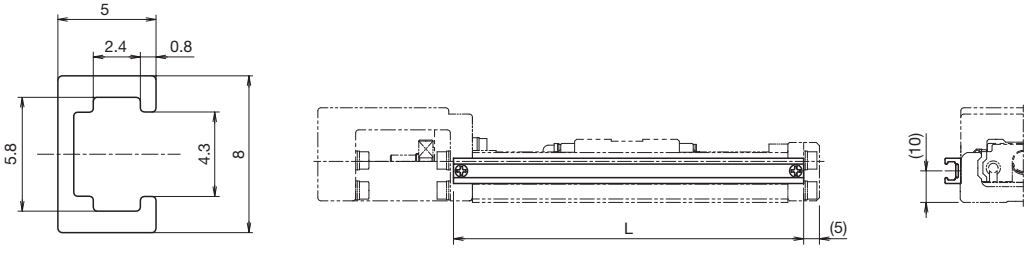


Symbol	Description	Model	Accessories
0	None	-	-
1	With sensor rail	-	Mounting screws, sensor rail (x1 or 2)
2	Photo sensor[1] (x3)	EE-SX671 (OMRON Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2), mounting plates (x3), connectors (EE-1001 x3)
6	Photo sensor[1] (x3)	EE-SX674 (OMRON Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2), mounting plates (x3), connectors (EE-1001 x3)
7	Proximity sensor N.O. contact[2] (x3)	APM-D3A1-001 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
B	Proximity sensor N.C. contact[3] (x3)	APM-D3B1-003 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
E	Proximity sensor N.O. contact[2] (x1) N.C. contact[3] (x2)	APM-D3A1-001 (Azbil Corporation) APM-D3B1-003 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
H	Proximity sensor N.O. contact[2] (x3)	GX-F12A (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
L	Proximity sensor N.C. contact[3] (x3)	GX-F12B (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
J	Proximity sensor N.O. contact[2] (x1) N.C. contact[3] (x2)	GX-F12A (Panasonic Industry Co., Ltd.) GX-F12B (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
M	Proximity sensor N.O. contact[2] (x1) (PNP output) N.C. contact[3] (x2) (PNP output)	GX-F12A-P (Panasonic Industry Co., Ltd.) GX-F12B-P (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)

[1] The photo sensors can be switched between ON when lit and ON when unlit.
[2] N.O. contact: Normally open contact point
[3] N.C. contact: Normally closed contact point
Notes: 1. If proximity sensors are close to one another, they may not function properly. If that happens, please prepare a type with a different frequency.
2. Mounting of sensors other than those in the table above is possible. Contact THK for details.

Sensor Rail Mounting Dimensions

Mounting only a sensor rail is also possible.



Sensor rail details

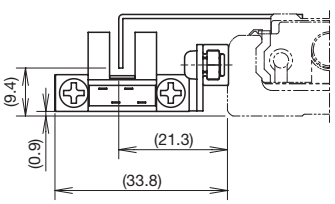
Stroke[4] (mm)	Outer rail length (mm)	L (mm)
30	100	111
80	150	161
130	200	211

[4] Stroke with 1 block (A type).

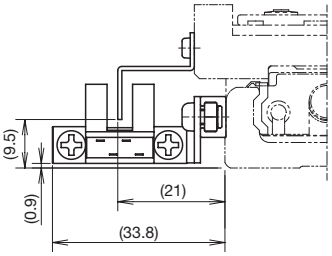
Photo Sensor Mounting Dimensions

Connector: EE-1001 (OMRON Corporation) x3 included.
To be mounted by the customer.

Without cover



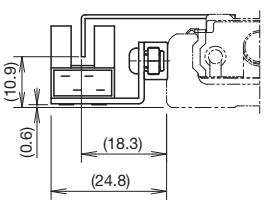
With cover



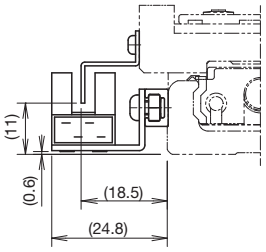
Symbol	Model	Manufacturer
2	EE-SX671	OMRON Corporation

Sensor dog width: 10 mm

Without cover



With cover

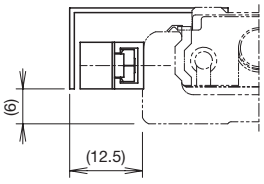


Symbol	Model	Manufacturer
6	EE-SX674	OMRON Corporation

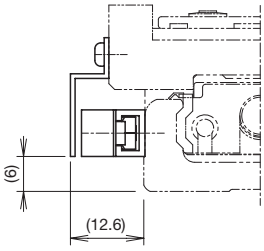
Sensor dog width: 10 mm

Proximity Sensor Mounting Dimensions

Without cover



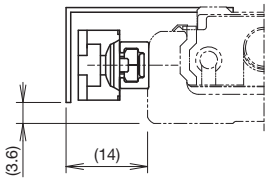
With cover



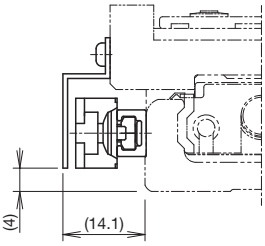
Symbol	Model	Manufacturer
7, B, E	APM-D3A1-001	Azbil Corporation
	APM-D3B1-003	

Sensor dog width: 10 mm

Without cover



With cover



Symbol	Model	Manufacturer
H, L, J	GX-F12A	Panasonic Industry Co., Ltd.
	GX-F12B	
M	GX-F12A-P	
	GX-F12B-P	

Sensor dog width: 10 mm

Options

Intermediate Flange (Direct Coupling)

Several types of intermediate flanges for mounting motors are available.
When selecting "0" or "1" for Model Number Coding ⑥ With/without motor, specify an intermediate flange that matches the motor used.

Compatibility Table: Motors Used, Intermediate Flanges, and Couplings

Motor type	Manufacturer	Series		Motor model	Motor rated output (W)	Flange size	Housing A/ Intermediate flange	Compatible coupling models	
								MIKI PULLEY CO., LTD.	Nabeya Bi-tech Kaisha (NBK)
AC servo motor	YASKAWA Electric Corporation	Σ-Vmini		SGMMV-A1	10	25×25	AN	SFC-010DA2-4B-5B-L32	XGT2-15C-4-5
				SGMMV-A2	20				
				SGMMV-A3	30				
		Σ-V		SGMJV-A5	50	40×40	AQ	SFC-010DA2-4B-8B	XGT2-19C-4-8
				SGMAV-A5					
		Σ-7		SGM7J-A5	50	40×40	AQ	SFC-010DA2-4B-8B	XGT2-19C-4-8
				SGM7A-A5					
		Σ–X		SGMXJ-A5	50	40×40	AQ	SFC–010DA2–4B–8B	XGT2–19C–4–8
				SGMXA-A5					
	Mitsubishi Electric Corporation	MELSERVO	J4	HG-AK0136	10	25×25	AN	SFC-010DA2-4B-5B-L32	XGT2-15C-4-5
				HG-AK0236	20				
				HG-AK0336	30				
				HG-KR053	50	40×40	AQ	SFC-010DA2-4B-8B	XGT2-19C-4-8
				HG-MR053					
			J5	HK-KT053W	50	40×40	AQ	SFC–010DA2–4B–8B	XGT2–19C–4–8
			JN	HF-KN053	50	40×40	AQ	SFC-010DA2-4B-8B	XGT2-19C-4-8
	TAMAGAWA SEIKI CO., LTD.	TBL-iII		TS4602	50	40×40	AQ	SFC-010DA2-4B-8B	XGT2-19C-4-8
		TBL-iIV		TSM3102					
	Panasonic Corporation	MINAS	A5	MSMD5A	50	38×38	AP	SFC-010DA2-4B-8B	XGT2-19C-4-8
				MSME5A					
			A6	MSMF5A	50	38×38	AP	SFC-010DA2-4B-8B	XGT2-19C-4-8
				MHMF5A		40×40	AQ		
	KEYENCE CORPORATION	SV		SV-M005	50	40×40	AQ	SFC-010DA2-4B-8B	XGT2-19C-4-8
		SV2		SV2-M005					
	SANYO DENKI CO., LTD.	SANMOTION R		R2□A04005	50	40×40	AQ	SFC-010DA2-4B-8B	XGT2-19C-4-8
	OMRON Corporation	OMNUC G5		R88M-K05030	50	40×40	AQ	SFC-010DA2-4B-8B	XGT2-19C-4-8
	FANUC CORPORATION	βis Series		βis0.2/5000	50	40×40	AQ	SFC-010DA2-4B-8B	XGT2-19C-4-8

Motor type	Manufacturer	Series		Motor model	Flange size	Housing A/ Intermediate flange	Compatible coupling models	
							MIKI PULLEY CO., LTD.	Nabeya Bi-tech Kaisha (NBK)
Stepper motor	ORIENTAL MOTOR CO., LTD.	α step		AZ2*, AR2*	28×28	AS	SFC-010DA2-4B-5B-L32	XGT2-15C-4-5
				AZ4*, AR4* (excluding AZM48)	42×42	AR	SFC-010DA2-4B-6B	XGT2-15C-4-6
				AZM48			SFC-010DA2-4B-8B	XGT2-19C-4-8
		5-phase	CRK	CRK52*	28×28	AS	SFC-010DA2-4B-5B-L32	XGT2-15C-4-5
				CRK54*	42×42	AR	SFC-010DA2-4B-5B	
			RKII	RKS54*	42×42	AR	SFC-010DA2-4B-6B	XGT2-15C-4-6
			PKP	PKP52*	28×28	AS	SFC-010DA2-4B-5B-L32	XGT2-15C-4-5
				PKP54*	42×42	AR	SFC-010DA2-4B-5B	
		2-phase	PKP/CVD	PKP22*	28×28	AS	SFC-010DA2-4B-5B-L32	XGT2-15C-4-5
				PKP24*	42×42	AR	SFC-010DA2-4B-5B	
	KEYENCE CORPORATION	2-phase		QS-M28	28×28	AS	SFC-010DA2-4B-5B-L32	XGT2-15C-4-5
				QS-M42	42×42	AR	SFC-010DA2-4B-5B	
	SANYO DENKI CO., LTD.	PB		PBDM28*	28×28	AS	SFC-010DA2-4B-5B	XGT2-15C-4-5
				PBDM423, PBA**423	42×42	AR	SFC-010DA2-4B-6B	XGT2-15C-4-6
		5-phase		FAF/FDF52*	28×28	AS	SFC-010DA2-4B-5B-L32	XGT2-15C-4-5
				FAF54*/FDF54*/ FA511M42/FB511M42	42×42	AR	SFC-010DA2-4B-6B	XGT2-15C-4-6
		2-phase		D*14S28*	28×28	AS	SFC-010DA2-4B-5B-L32	XGT2-15C-4-5
				DB14H52*	42×42	AR	SFC-010DA2-4B-5B	XGT2-15C-4-5
				DU15H52*				

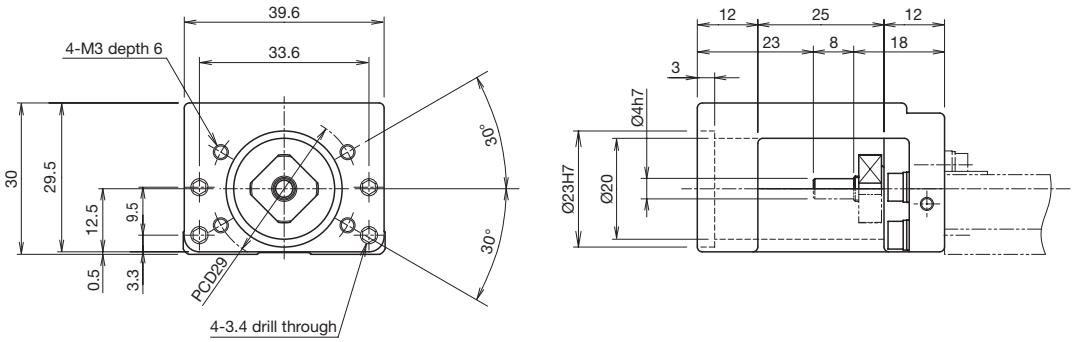
Notes: 1. The table shows only a portion of the model numbers for motors. For details regarding model numbers, please see the catalog for each respective motor manufacturer.
2. If the maximum torque for motors exceeds the permissible input torque (p. 19), please consider a safety measure to limit the torque.
3. When installing a motor other than the motor model numbers listed above, contact THK.

Housing A

KR**
●◇

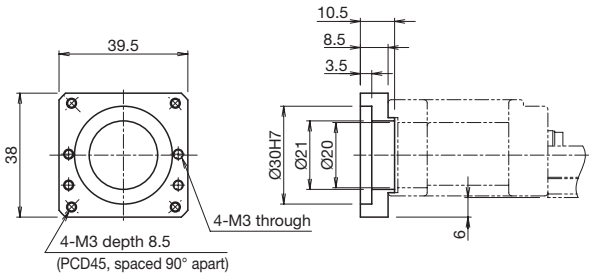
Actuator model
●: Housing A
◇: Intermediate flange

KR20
A0

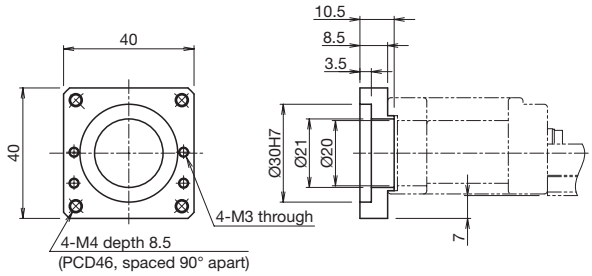


Intermediate Flange

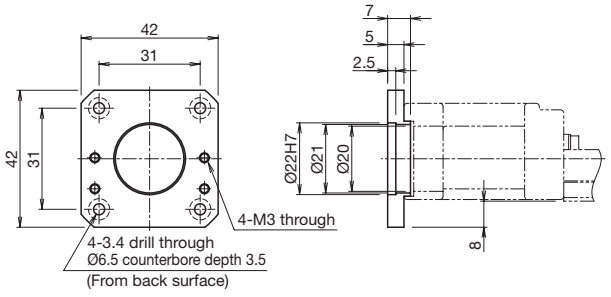
KR20
AP



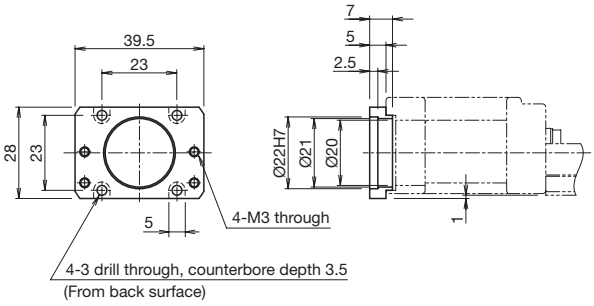
KR20
AQ



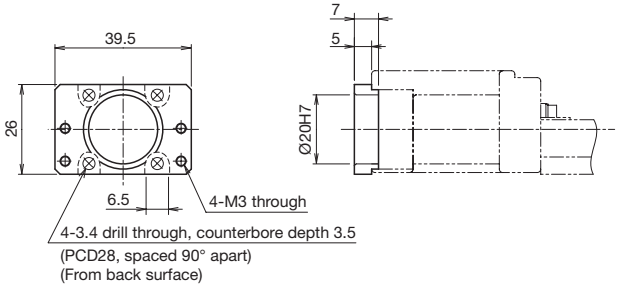
KR20
AR



KR20
AS



KR20
AN



Options

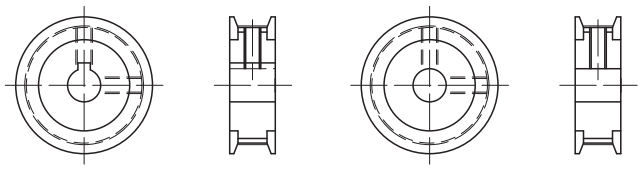
Intermediate Flange (Motor Wrap)

Several types of intermediate flanges for mounting motors are available.
When selecting "R1," "R2," "R3," "R4," "R5," or "R6" for Model Number Coding ⑥ With/without motor, specify an intermediate flange that matches the motor used.

Symbol Coding

Motor wrap symbol ①	Intermediate flange ②		Motor shaft diameter (mm) ③	Motor shaft securing method ④
W	Q	-	08	D
W	Refer to the Compatibility Table: Motors Used and Motor Wrap Symbols below.		Specify a motor shaft diameter. (Refer to the Compatibility Table: Motors Used and Motor Wrap Symbols below.)	K: Key D: D-cut

Motor Shaft Securing Method



Key D-cut

Compatibility Table: Motors Used and Motor Wrap Symbols

Motor type	Manufacturer	Series		Motor model	Motor rated output (W)	Flange size	Housing A/Intermediate flange
AC servo motor	YASKAWA Electric Corporation	Σ-Vmini		SGMMV-A1	10	25×25	WN-05D
				SGMMV-A2	20		
				SGMMV-A3	30		
		Σ-V		SGMJV-A5	50	40×40	WQ-08K
				SGMAV-A5			
		Σ-7		SGM7J-A5	50	40×40	WQ-08K
				SGM7A-A5			
		Σ-X		SGMXJ-A5	50	40×40	WQ-08K
				SGMXA-A5			
	Mitsubishi Electric Corporation	MELSERVO	J4	HG-AK0136	10	25×25	WN-05D
				HG-AK0236	20		
				HG-AK0336	30		
				HG-KR053	50	40×40	WQ-08D
				HG-MR053			
			J5	HK-KT053W	50	40×40	WQ-08D
			JN	HF-KN053	50	40×40	WQ-08D
	TAMAGAWA SEIKI CO., LTD.	TBL-iII		TS4602	50	40×40	WQ-08D
		TBL-iIV		TSM3102			
	Panasonic Corporation	MINAS	A5	MSMD5A	50	38×38	WP-08D, WP-08K
				MSME5A			
			A6	MSMF5A	50	38×38	WP-08K
				MHMF5A		40×40	WQ-08K
	KEYENCE CORPORATION	SV		SV-M005	50	40×40	WQ-08K
		SV2		SV2-M005			
	SANYO DENKI CO., LTD.	SANMOTION R		R2□A04005	50	40×40	WQ-08K
	OMRON Corporation	OMNUC G5		R88M-K05030	50	40×40	WQ-08K
	FANUC CORPORATION	βis Series		βis0.2/5000	50	40×40	WQ-08K

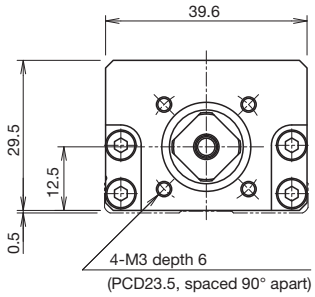
Notes: 1. The table shows only a portion of the model numbers for motors. For details regarding model numbers, please see the catalog for each respective motor manufacturer.
2. If the maximum torque for motors exceeds the permissible input torque (p. 19), please consider a safety measure to limit the torque.
3. When installing a motor other than the motor model numbers listed above, contact THK.

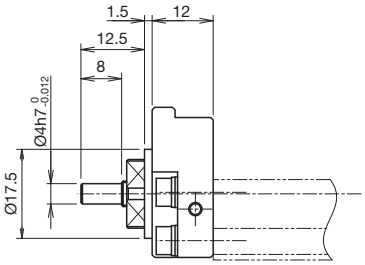
Motor Wrap Housing A

KR**
●◇

Actuator model
●: Housing A
◇: Intermediate flange

KR20
20





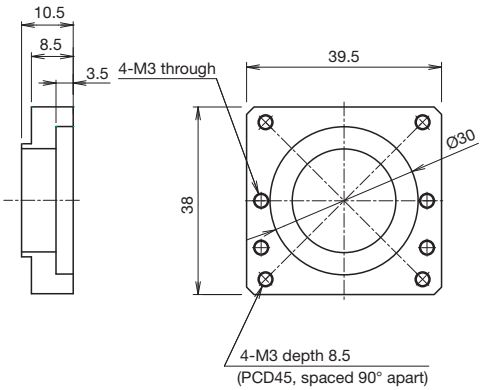
Note: The shaft end must be considered separately with motor wrap types. Contact THK for details.

Motor Wrap Specification (Intermediate Flange)

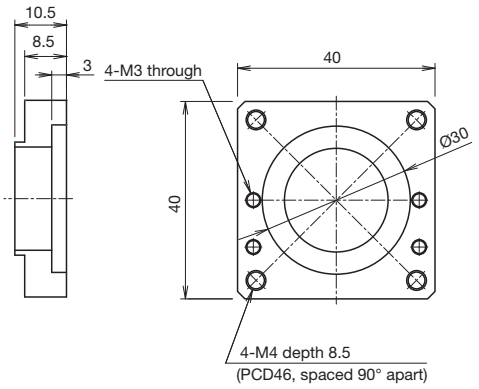
KR**
W□

Actuator model
□: Intermediate flange

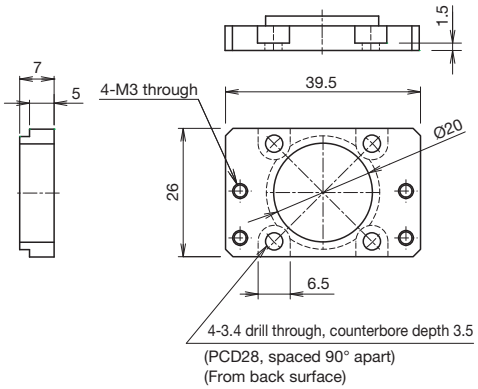
KR20
WP



KR20
WQ



KR20
WN



KR26 A/B

Direct motor coupling | Motor wrap | Width 50 mm | Height 26 mm | Max. stroke 210 mm

Model Number Coding

Model ①	Ball screw lead ②	Block type ③
KR26	02	A
KR26	02: 2 mm	A: x1
	06: 6 mm	B: x2

Stroke ④
0045: 45 mm
to
0210: 210 mm

When selecting 2: With bellows for ⑦ Cover, specify the stroke with bellows.
→ p. 165 to p. 166

Accuracy grade ⑤
P
No symbol: Normal grade
H: High accuracy grade
P: Precision grade

With/without motor ⑥
0
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.)

When selecting "0":
A coupling is not provided. Indicate when placing an order if a coupling is required.

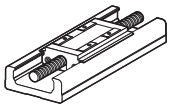
When selecting "1," "R4," "R5," or "R6":
The specified motor will be installed. Indicate the motor cable direction separately. Select ⑨ Intermediate flange to match the specified motor.

Cover ⑦	Sensors ⑧	Housing A/ Intermediate flange ⑨
1	2	AQ
0: Without cover	0	With direct coupling
1: With cover	1	A0
2: With bellows	2	AN
	6	AP
	7	AQ
	B	AR
	E	AS
	H	20
	L	With motor wrap
	J	WN-05D
	M	WP-08D
		WP-08K
		WQ-08D
		WQ-08K

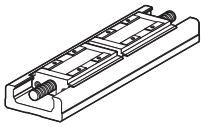
Sensor details
→ p. 37

With direct coupling → p. 39
With motor wrap → p. 41

③ Block Type

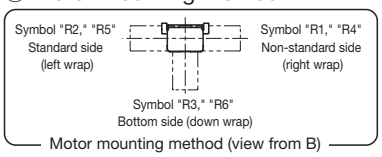


A: 1 block (A type)



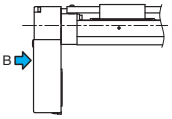
B: 2 blocks (B type)

⑥ Motor Mounting Method



Motor mounting method (view from B)

With motor wrap



Selection Information

Basic Specifications

LM Guide	Basic dynamic load rating C (N)		7,240	
	Basic static load rating C_0 (N)		12,150	
	Radial clearance (mm)	Normal grade/High accuracy grade (H)	-0.004 to +0.002	
		Precision grade (P)	-0.01 to -0.004	
	Geometric moment of inertia	I_X[1] (mm^4)	1.7×10^4	
		I_Y[2] (mm^4)	1.5×10^5	
		Mass (kg/m)	3.9	
Ball screw	Ball screw lead (mm)		2	6
	Basic dynamic load rating Ca (N)	Normal grade/High accuracy grade (H)	2,350	1,950
		Precision grade (P)		2,390
	Basic static load rating C_0a (N)	Normal grade/High accuracy grade (H)	4,020	3,510
		Precision grade (P)		3,900
	Screw shaft diameter (mm)		Ø8	
	Thread minor diameter (mm)		Ø6.6	Ø6.7
	Ball center-to-center diameter (mm)		Ø8.3	Ø8.4
	Permissible rotational speed[3] (min^{-1})	Normal grade/High accuracy grade (H)	6,000	5,900
		Precision grade (P)		6,000
Bearing unit (fixed side)	Axial direction	Basic dynamic load rating Ca (N)	1,380	
		Static permissible load P_0a (N)	1,760	
Permissible input torque (N·m)		Direct coupling	0.62	0.80
		Motor wrap	0.40	
Static permissible moment[4, 5] (N·m)			M_A: 84 (480), M_B: 84 (480) M_C: 208 (416)	
Service life[6] (km)			3,000	5,000
Standard grease/Grease nipple used			THK AFA Grease/PB107	

[1] I_X is the geometric moment of inertia about the X axis.
[2] I_Y is the geometric moment of inertia about the Y axis.
[3] The permissible rotational speed may decrease as the stroke becomes longer.
[4] The value in parentheses is with 2 blocks (B type) attached.
[5] See p. 168 for the values if "1" or "2" is selected for item ⑦ in the Model Number Coding.
[6] Calculated under the following conditions.
Stroke: 160 mm (A type), 95 mm (B type) / Speed: 100 mm/s (for 2 mm lead), 300 mm/s (for 6 mm lead) / Load mass: Maximum load capacity (p. 9) / Acceleration/deceleration: As when set to maximum load capacity (p. 9) / Center of gravity: Center of the table's upper surface.
Note 1: LM Guide load rating is the load rating per block.

Accuracy

Accuracy grade	Item	Stroke[7] 60	110	160	210
Normal grade (no symbol)	Positioning repeatability (mm)	±0.01			
	Positioning accuracy (mm)	Not specified			
	Running parallelism (vertical direction) (mm)	Not specified			
	Backlash (mm)	0.02			
	Starting torque (N·cm)	1.5			

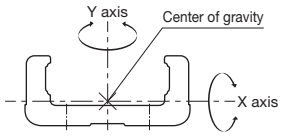
Accuracy grade	Item	Stroke[7] 60	110	160	210
High accuracy grade (H)	Positioning repeatability (mm)	±0.005			
	Positioning accuracy (mm)	0.06			
	Running parallelism (vertical direction) (mm)	0.025			
	Backlash (mm)	0.01			
	Starting torque (N·cm)	1.5			

Accuracy grade	Item	Stroke[7] 60	110	160	210
Precision grade (P)	Positioning repeatability (mm)	±0.003			
	Positioning accuracy (mm)	0.02			
	Running parallelism (vertical direction) (mm)	0.01			
	Backlash (mm)	0.003			
	Starting torque (N·cm)	4			

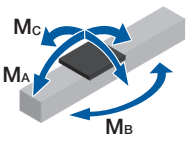
[7] Stroke with 1 block (A type).

Notes: 2. Precision evaluation in accordance with THK standards.
3. Measured using a motor for inspection. With motor wrap specifications, measurements are not made in the completed motor wrap state.
4. The starting torque represents the value when containing THK AFA Grease.
5. The starting torque may exceed standards if using vacuum grease, clean room grease, or other high-viscosity greases, so care should be taken when selecting a motor.
6. Contact THK for accuracy higher than the standard stroke.

Geometric Moment of Inertia



Static Permissible Moment



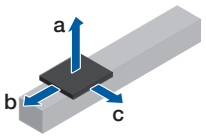
Motor Selection Information

Stroke[1] (mm)	Outer rail length (mm)	LM Guide				Ball screw		Motor mounting part	
		Moving part mass (kg)			Sliding resistance value[2] (N)	Lead (mm)	Shaft length (mm)	Direct coupling	Motor wrap
		Block mass	Sub-table mass	Total mass				Shaft end diameter (mm)	Timing pulley (sum of two) Inertial moment x 10^{-4} (kg·m²)
60 to 210	150 to 300	A type: 0.19 B type: 0.38	A type: 0.09 B type: 0.18	A type: 0.28 B type: 0.56	1.4	2, 6	190 to 340	Ø5h7	0.013

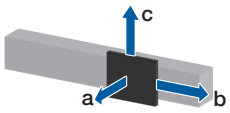
[1] Stroke with 1 block (A type).
[2] Value with 1 block (A type). This value is the sum of the rolling resistance value and seal resistance value.
Note: Refer to p. 39 for applicable couplings.

Permissible Overhang Length[3]

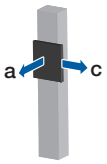
Horizontal



Wall-Mounted



Vertical



Estimated motor capacity 50 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	A type	2	6.5	500	120	170
			13.5	270	60	80
			27.5	120	20	40
		6	6.5	500	100	170
			13.5	270	40	80
			27.5	120	20	40
	B type	2	9.5	500	500	230
			19	500	240	110
			38.5	470	110	50
		6	9.5	500	430	230
			19	500	200	110
			38.5	470	90	50
Motor wrap	A type	2	6.5	500	120	170
			13.5	270	60	80
			27.5	120	20	40
		6	6.5	500	100	170
			13.5	270	40	80
			27.5	120	20	40
	B type	2	9.5	500	500	230
			19	500	240	110
			38.5	470	110	50
		6	9.5	500	430	230
			19	500	200	110
			38.5	470	90	50

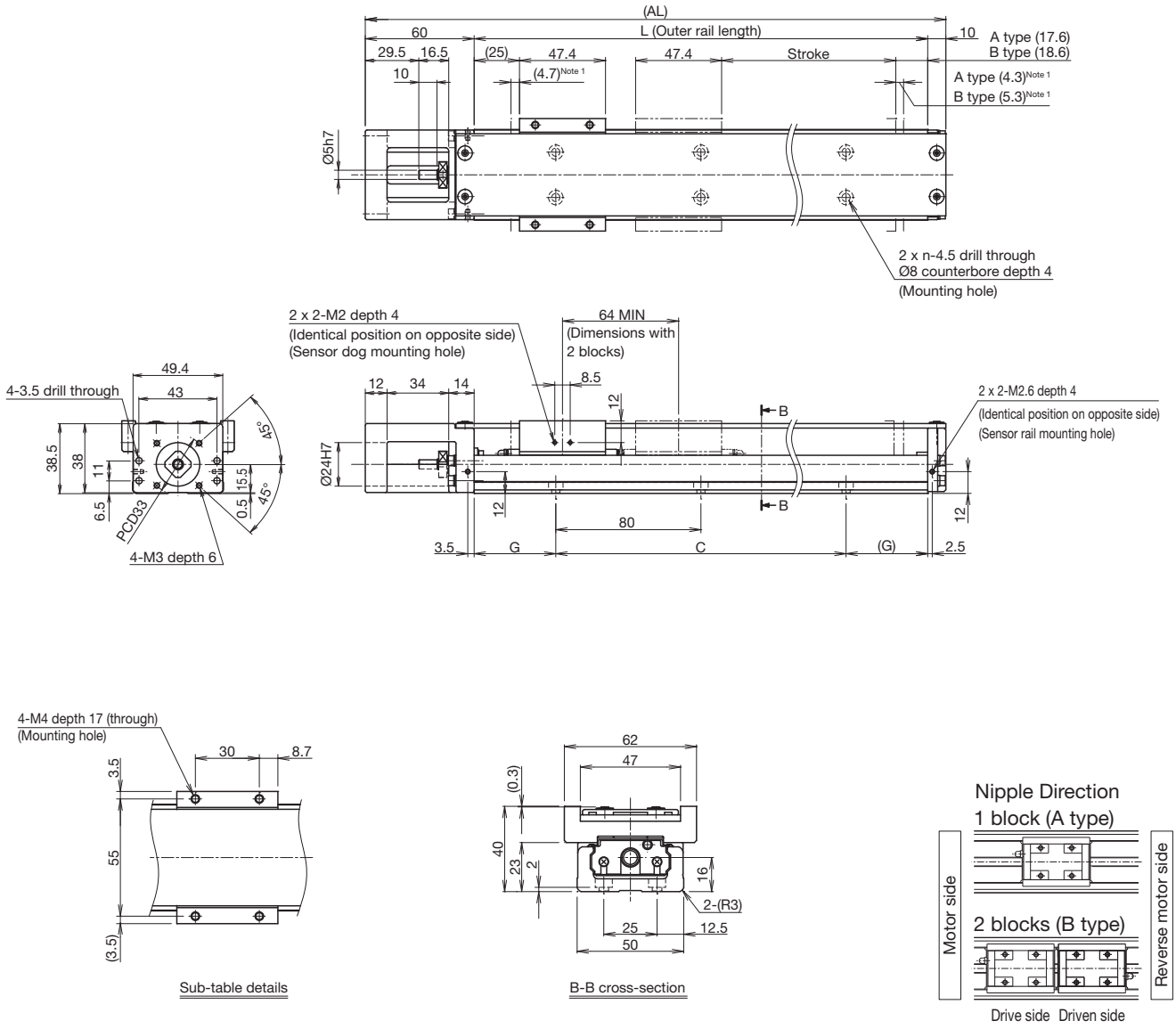
Estimated motor capacity 50 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	A type	2	5.5	170	110	390
			11	70	50	190
			22	20	20	90
		6	4.5	220	140	480
			9	90	60	240
			18.5	30	20	110
	B type	2	7.5	270	240	500
			15.5	110	110	390
			31	40	50	190
		6	7.5	270	240	500
			15.5	110	110	390
			31	40	50	190
Motor wrap	A type	2	5.5	170	110	390
			11	70	50	190
			22	20	20	90
		6	4.5	220	140	480
			9	90	60	240
			18.5	30	20	110
	B type	2	7.5	270	240	500
			15.5	110	110	390
			31	40	50	190
		6	7.5	270	240	500
			15.5	110	110	390
			31	40	50	190

Estimated motor capacity 50 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	c (mm)
Direct coupling	A type	2	2	350	250
			4.5	160	110
			9.5	70	50
		6	1.5	400	330
			3.5	180	140
			7	80	70
	B type	2	2	500	500
			4.5	500	310
			9.5	440	140
		6	2	500	500
			4.5	500	310
			9.5	410	140
Motor wrap	A type	2	1.5	500	330
			3	250	160
			6.5	110	70
		6	1.5	400	330
			3.5	180	140
			7	80	70
	B type	2	1.5	500	500
			3.5	500	390
			7.5	500	180
		6	2	500	500
			4.5	500	310
			9.5	410	140

[3] This is the value with the service life of the LM Guide limited to 5,000 km (3,000 km for 2 mm lead only). The calculation conditions are as follows.
Stroke: 135 mm (A type), 95 mm (B type) / Acceleration/deceleration: 0.3 G / Speed: 100 mm/s (for 2 mm lead), 300 mm/s (for 6 mm lead) / Overhang direction: Loaded only in a single direction.
Dimensions a, b, and c are from the center of the table's upper surface.

With Cover
Direct Motor Coupling

Dimensions



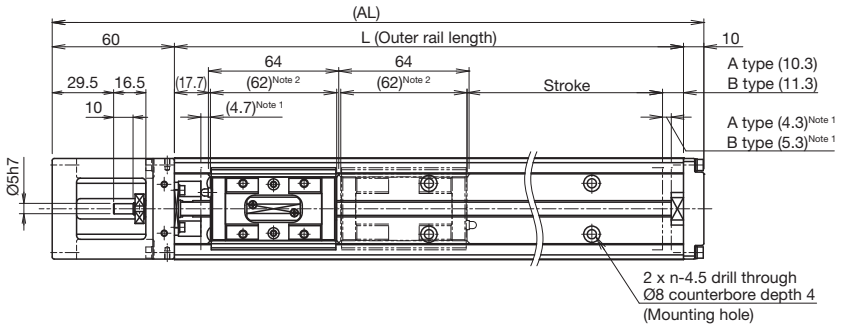
[1] Dimensions from the mechanical stopper to the stroke start position.

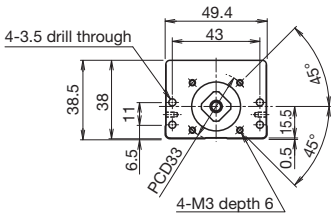
Stroke (mm) (Stroke between mechanical stoppers)	A type		60 (69)	110 (119)	160 (169)	210 (219)
	B type[2]		-	45 (55)	95 (105)	145 (155)
Maximum speed[3] (mm/s)	Ball screw lead: 2 mm		200			
	Ball screw lead: 6 mm	Normal grade/High accuracy grade	590			
		Precision grade	600			
Dimensions (mm)	AL		220	270	320	370
	L		150	200	250	300
	C		80	160	160	240
	G		35	20	45	30
No. of mounting holes	n		2	3	3	4
Mass[4] (kg)			1.2	1.42	1.65	1.87

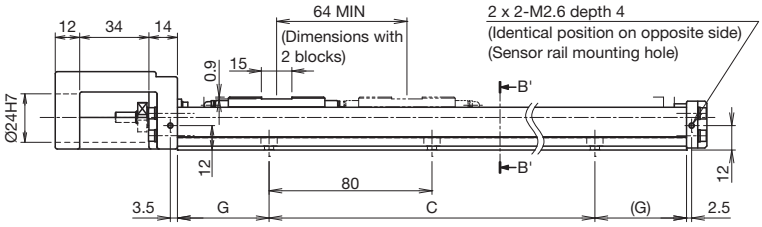
[2] The value with 2 blocks (B type) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 blocks (B type) has 0.28 kg added.

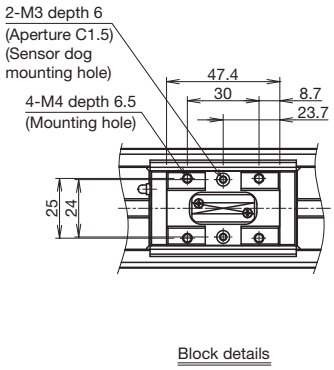
Without Cover
Direct Motor Coupling

Dimensions

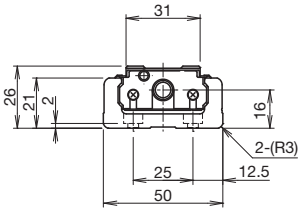




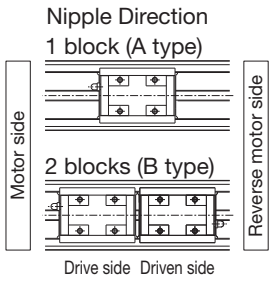




Block details



B'-B' cross-section



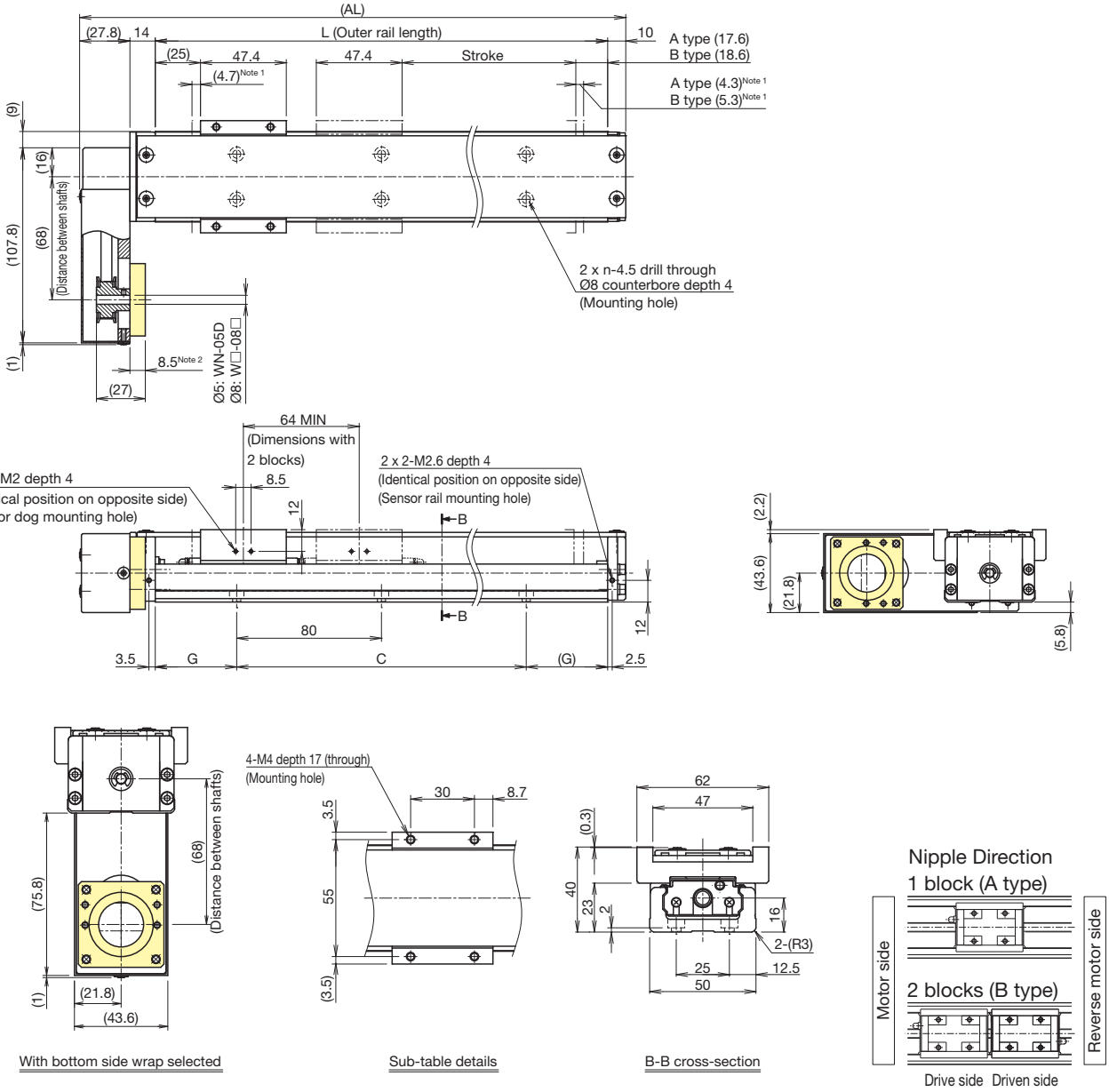
[1] Dimensions from the mechanical stopper to the stroke start position.
[2] Shows the block length when calculating the enabled stroke range.
126 mm (2 blocks total) for KR26 with 2 blocks (B type).

Stroke (mm) (Stroke between mechanical stoppers)	A type		60 (69)	110 (119)	160 (169)	210 (219)
	B type[3]		-	45 (55)	95 (105)	145 (155)
Maximum speed[4] (mm/s)	Ball screw lead: 2 mm		200			
	Ball screw lead: 6 mm	Normal grade/High accuracy grade	590			
		Precision grade	600			
Dimensions (mm)	AL		220	270	320	370
	L		150	200	250	300
	C		80	160	160	240
	G		35	20	45	30
No. of mounting holes	n		2	3	3	4
Mass[5] (kg)			1.04	1.25	1.46	1.67

[3] The value with 2 blocks (B type) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 blocks (B type) has 0.19 kg added.

With Cover
Motor Wrap

Dimensions



With bottom side wrap selected　　Sub-table details　　B-B cross-section

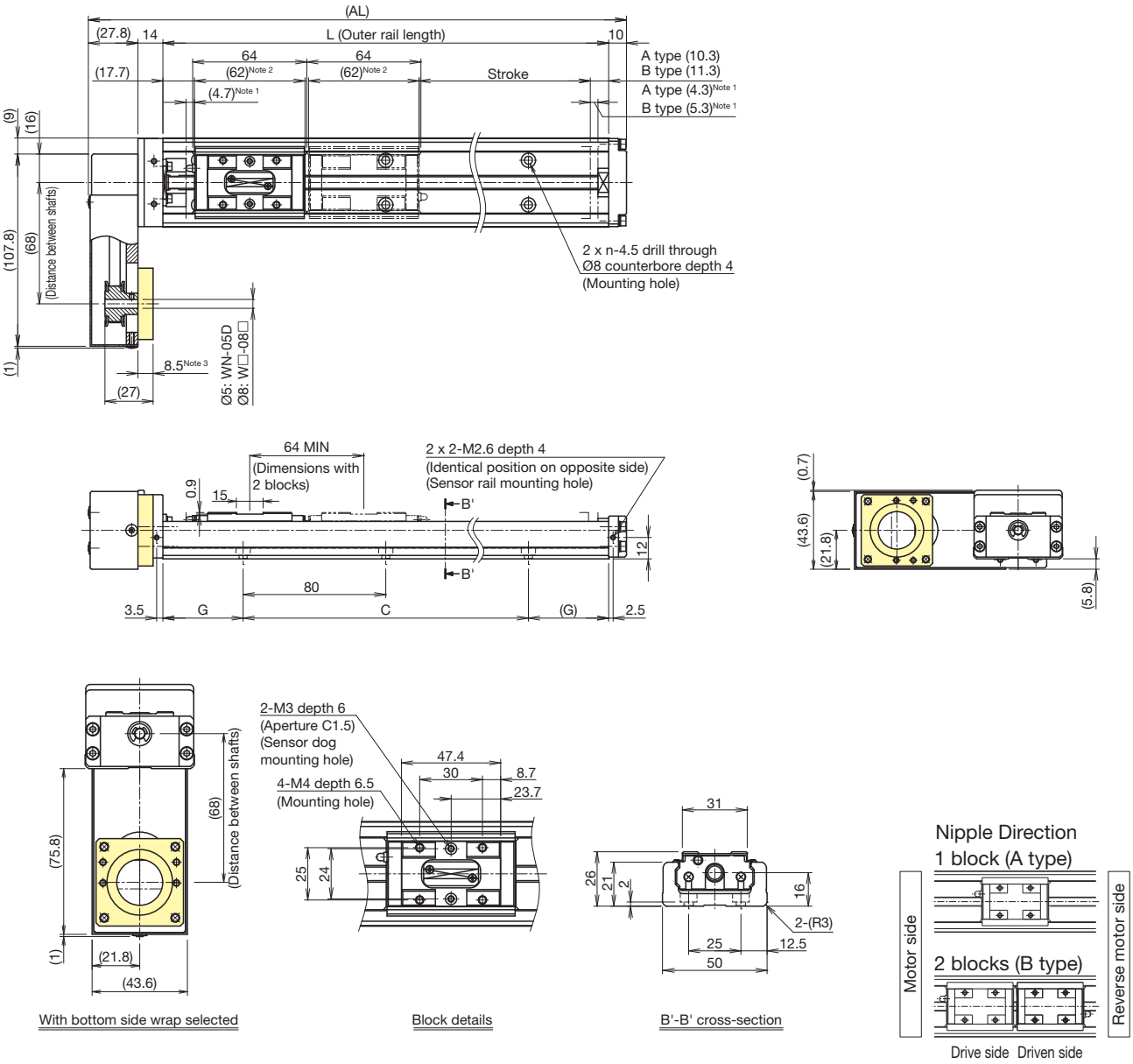
[1] Dimensions from the mechanical stopper to the stroke start position.
[2] This dimension will be different if "WN" was selected for ⑨ Housing A/ Intermediate flange in the model number coding. See p. 42 for details.

Stroke (mm) (Stroke between mechanical stoppers)	A type		60 (69)	110 (119)	160 (169)	210 (219)
	B type[2]		-	45 (55)	95 (105)	145 (155)
Maximum speed[3] (mm/s)	Ball screw lead: 2 mm		200			
	Ball screw lead: 6 mm	Normal grade/High accuracy grade	590			
		Precision grade	600			
Dimensions (mm)	AL		201.8	251.8	301.8	351.8
	L		150	200	250	300
	C		80	160	160	240
	G		35	20	45	30
No. of mounting holes	n		2	3	3	4
Mass[4] (kg)			1.43	1.65	1.87	2.1

[2] The value with 2 blocks (B type) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 blocks (B type) has 0.28 kg added.

Without Cover
Motor Wrap

Dimensions



With bottom side wrap selected

Block details

B'-B' cross-section

[1] Dimensions from the mechanical stopper to the stroke start position.
[2] Shows the block length when calculating the enabled stroke range. 126 mm (2 blocks total) for KR26 with 2 blocks (B type).
[3] This dimension will be different if "WN" was selected for ⑨ Housing A/ Intermediate flange in the model number coding. See p. 42 for details.

Stroke (mm) (Stroke between mechanical stoppers)	A type		60 (69)	110 (119)	160 (169)	210 (219)
	B type[3]		-	45 (55)	95 (105)	145 (155)
Maximum speed[4] (mm/s)	Ball screw lead: 2 mm		200			
	Ball screw lead: 6 mm	Normal grade/High accuracy grade	590			
		Precision grade	600			
Dimensions (mm)	AL		201.8	251.8	301.8	351.8
	L		150	200	250	300
	C		80	160	160	240
	G		35	20	45	30
No. of mounting holes	n		2	3	3	4
Mass[5] (kg)			1.26	1.47	1.69	1.9

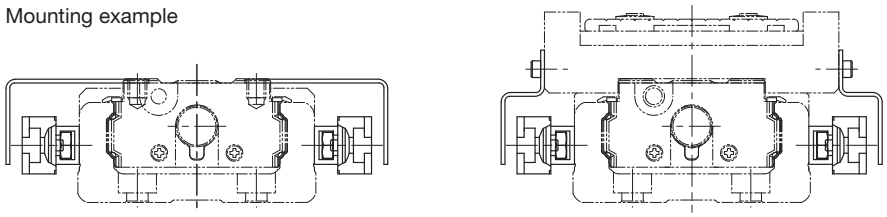
[3] The value with 2 blocks (B type) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 blocks (B type) has 0.19 kg added.

Options

Sensors

Optional photo sensors and proximity sensors are available. Sensor-equipped models also feature a dedicated sensor rail and sensor dog.
Sensors, sensor rails, and sensor dogs can be mounted on both sides when the stroke is less than 70 mm.

Mounting example

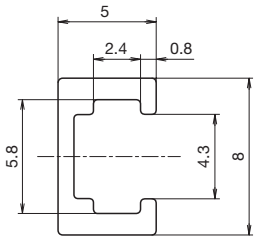


Symbol	Description	Model	Accessories
0	None	-	-
1	With sensor rail	-	Mounting screws, sensor rail (x1 or 2)
2	Photo sensor[1] (x3)	EE-SX671 (OMRON Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2), mounting plates (x3), connectors (EE-1001 x3)
6	Photo sensor[1] (x3)	EE-SX674 (OMRON Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2), mounting plates (x3), connectors (EE-1001 x3)
7	Proximity sensor N.O. contact[2] (x3)	APM-D3A1-001 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
B	Proximity sensor N.C. contact[3] (x3)	APM-D3B1-003 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
E	Proximity sensor N.O. contact[2] (x1) N.C. contact[3] (x2)	APM-D3A1-001 (Azbil Corporation) APM-D3B1-003 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
H	Proximity sensor N.O. contact[2] (x3)	GX-F12A (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
L	Proximity sensor N.C. contact[3] (x3)	GX-F12B (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
J	Proximity sensor N.O. contact[2] (x1) N.C. contact[3] (x2)	GX-F12A (Panasonic Industry Co., Ltd.) GX-F12B (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
M	Proximity sensor N.O. contact[2] (x1) (PNP output) N.C. contact[3] (x2) (PNP output)	GX-F12A-P (Panasonic Industry Co., Ltd.) GX-F12B-P (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)

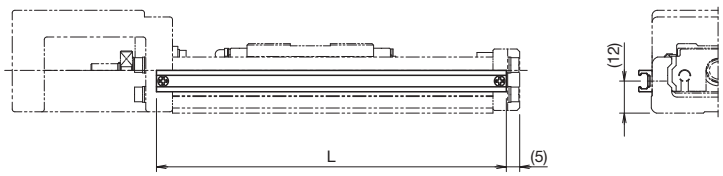
[1] The photo sensors can be switched between ON when lit and ON when unlit.
[2] N.O. contact: Normally open contact point
[3] N.C. contact: Normally closed contact point
Notes: 1. If proximity sensors are close to one another, they may not function properly. If that happens, please prepare a type with a different frequency.
2. Mounting of sensors other than those in the table above is possible. Contact THK for details.

Sensor Rail Mounting Dimensions

Mounting only a sensor rail is also possible.



Sensor rail details



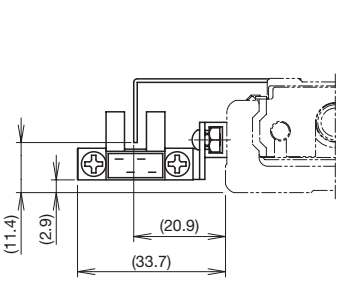
Stroke[4] (mm)	Outer rail length (mm)	L (mm)
60	150	161
110	200	211
160	250	261
210	300	311

[4] Stroke with 1 block (A type).

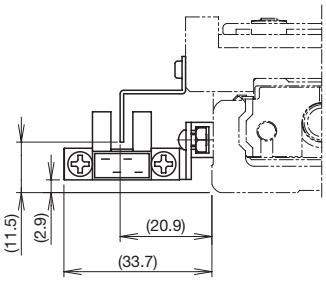
Photo Sensor Mounting Dimensions

Connector: EE-1001 (OMRON Corporation) x3 included.
To be mounted by the customer.

Without cover



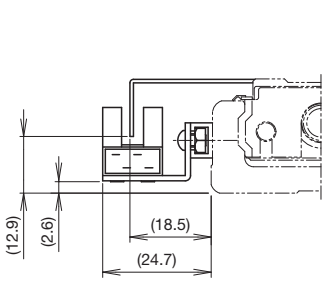
With cover



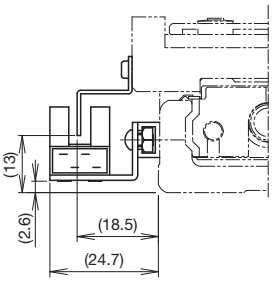
Symbol	Model	Manufacturer
2	EE-SX671	OMRON Corporation

Sensor dog width: 15 mm

Without cover



With cover

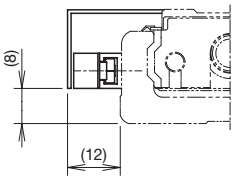


Symbol	Model	Manufacturer
6	EE-SX674	OMRON Corporation

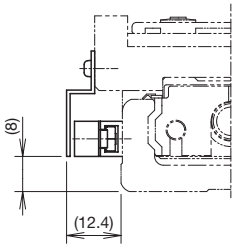
Sensor dog width: 15 mm

Proximity Sensor Mounting Dimensions

Without cover



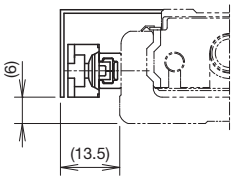
With cover



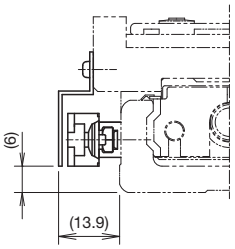
Symbol	Model	Manufacturer
7, B, E	APM-D3A1-001	Azbil Corporation
	APM-D3B1-003	

Sensor dog width: 15 mm

Without cover



With cover



Symbol	Model	Manufacturer
H, L, J	GX-F12A	Panasonic Industry Co., Ltd.
	GX-F12B	
M	GX-F12A-P	
	GX-F12B-P	

Sensor dog width: 15 mm

Options

Intermediate Flange (Direct Coupling)

Several types of intermediate flanges for mounting motors are available.
When selecting "0" or "1" for Model Number Coding ⑥ With/without motor, specify an intermediate flange that matches the motor used.

Compatibility Table: Motors Used, Intermediate Flanges, and Couplings

Motor type	Manufacturer	Series		Motor model	Motor rated output (W)	Flange size	Housing A/ Intermediate flange	Compatible coupling models	
								MIKI PULLEY CO., LTD.	Nabeya Bi-tech Kaisha (NBK)
AC servo motor	YASKAWA Electric Corporation	Σ-Vmini		SGMMV-A1	10	25×25	AN	SFC-010DA2-5B-5B-L37	XGL2-15C-5-5
				SGMMV-A2	20				
				SGMMV-A3	30				
		Σ-V		SGMJV-A5	50	40×40	AQ	SFC-010DA2-5B-8B-L32	XGT2-19C-5-8
				SGMAV-A5					
		Σ-7		SGM7J-A5	50	40×40	AQ	SFC-010DA2-5B-8B-L32	XGT2-19C-5-8
				SGM7A-A5					
		Σ-X		SGMXJ-A5	50	40×40	AQ	SFC–010DA2–5B–8B–L32	XGT2–19C–5–8
				SGMXA-A5					
	Mitsubishi Electric Corporation	MELSERVO	J4	HG-AK0136	10	25×25	AN	SFC-010DA2-5B-5B-L37	XGL2-15C-5-5
				HG-AK0236	20				
				HG-AK0336	30				
				HG-KR053	50	40×40	AQ	SFC-010DA2-5B-8B-L32	XGT2-19C-5-8
				HG-MR053					
			J5	HK-KT053W	50	40×40	AQ	SFC–010DA2–5B–8B–L32	XGT2–19C–5–8
			JN	HF-KN053	50	40×40	AQ	SFC-010DA2-5B-8B-L32	XGT2-19C-5-8
	TAMAGAWA SEIKI CO., LTD.	TBL-iII		TS4602	50	40×40	AQ	SFC-010DA2-5B-8B-L32	XGT2-19C-5-8
		TBL-iIV		TSM3102					
	Panasonic Corporation	MINAS	A5	MSMD5A	50	38×38	AP	SFC-010DA2-5B-8B-L32	XGT2-19C-5-8
				MSME5A					
			A6	MSMF5A	50	38×38	AP	SFC-010DA2-5B-8B-L32	XGT2-19C-5-8
				MHMF5A		40×40	AQ	SFC-010DA2-5B-8B-L32	XGT2-19C-5-8
	KEYENCE CORPORATION	SV		SV-M005	50	40×40	AQ	SFC-010DA2-5B-8B-L32	XGT2-19C-5-8
		SV2		SV2-M005					
	SANYO DENKI CO., LTD.	SANMOTION R		R2□A04005	50	40×40	AQ	SFC-010DA2-5B-8B-L32	XGT2-19C-5-8
	OMRON Corporation	OMNUC G5		R88M-K05030	50	40×40	AQ	SFC-010DA2-5B-8B-L32	XGT2-19C-5-8
	FANUC CORPORATION	βis Series		βis0.2/5000	50	40×40	AQ	SFC-010DA2-5B-8B-L32	XGT2-19C-5-8

Motor type	Manufacturer	Series		Motor model	Flange size	Housing A/ Intermediate flange	Compatible coupling models	
							MIKI PULLEY CO., LTD.	Nabeya Bi-tech Kaisha (NBK)
Stepper motor	ORIENTAL MOTOR CO., LTD.	α step		AZ2*, AR2*	28×28	AS	SFC-010DA2-5B-5B-L39	XGL2-15C-5-5
				AZ4*, AR4* (excluding AZM48)	42×42	AR	SFC-010DA2-5B-6B-L37	XGL2-15C-5-6
				AZM48	42×42	AR	SFC-010DA2-5B-8B-L32	XGT2-19C-5-8
		5-phase	CRK	CRK52*	28×28	AS	SFC-010DA2-5B-5B-L39	XGL2-15C-5-5
				CRK54*	42×42	AR	SFC-010DA2-5B-5B-L37	XGL2-15C-5-5
			RK II	RKS54*	42×42	AR	SFC-010DA2-5B-6B-L37	XGL2-15C-5-6
			PKP	PKP52*	28×28	AS	SFC-010DA2-5B-5B-L39	XGL2-15C-5-5
				PKP54*	42×42	AR	SFC-010DA2-5B-5B-L37	XGL2-15C-5-5
		2-phase	PKP/CVD	PKP22*	28×28	AS	SFC-010DA2-5B-5B-L39	XGL2-15C-5-5
				PKP24*	42×42	AR	SFC-010DA2-5B-5B-L37	XGL2-15C-5-5
	KEYENCE CORPORATION	2-phase		QS-M28	28×28	AS	SFC-010DA2-5B-5B-L39	XGL2-15C-5-5
				QS-M42	42×42	AR	SFC-010DA2-5B-5B-L37	XGL2-15C-5-5
	SANYO DENKI CO., LTD.	PB		PBDM28*	28×28	AS	SFC-010DA2-5B-5B-L39	XGL2-15C-5-5
				PBDM423, PBA**423	42×42	AR	SFC-010DA2-5B-6B-L37	XGL2-15C-5-6
		5-phase		FAF/FDF52*	28×28	AS	SFC-010DA2-5B-5B-L39	XGL2-15C-5-5
				FAF54*/FDF54*/ FA511M42/FB511M42	42×42	AR	SFC-010DA2-5B-6B-L37	XGL2-15C-5-6
		2-phase		D*14S28*	28×28	AS	SFC-010DA2-5B-5B-L39	XGL2-15C-5-5
				DB14H52*	42×42	AR	SFC-010DA2-5B-5B-L37	XGT2-15C-5-5
				DU15H52*				

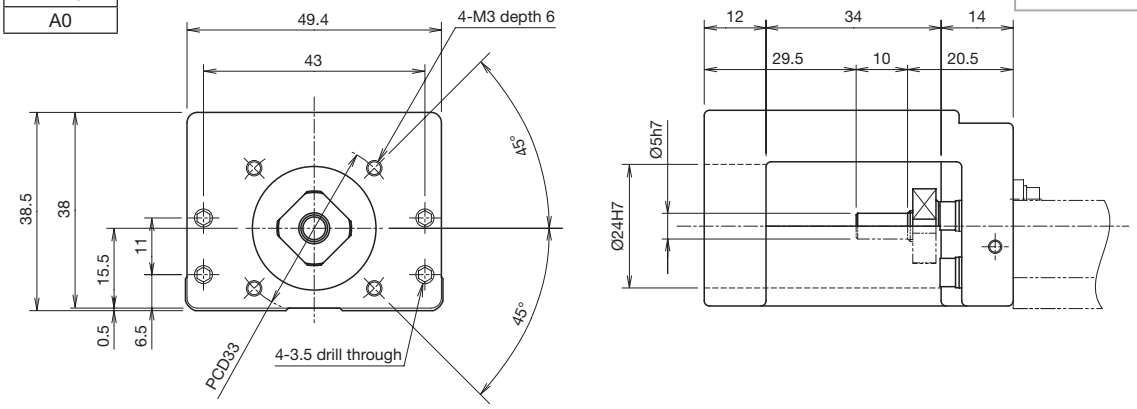
Notes: 1. The table shows only a portion of the model numbers for motors. For details regarding model numbers, please see the catalog for each respective motor manufacturer.
2. If the maximum torque for motors exceeds the permissible input torque (p. 31), please consider a safety measure to limit the torque.
3. When installing a motor other than the motor model numbers listed above, contact THK.

Housing A

KR**
●◇

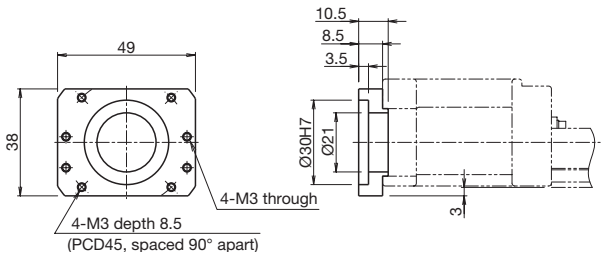
Actuator model
●: Housing A
◇: Intermediate flange

KR26
A0

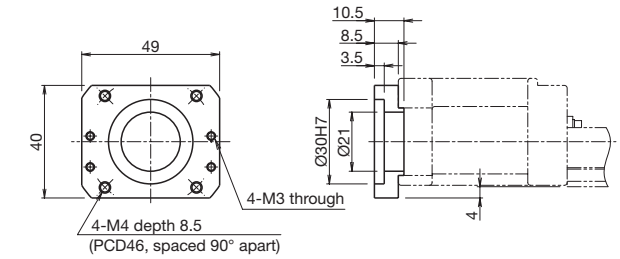


Intermediate Flange

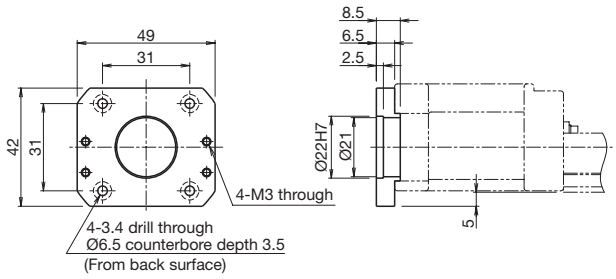
KR26
AP



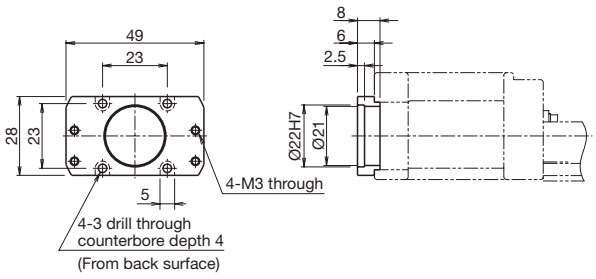
KR26
AQ



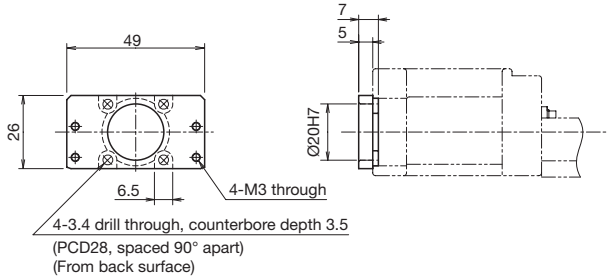
KR26
AR



KR26
AS



KR26
AN



Options

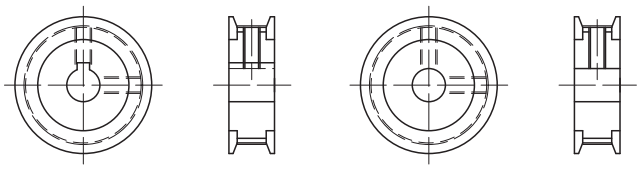
Intermediate Flange (Motor Wrap)

Several types of intermediate flanges for mounting motors are available.
When selecting "R1," "R2," "R3," "R4," "R5," or "R6" for Model Number Coding ⑥ With/without motor, specify an intermediate flange that matches the motor used.

Symbol Coding

Motor wrap symbol ①	Intermediate flange ②		Motor shaft diameter (mm) ③	Motor shaft securing method ④
W	Q	-	08	D
W	Refer to the Compatibility Table: Motors Used and Motor Wrap Symbols below.		Specify a motor shaft diameter. (Refer to the Compatibility Table: Motors Used and Motor Wrap Symbols below.)	K: Key D: D-cut

Motor Shaft Securing Method



Key　　D-cut

Compatibility Table: Motors Used and Motor Wrap Symbols

Motor type	Manufacturer	Series		Motor model	Motor rated output (W)	Flange size	Housing A/Intermediate flange
AC servo motor	YASKAWA Electric Corporation	Σ-Vmini		SGMMV-A1	10	25×25	WN-05D
				SGMMV-A2	20		
				SGMMV-A3	30		
		Σ-V		SGMJV-A5	50	40×40	WQ-08K
				SGMAV-A5			
		Σ-7		SGM7J-A5	50	40×40	WQ-08K
				SGM7A-A5			
		Σ–X		SGMXJ-A5	50	40×40	WQ–08K
				SGMXA-A5			
	Mitsubishi Electric Corporation	MELSERVO	J4	HG-AK0136	10	25×25	WN-05D
				HG-AK0236	20		
				HG-AK0336	30		
				HG-KR053	50	40×40	WQ-08D
				HG-MR053			
			J5	HK-KT053W	50	40×40	WQ–08D
			JN	HF-KN053	50	40×40	WQ-08D
	TAMAGAWA SEIKI CO., LTD.	TBL-iII		TS4602	50	40×40	WQ-08D
		TBL-iIV		TSM3102			
	Panasonic Corporation	MINAS	A5	MSMD5A	50	38×38	WP-08D, WP-08K
				MSME5A			
			A6	MSMF5A	50	38×38	WP-08K
				MHMF5A		40×40	WQ-08K
	KEYENCE CORPORATION	SV		SV-M005	50	40×40	WQ-08K
		SV2		SV2-M005			
	SANYO DENKI CO., LTD.	SANMOTION R		R2□A04005	50	40×40	WQ-08K
	OMRON Corporation	OMNUC G5		R88M-K05030	50	40×40	WQ-08K
	FANUC CORPORATION	βis Series		βis0.2/5000	50	40×40	WQ-08K

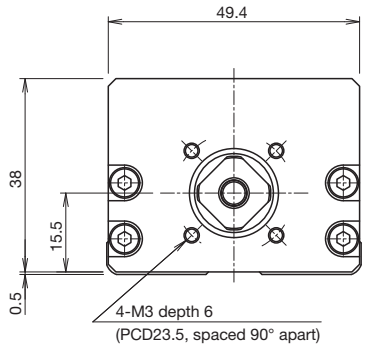
Notes: 1. The table shows only a portion of the model numbers for motors. For details regarding model numbers, please see the catalog for each respective motor manufacturer.
2. If the maximum torque for motors exceeds the permissible input torque (p. 31), please consider a safety measure to limit the torque.
3. When installing a motor other than the motor model numbers listed above, contact THK.

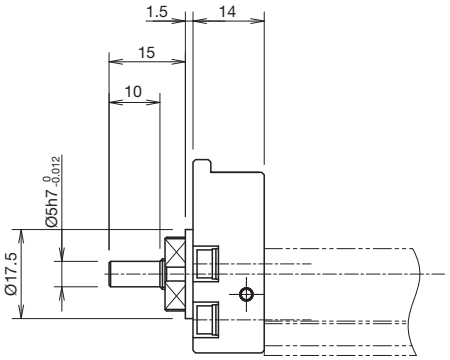
Motor Wrap Housing A

KR**
●◇

Actuator model
●: Housing A
◇: Intermediate flange

KR26
20





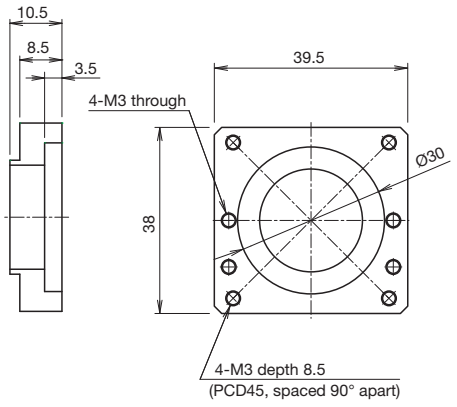
Note: The shaft end must be considered separately with motor wrap types. Contact THK for details.

Motor Wrap Specification (Intermediate Flange)

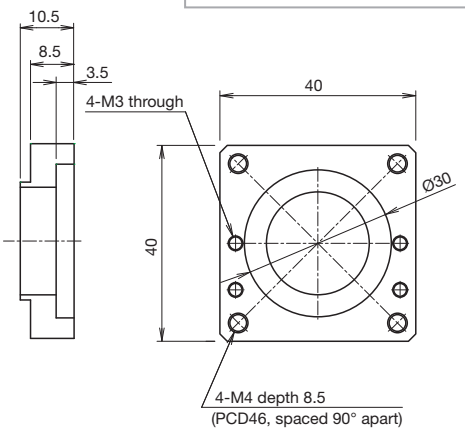
KR**
W□

Actuator model
□: Intermediate flange

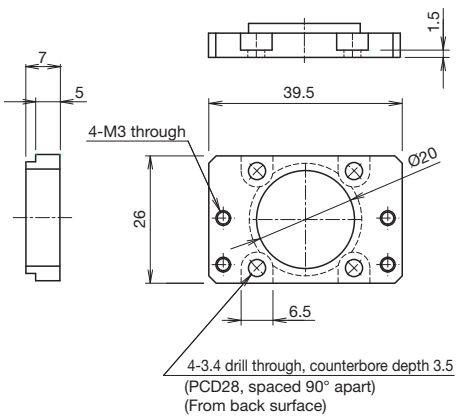
KR26
WP



KR26
WQ



KR26
WN



KR30H A/B

Direct motor coupling | Motor wrap | Width 60 mm | Height 30 mm | Max. stroke 500 mm

Model Number Coding

Model ①	Ball screw lead ②	Block type ③	Stroke ④	Accuracy grade ⑤	With/without motor ⑥	Cover ⑦	Sensors ⑧	Housing A/ Intermediate flange ⑨
KR30H	06	A	0050	P	0	1	2	AQ
KR30H	05: 5 mm	A: x1	0050: 50 mm	No symbol: Normal grade	With direct coupling	0: Without cover	0	With direct coupling
	06: 6 mm	B: x2	to	H: High accuracy grade	0: Direct coupling (without motor)	1: With cover	1	A0
	10: 10 mm		0500: 500 mm	P: Precision grade	1: Direct coupling (THK will purchase and mount the motor you specify.)	2: With bellows	2	AP
					With motor wrap		6	AQ
					R1: Non-standard side wrap (without motor)		7	AR
					R2: Standard side wrap (without motor)		B	AT
					R3: Bottom side wrap (without motor)		E	AU
					R4: Non-standard side wrap (THK will purchase and mount the motor you specify.)		H	40
					R5: Standard side wrap (THK will purchase and mount the motor you specify.)		L	With motor wrap
					R6: Bottom side wrap (THK will purchase and mount the motor you specify.)		J	WP-08D
							M	WP-08K
								WP-08M
								WQ-08D
								WQ-08K
								WQ-08M

When selecting 2: With bellows for ⑦ Cover, specify the stroke with bellows.
→ p. 165 to p. 166

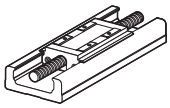
When selecting "0":
A coupling is not provided. Indicate when placing an order if a coupling is required.

When selecting "1," "R4," "R5," or "R6":
The specified motor will be installed. Indicate the motor cable direction separately. Select ⑨ Intermediate flange to match the specified motor.

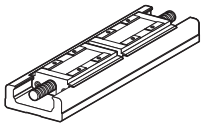
Sensor details
→ p. 55

With direct coupling → p. 57
With motor wrap → p. 59

③ Block Type

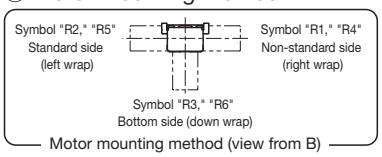


A: 1 block (A type)



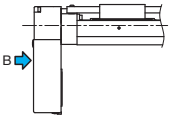
B: 2 blocks (B type)

⑥ Motor Mounting Method



Motor mounting method (view from B)

With motor wrap



Selection Information

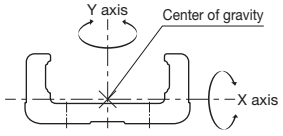
Basic Specifications

LM Guide	Basic dynamic load rating C (N)		11,600		
	Basic static load rating C_0 (N)		20,200		
	Radial clearance (mm)	Normal grade/High accuracy grade (H)	-0.004 to +0.002		
		Precision grade (P)	-0.012 to -0.004		
	Geometric moment of inertia	I_X[1] (mm^4)	2.7×10^4		
		I_Y[2] (mm^4)	2.8×10^5		
		Mass (kg/m)	5		
Ball screw	Ball screw lead (mm)		5	6	10
	Basic dynamic load rating Ca (N)	Normal grade/High accuracy grade (H)	2,950	2,840	1,760
		Precision grade (P)	1,860	2,250	1,370
	Basic static load rating C_0a (N)	Normal grade/High accuracy grade (H)	5,390	4,900	2,840
		Precision grade (P)	2,690	2,740	1,570
	Screw shaft diameter (mm)		Ø10		
	Thread minor diameter (mm)		Ø7.8		
	Ball center-to-center diameter (mm)		Ø10.5		
	Permissible rotational speed[3] (min^{-1})	Normal grade/High accuracy grade (H)	4,700		
		Precision grade (P)	6,000		
Bearing unit (fixed side)	Axial direction	Basic dynamic load rating Ca (N)	1,790		
		Static permissible load P_0a (N)	2,590		
Permissible input torque (N·m)		Direct coupling	1.2		
		Motor wrap	0.98		
Static permissible moment[4, 5] (N·m)			M_A: 166 (908), M_B: 166 (908), M_C: 428 (857)		
Service life[6] (km)			5,000		10,000
Standard grease/Grease nipple used			THK AFB-LF Grease/PB107		

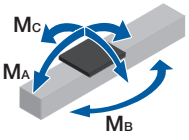
[1] I_X is the geometric moment of inertia about the X axis.
[2] I_Y is the geometric moment of inertia about the Y axis.
[3] The permissible rotational speed may decrease as the stroke becomes longer.
[4] The value in parentheses is with 2 blocks (B type) attached.
[5] See p. 168 for the values if "1" or "2" is selected for item ⑦ in the Model Number Coding.
[6] Calculated under the following conditions.
Stroke: 300 mm (A type), 320 mm (B type) / Speed: 250 mm/s (for 5 mm lead), 300 mm/s (for 6 mm lead), 500 mm/s (for 10 mm lead) / Load mass: Maximum load capacity (p. 9) / Acceleration/deceleration: As when set to maximum load capacity (p. 9) / Center of gravity: Center of the table's upper surface.

Notes: 1. LM Guide load rating is the load rating per block.
2. Precision grade (P-grade) ball screws have integrated spacer balls with a 1:1 ratio.

Geometric Moment of Inertia



Static Permissible Moment



Accuracy

Accuracy grade	Item	Stroke[7] 50	100	200	300	400	500
Normal grade (no symbol)	Positioning repeatability (mm)	±0.01					
	Positioning accuracy (mm)	Not specified					
	Running parallelism (vertical direction) (mm)	Not specified					
	Backlash (mm)	0.02					
	Starting torque (N·cm)	7					

Accuracy grade	Item	Stroke[7] 50	100	200	300	400	500
High accuracy grade (H)	Positioning repeatability (mm)	±0.005					
	Positioning accuracy (mm)	0.06				0.1	
	Running parallelism (vertical direction) (mm)	0.025				0.035	
	Backlash (mm)	0.02					
	Starting torque (N·cm)	7					

Accuracy grade	Item	Stroke[7] 50	100	200	300	400	500
Precision grade (P)	Positioning repeatability (mm)	±0.003					
	Positioning accuracy (mm)	0.02				0.025	
	Running parallelism (vertical direction) (mm)	0.01				0.015	
	Backlash (mm)	0.003					
	Starting torque (N·cm)	15					

[7] Stroke with 1 block (A type).

Notes: 3. Precision evaluation in accordance with THK standards.
4. Measured using a motor for inspection. With motor wrap specifications, measurements are not made in the completed motor wrap state.
5. The starting torque represents the value when containing THK AFB-LF Grease.
6. The starting torque may exceed standards if using vacuum grease, clean room grease, or other high-viscosity greases, so care should be taken when selecting a motor.
7. Contact THK for accuracy higher than the standard stroke.

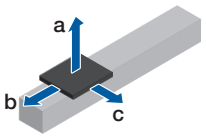
Motor Selection Information

Stroke[1] (mm)	Outer rail length (mm)	LM Guide				Ball screw		Motor mounting part	
		Moving part mass (kg)			Sliding resistance value[2] (N)	Lead (mm)	Shaft length (mm)	Direct coupling	Motor wrap
		Block mass	Sub-table mass	Total mass				Shaft end diameter (mm)	Timing pulley (sum of two) Inertial moment x 10^{-4} (kg·m²)
50 to 500	150 to 600	A type: 0.4 B type: 0.8	A type: 0.2 B type: 0.4	A type: 0.6 B type: 1.2	3.5	5, 6, 10	191 to 641	Ø6h7	0.041

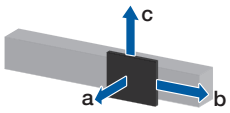
[1] Stroke with 1 block (A type).
[2] Value with 1 block (A type). This value is the sum of the rolling resistance value and seal resistance value.
Note: Refer to p. 57 for applicable couplings.

Permissible Overhang Length[3]

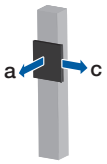
Horizontal



Wall-Mounted



Vertical



Estimated motor capacity 100 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	A type	5	8.5	450	140	200
			17.5	200	60	100
			35	90	30	50
		6	8.5	450	140	200
			17.5	200	60	100
			35	90	30	50
		10	7	550	140	250
			14	260	70	120
			28.5	110	30	60
	B type	5	12	600	600	320
			24.5	600	290	160
			49	600	130	80
		6	12	600	600	320
			24.5	600	290	160
			49	600	130	80
		10	9	600	600	430
			18.5	600	300	210
			37.5	600	140	100
Motor wrap	A type	5	8.5	450	140	200
			17.5	200	60	100
			35	90	30	50
		6	8.5	450	140	200
			17.5	200	60	100
			35	90	30	50
		10	7	550	140	250
			14	260	70	120
			28.5	110	30	60
	B type	5	12	600	600	320
			24.5	600	290	160
			49	600	130	80
		6	12	600	600	320
			24.5	600	290	160
			49	600	130	80
		10	9	600	600	430
			18.5	600	310	210
			37	600	140	100

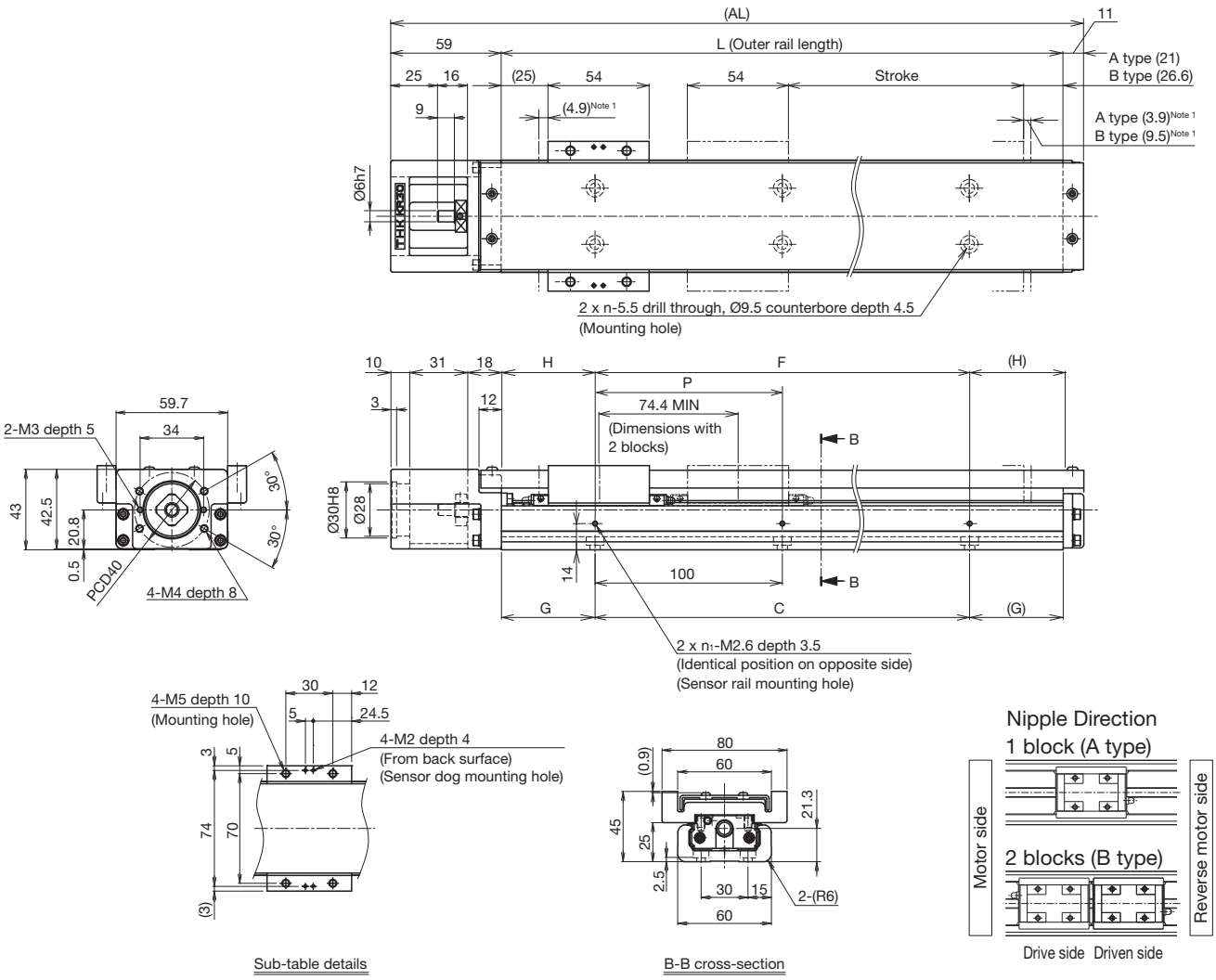
Estimated motor capacity 100 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	A type	5	7	220	150	530
			14	90	60	250
			28	30	20	120
		6	7	220	170	590
			14	90	80	290
			28	30	30	140
		10	5.5	290	170	600
			11.5	120	80	360
			23	40	30	180
	B type	5	9.5	300	290	600
			19.5	130	140	480
			39.5	50	70	240
		6	9.5	380	360	600
			19.5	170	170	580
			39.5	70	80	290
		10	8	460	420	600
			16	210	210	600
			32.5	90	100	350
Motor wrap	A type	5	7	220	170	590
			14	90	80	290
			28	30	30	140
		6	7	220	170	590
			14	90	80	290
			28	30	30	140
		10	5.5	290	170	600
			11.5	120	80	360
			23	40	30	180
	B type	5	9.5	380	360	600
			19.5	170	170	580
			39.5	70	80	290
		6	9.5	380	360	600
			19.5	170	170	580
			39.5	70	80	290
		10	8	460	420	600
			16	210	210	600
			32.5	90	100	350

Estimated motor capacity 100 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	c (mm)
Direct coupling	A type	5	3.5	240	270
			7	100	130
			14.5	40	60
		6	3.5	240	270
			7.5	100	120
			15	30	60
		10	2	440	450
			4.5	180	210
			9	80	90
	B type	5	3.5	600	600
			7	600	370
			14	510	180
		6	3.5	600	600
			7.5	600	350
			15	470	170
		10	3	600	600
			6	600	440
			12.5	450	210
Motor wrap	A type	5	3.5	240	270
			7	100	130
			14	40	60
		6	2.5	340	380
			5.5	140	170
			11.5	50	80
		10	2	440	450
			4.5	180	210
			9	80	90
	B type	5	2.5	600	600
			5	600	520
			10.5	600	250
		6	2.5	600	600
			5.5	600	480
			11.5	600	230
		10	2.5	600	600
			5	600	520
			10	560	260

[3] This is the value with the service life of the LM Guide limited to 5,000 km (for 5 or 6 mm lead) or 10,000 km (for 10 mm lead). The calculation conditions are as follows.
Stroke: 275 mm (A type), 270 mm (B type) / Acceleration/deceleration: 0.3 G / Speed: 250 mm/s (for 5 mm lead), 300 mm/s (for 6 mm lead), 500 mm/s (for 10 mm lead) / Overhang direction: Loaded only in a single direction. Dimensions a, b, and c are from the center of the table's upper surface.

With Cover
Direct Motor Coupling

Dimensions



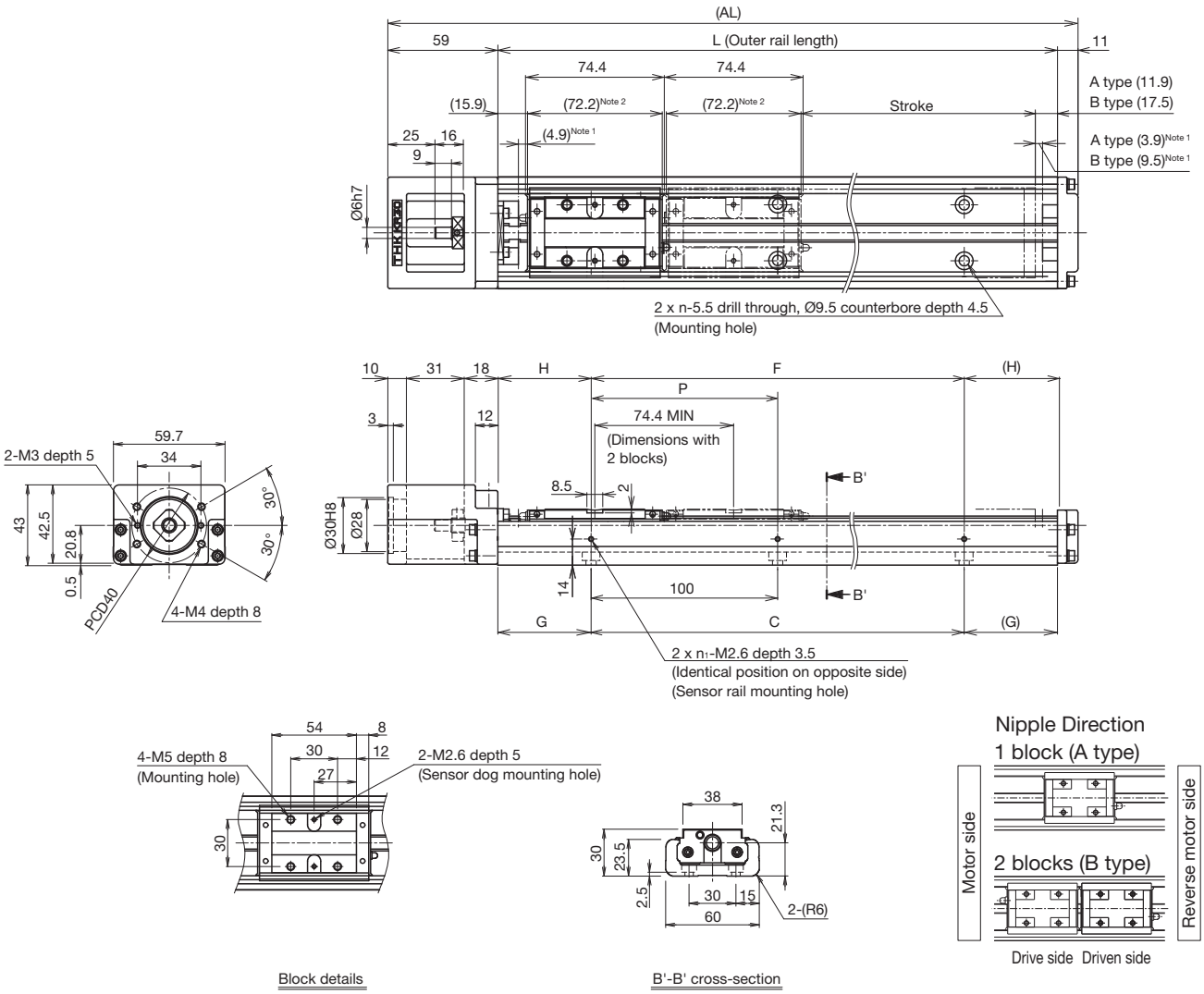
[1] Dimensions from the mechanical stopper to the stroke start position.

Stroke (mm) (Stroke between mechanical stoppers)	A type		50 (58.8)	100 (108.8)	200 (208.8)	300 (308.8)	400 (408.8)	500 (508.8)
	B type[2]		-	-	120 (134.4)	220 (234.4)	320 (334.4)	420 (434.4)
Maximum speed[3] (mm/s)	Ball screw lead: 5 mm	Normal grade/High accuracy grade	390					330
		Precision grade	500					330
	Ball screw lead: 6 mm	Normal grade/High accuracy grade	470					390
		Precision grade	600				590	390
	Ball screw lead: 10 mm	Normal grade/High accuracy grade	790					650
		Precision grade	1,000				980	650
Dimensions (mm)	AL		220	270	370	470	570	670
	L		150	200	300	400	500	600
	C		100	100	200	300	400	500
	G		25	50	50	50	50	50
	P		100	100	200	200	200	200
	F		100	100	200	200	400	400
	H		25	50	50	100	50	100
No. of mounting holes	n		2	2	3	4	5	6
	n_1		2	2	2	2	3	3
Mass[4] (kg)			1.9	2.2	2.8	3.4	4	4.6

[2] The value with 2 blocks (B type) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 blocks (B type) has 0.6 kg added.

Without Cover
Direct Motor Coupling

Dimensions



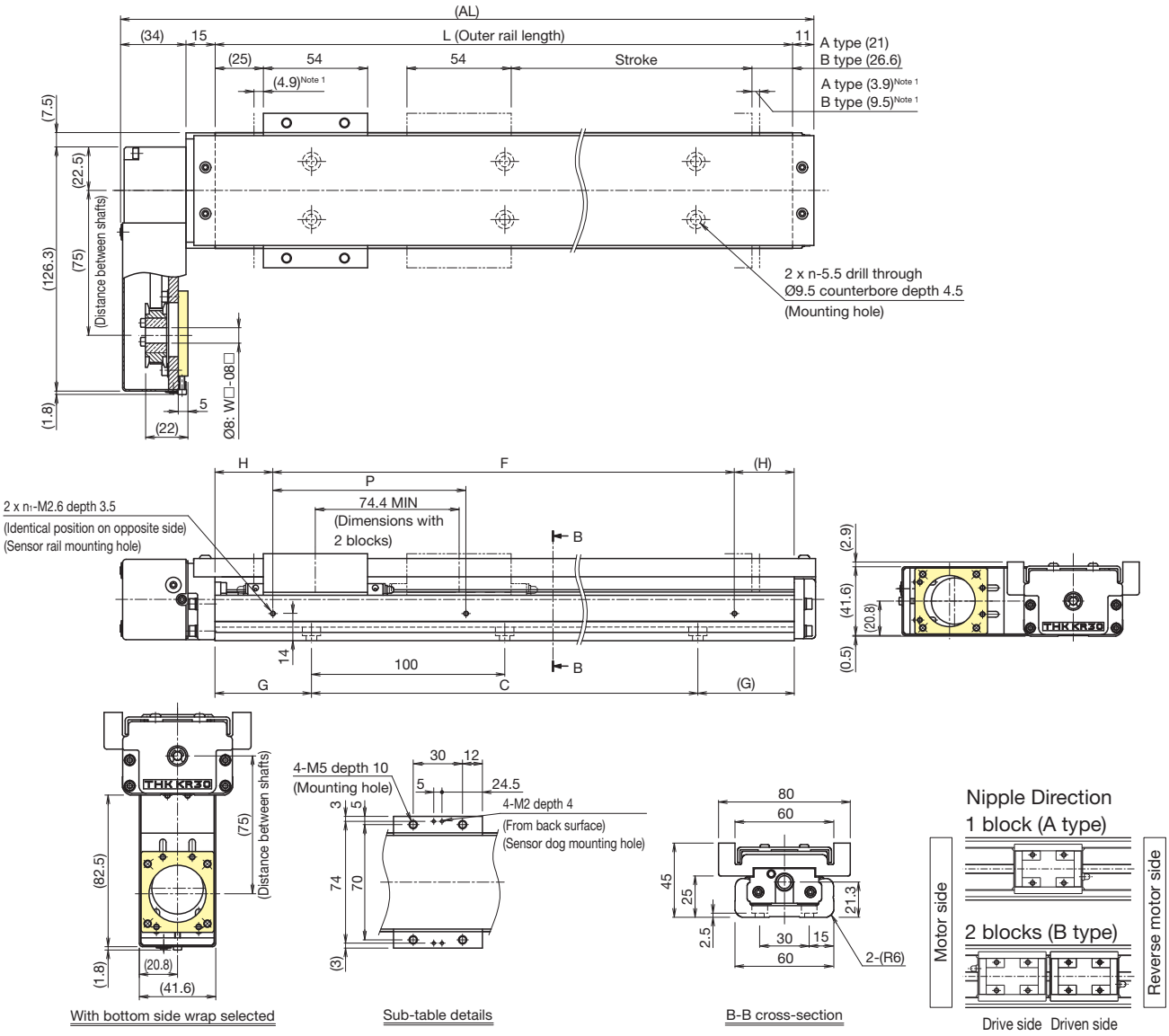
[1] Dimensions from the mechanical stopper to the stroke start position.
[2] Shows the block length when calculating the enabled stroke range.
146.6 mm (2 blocks total) for KR30H with 2 blocks (B type).

Stroke (mm) (Stroke between mechanical stoppers)	A type		50 (58.8)	100 (108.8)	200 (208.8)	300 (308.8)	400 (408.8)	500 (508.8)
	B type[3]		-	-	120 (134.4)	220 (234.4)	320 (334.4)	420 (434.4)
Maximum speed[4] (mm/s)	Ball screw lead: 5 mm	Normal grade/High accuracy grade	390					330
		Precision grade	500					330
	Ball screw lead: 6 mm	Normal grade/High accuracy grade	470					390
		Precision grade	600				590	390
	Ball screw lead: 10 mm	Normal grade/High accuracy grade	790					650
		Precision grade	1,000				980	650
Dimensions (mm)	AL		220	270	370	470	570	670
	L		150	200	300	400	500	600
	C		100	100	200	300	400	500
	G		25	50	50	50	50	50
	P		100	100	200	200	200	200
	F		100	100	200	200	400	400
	H		25	50	50	100	50	100
No. of mounting holes	n		2	2	3	4	5	6
	n_1		2	2	2	2	3	3
Mass[5] (kg)			1.6	1.9	2.5	3	3.6	4.2

[3] The value with 2 blocks (B type) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 blocks (B type) has 0.4 kg added.

With Cover
Motor Wrap

Dimensions



With bottom side wrap selected

Sub-table details

B-B cross-section

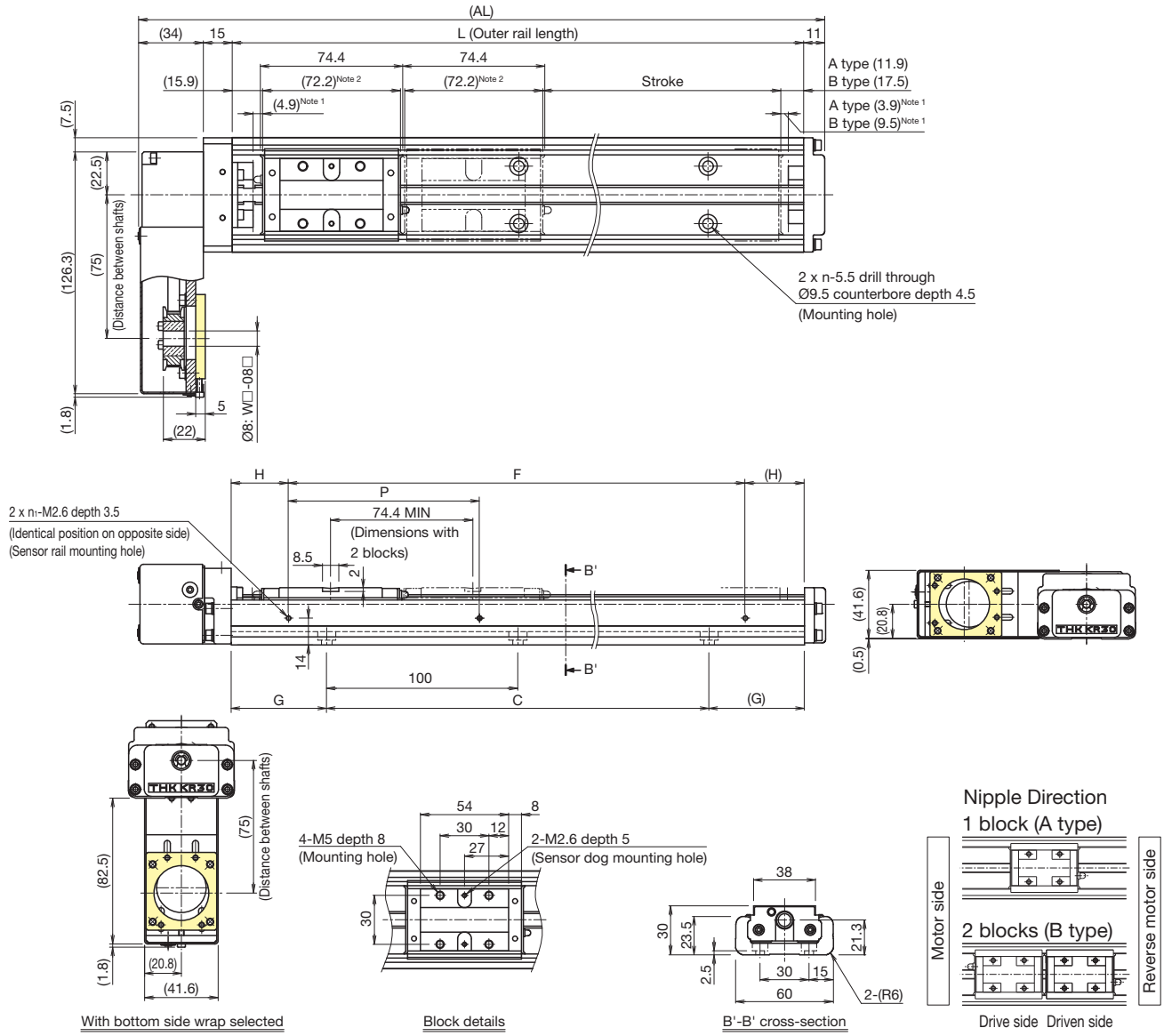
[1] Dimensions from the mechanical stopper to the stroke start position.

Stroke (mm) (Stroke between mechanical stoppers)			50 (58.8)	100 (108.8)	200 (208.8)	300 (308.8)	400 (408.8)	500 (508.8)
	A type							
	B type[2]		-	-	120 (134.4)	220 (234.4)	320 (334.4)	420 (434.4)
Maximum speed[3] (mm/s)	Ball screw lead: 5 mm	Normal grade/High accuracy grade	390					330
		Precision grade	500					330
	Ball screw lead: 6 mm	Normal grade/High accuracy grade	470					390
		Precision grade	600				590	390
	Ball screw lead: 10 mm	Normal grade/High accuracy grade	790					650
		Precision grade	1,000				980	650
Dimensions (mm)	AL		210	260	360	460	560	660
	L		150	200	300	400	500	600
	C		100	100	200	300	400	500
	G		25	50	50	50	50	50
	P		100	100	200	200	200	200
	F		100	100	200	200	400	400
	H		25	50	50	100	50	100
No. of mounting holes	n		2	2	3	4	5	6
	n_1		2	2	2	2	3	3
Mass[4] (kg)			2.2	2.5	3.1	3.7	4.4	5

[2] The value with 2 blocks (B type) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 blocks (B type) has 0.6 kg added.

Without Cover
Motor Wrap

Dimensions



With bottom side wrap selected | Block details | B'-B' cross-section

[1] Dimensions from the mechanical stopper to the stroke start position.
[2] Shows the block length when calculating the enabled stroke range.
146.6 mm (2 blocks total) for KR30H with 2 blocks (B type).

Stroke (mm) (Stroke between mechanical stoppers)		A type	50 (58.8)	100 (108.8)	200 (208.8)	300 (308.8)	400 (408.8)	500 (508.8)
		B type[3]	-	-	120 (134.4)	220 (234.4)	320 (334.4)	420 (434.4)
Maximum speed[4] (mm/s)	Ball screw lead: 5 mm	Normal grade/High accuracy grade	390					330
		Precision grade	500					330
	Ball screw lead: 6 mm	Normal grade/High accuracy grade	470					390
		Precision grade	600				590	390
	Ball screw lead: 10 mm	Normal grade/High accuracy grade	790					650
		Precision grade	1,000				980	650
Dimensions (mm)	AL		210	260	360	460	560	660
	L		150	200	300	400	500	600
	C		100	100	200	300	400	500
	G		25	50	50	50	50	50
	P		100	100	200	200	200	200
	F		100	100	200	200	400	400
	H		25	50	50	100	50	100
No. of mounting holes	n		2	2	3	4	5	6
	n_1		2	2	2	2	3	3
Mass[5] (kg)			1.9	2.2	2.8	3.4	3.9	4.5

[3] The value with 2 blocks (B type) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 blocks (B type) has 0.4 kg added.

KR30H C/D

Direct motor coupling | Motor wrap | Width 60 mm | Height 30 mm | Max. stroke 520 mm

Model Number Coding

Model ①	Ball screw lead ②	Block type ③	Stroke ④	Accuracy grade ⑤	With/without motor ⑥	Cover ⑦	Sensors ⑧	Housing A/ Intermediate flange ⑨
KR30H	06	C	0070	P	0	1	2	AQ
KR30H	05: 5 mm	C: x1	0020: 20 mm	No symbol: Normal grade	With direct coupling	0: Without cover	0	With direct coupling
	06: 6 mm	D: x2	to	H: High accuracy grade	0: Direct coupling (without motor)	1: With cover	1	A0
	10: 10 mm		0520: 520 mm	P: Precision grade	1: Direct coupling (THK will purchase and mount the motor you specify.)	2: With bellows	2	AP
					With motor wrap		6	AQ
					R1: Non-standard side wrap (without motor)		7	AR
					R2: Standard side wrap (without motor)		B	AT
					R3: Bottom side wrap (without motor)		E	AU
					R4: Non-standard side wrap (THK will purchase and mount the motor you specify.)		H	40
					R5: Standard side wrap (THK will purchase and mount the motor you specify.)		L	With motor wrap
					R6: Bottom side wrap (THK will purchase and mount the motor you specify.)		J	WP-08D
							M	WP-08K
								WP-08M
								WQ-08D
								WQ-08K
								WQ-08M

When selecting 2: With bellows for ⑦ Cover, specify the stroke with bellows. → p. 167 to p. 168

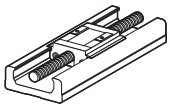
When selecting "0": A coupling is not provided. Indicate when placing an order if a coupling is required.

When selecting "1," "R4," "R5," or "R6": The specified motor will be installed. Indicate the motor cable direction separately. Select ⑨ Intermediate flange to match the specified motor.

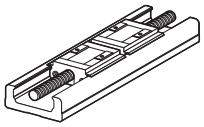
Sensor details → p. 55

With direct coupling → p. 57
With motor wrap → p. 59

③ BlockType

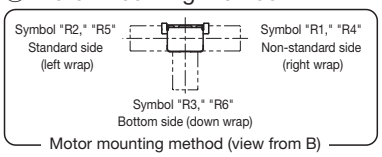


C: 1 short block (C type)



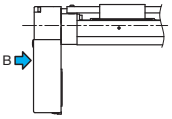
D: 2 short blocks (D type)

⑥ Motor Mounting Method



Motor mounting method (view from B)

With motor wrap



Selection Information

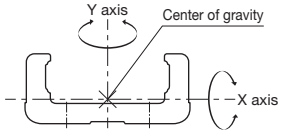
Basic Specifications

LM Guide	Basic dynamic load rating C (N)		4,900		
	Basic static load rating C_0 (N)		10,000		
	Radial clearance (mm)	Normal grade/High accuracy grade (H)	-0.004 to +0.002		
		Precision grade (P)	-0.012 to -0.004		
	Geometric moment of inertia	I_X[1] (mm^4)	2.7×10^4		
		I_Y[2] (mm^4)	2.8×10^5		
		Mass (kg/m)	5		
Ball screw	Ball screw lead (mm)		5	6	10
	Basic dynamic load rating Ca (N)	Normal grade/High accuracy grade (H)	2,950	2,840	1,760
		Precision grade (P)	1,860	2,250	1,370
	Basic static load rating C_0a (N)	Normal grade/High accuracy grade (H)	5,390	4,900	2,840
		Precision grade (P)	2,690	2,740	1,570
	Screw shaft diameter (mm)		Ø10		
	Thread minor diameter (mm)		Ø7.8		
	Ball center-to-center diameter (mm)		Ø10.5		
	Permissible rotational speed[3] (min^{-1})	Normal grade/High accuracy grade (H)	4,700		
		Precision grade (P)	6,000		
Bearing unit (fixed side)	Axial direction	Basic dynamic load rating Ca (N)	1,790		
		Static permissible load P_0a (N)	2,590		
Permissible input torque (N·m)		Direct coupling	1.2		
		Motor wrap	0.98		
Static permissible moment[4, 5] (N·m)			M_A: 44 (319), M_B: 44 (319), M_C: 214 (427)		
Service life[6] (km)			5,000		10,000
Standard grease/Grease nipple used			THK AFB-LF Grease/PB107		

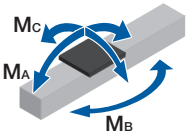
[1] I_X is the geometric moment of inertia about the X axis.
[2] I_Y is the geometric moment of inertia about the Y axis.
[3] The permissible rotational speed may decrease as the stroke becomes longer.
[4] The value in parentheses is with 2 short blocks (D type) attached.
[5] See p. 168 for the values if "1" or "2" is selected for item ⑦ in the Model Number Coding.
[6] Calculated under the following conditions.
Stroke: 320 mm (C type), 270 mm (D type) / Speed: 250 mm (for 5 mm lead), 300 mm/s (for 6 mm lead), 500 mm/s (for 10 mm lead) / Load mass: Maximum load capacity (p. 9) / Acceleration/deceleration: As when set to maximum load capacity (p. 9) / Center of gravity: Center of the table's upper surface.

Notes: 1. LM Guide load rating is the load rating per short block.
2. Precision grade (P-grade) ball screws have integrated spacer balls with a 1:1 ratio.

Geometric Moment of Inertia



Static Permissible Moment



Accuracy

Accuracy grade	Item	Stroke[7] 70	120	220	320	420	520
Normal grade (no symbol)	Positioning repeatability (mm)	±0.01					
	Positioning accuracy (mm)	Not specified					
	Running parallelism (vertical direction) (mm)	Not specified					
	Backlash (mm)	0.02					
	Starting torque (N·cm)	7					

Accuracy grade	Item	Stroke[7] 70	120	220	320	420	520
High accuracy grade (H)	Positioning repeatability (mm)	±0.005					
	Positioning accuracy (mm)	0.06				0.1	
	Running parallelism (vertical direction) (mm)	0.025				0.035	
	Backlash (mm)	0.02					
	Starting torque (N·cm)	7					

Accuracy grade	Item	Stroke[7] 70	120	220	320	420	520
Precision grade (P)	Positioning repeatability (mm)	±0.003					
	Positioning accuracy (mm)	0.02				0.025	
	Running parallelism (vertical direction) (mm)	0.01				0.015	
	Backlash (mm)	0.003					
	Starting torque (N·cm)	15					

[7] Stroke with 1 short block (C type).

Notes: 3. Precision evaluation in accordance with THK standards.
4. Measured using a motor for inspection. With motor wrap specifications, measurements are not made in the completed motor wrap state.
5. The starting torque represents the value when containing THK AFB-LF Grease.
6. The starting torque may exceed standards if using vacuum grease, clean room grease, or other high-viscosity greases, so care should be taken when selecting a motor.
7. Contact THK for accuracy higher than the standard stroke.

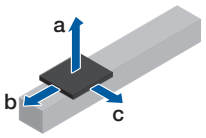
Motor Selection Information

Stroke[1] (mm)	Outer rail length (mm)	LM Guide				Ball screw		Motor mounting part	
		Moving part mass (kg)			Sliding resistance value[2] (N)	Lead (mm)	Shaft length (mm)	Direct coupling	Motor wrap
		Block mass	Sub-table mass	Total mass				Shaft end diameter (mm)	Timing pulley (sum of two) Inertial moment x 10^{-4} (kg·m²)
70 to 520	150 to 600	C type: 0.2 D type: 0.4	C type: 0.1 D type: 0.2	C type: 0.3 D type: 0.6	3.2	5, 6, 10	191 to 641	Ø6h7	0.041

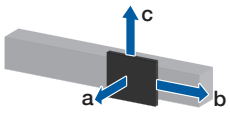
[1] Stroke with 1 short block (C type).
[2] Value with 1 short block (C type). This value is the sum of the rolling resistance value and seal resistance value.
Note: Refer to p. 57 for applicable couplings.

Permissible Overhang Length[3]

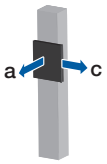
Horizontal



Wall-Mounted



Vertical



Estimated motor capacity 100 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	C type	5	6	180	40	120
			12.5	70	20	60
			25	20	0	30
		6	6	180	40	120
			12.5	70	20	60
			25	20	0	30
		10	3	390	70	250
			6.5	160	30	110
			13	70	10	50
	D type	5	8.5	600	240	230
			17.5	580	110	110
			35.5	270	50	50
		6	8.5	600	240	230
			17.5	580	110	110
			35.5	270	50	50
		10	7	600	230	280
			14.5	600	100	130
			29	300	40	60
Motor wrap	C type	5	6	180	40	120
			12.5	70	20	60
			25	20	0	30
		6	6	180	40	120
			12.5	70	20	60
			25	20	0	30
		10	3	390	70	250
			6.5	160	30	110
			13	70	10	50
	D type	5	8.5	600	240	230
			17.5	580	110	110
			35.5	270	50	50
		6	8.5	600	240	230
			17.5	580	110	110
			35.5	270	50	50
		10	7	600	230	280
			14.5	600	100	130
			29	300	40	60

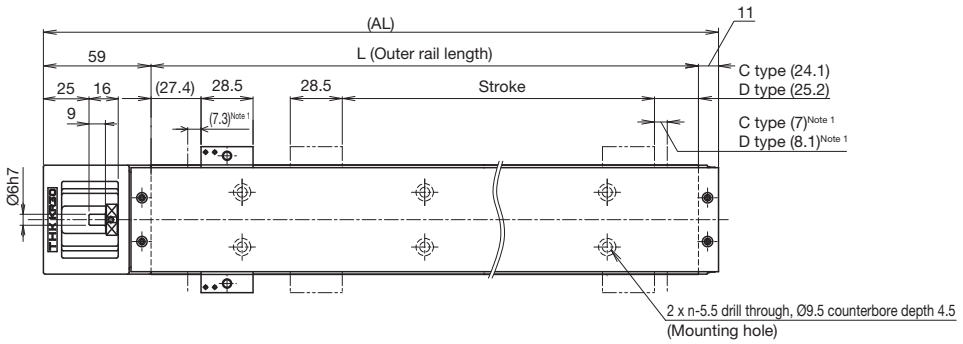
Estimated motor capacity 100 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	C type	5	3.5	180	70	420
			7	70	30	210
			14.5	20	10	100
		6	3.5	180	70	420
			7	70	30	210
			14.5	20	10	100
		10	2	350	90	600
			4.5	140	40	280
			9.5	50	10	110
	D type	5	7	250	200	600
			14	110	100	330
			28.5	30	40	160
		6	7	250	200	600
			14	110	100	330
			28.5	30	40	160
		10	5.5	320	250	600
			11	140	120	420
			22.5	50	40	200
Motor wrap	C type	5	3.5	180	70	420
			7	70	30	210
			14.5	20	10	100
		6	3.5	180	70	420
			7	70	30	210
			14.5	20	10	100
		10	2	350	90	600
			4.5	140	40	280
			9.5	50	10	110
	D type	5	7	250	200	600
			14	110	100	330
			28.5	30	40	160
		6	7	250	200	600
			14	110	100	330
			28.5	30	40	160
		10	5.5	320	250	600
			11	140	120	420
			22.5	50	40	200

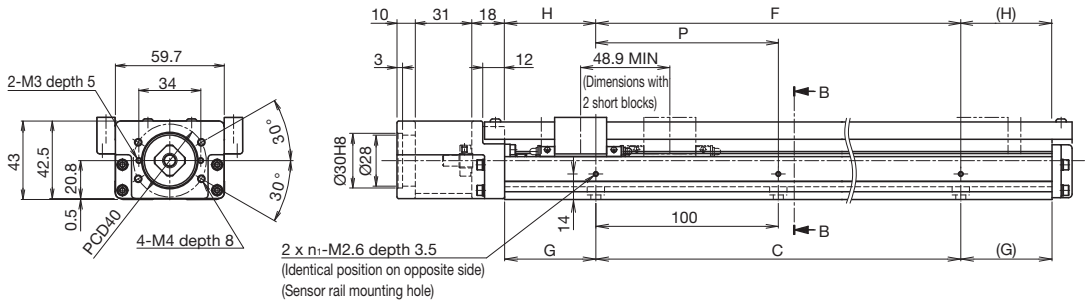
Estimated motor capacity 100 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	c (mm)
Direct coupling	C type	5	1	250	250
			2	110	110
			4.5	40	40
		6	1	250	250
			2	110	110
			4.5	40	40
		10	0.5	250	250
			1.5	110	110
			3.5	40	40
	D type	5	3.5	580	300
			7	280	150
			14.5	120	70
		6	3.5	560	300
			7.5	270	140
			15	120	70
		10	2	600	540
			4.5	350	240
			9	160	120
Motor wrap	C type	5	1	250	250
			2	110	110
			4.5	40	40
		6	1	250	250
			2	110	110
			4.5	40	40
		10	0.5	250	250
			1.5	110	110
			3.5	40	40
	D type	5	2.5	600	430
			5.5	380	190
			11	170	90
		6	2.5	600	430
			5.5	360	190
			11.5	160	90
		10	2	600	540
			4.5	350	240
			9	160	120

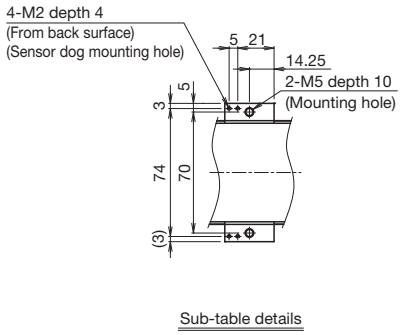
[3] This is the value with the service life of the LM Guide limited to 5,000 km (for 5 or 6 mm lead) or 10,000 km (for 10 mm lead). The calculation conditions are as follows.
Stroke: 295 mm (C type), 245 mm (D type) / Acceleration/deceleration: 0.3 G / Speed: 250 mm/s (for 5 mm lead), 300 mm/s (for 6 mm lead), 500 mm/s (for 10 mm lead) / Overhang direction: Loaded only in a single direction. Dimensions a, b, and c are from the center of the table's upper surface.

With Cover
Direct Motor Coupling

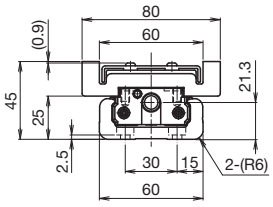
Dimensions



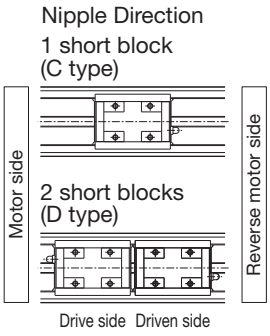




Sub-table details



B-B cross-section



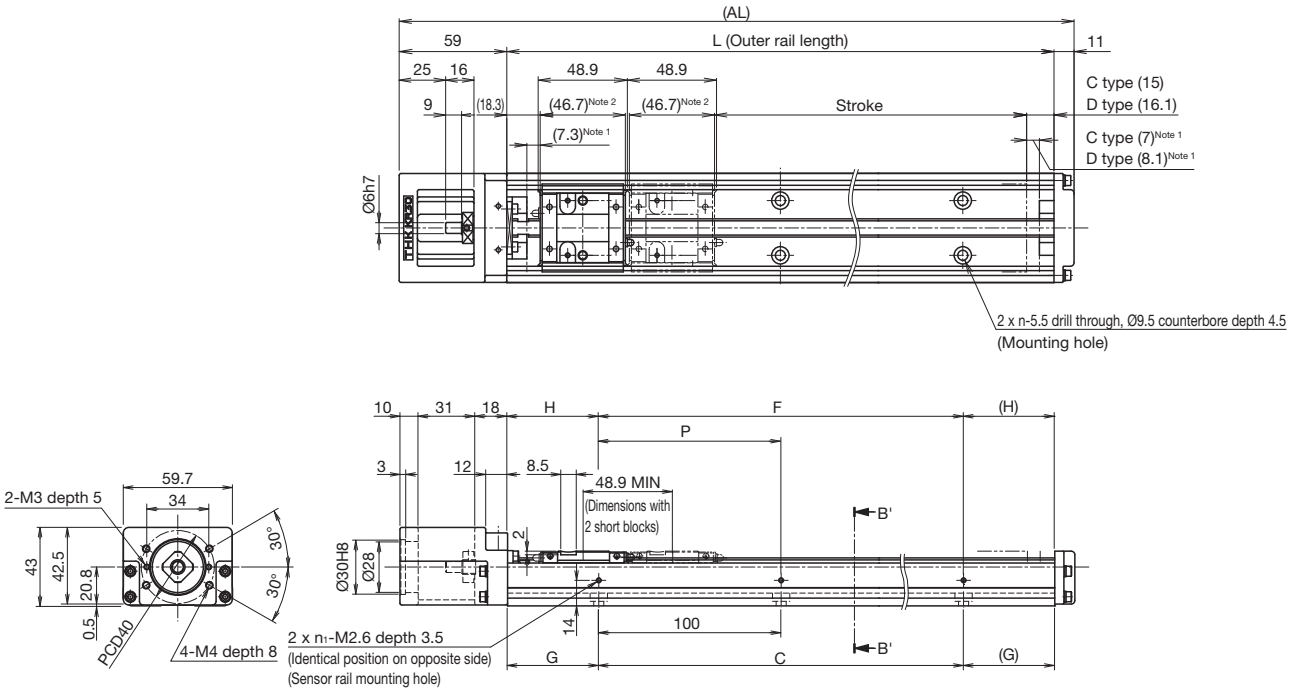
[1] Dimensions from the mechanical stopper to the stroke start position.

Stroke (mm) (Stroke between mechanical stoppers)		C type	70 (84.3)	120 (134.3)	220 (234.3)	320 (334.3)	420 (434.3)	520 (534.3)
		D type[2]	20 (35.4)	70 (85.4)	170 (185.4)	270 (285.4)	370 (385.4)	470 (485.4)
Maximum speed[3] (mm/s)	Ball screw lead: 5 mm	Normal grade/High accuracy grade	390					300
		Precision grade	500				450	300
	Ball screw lead: 6 mm	Normal grade/High accuracy grade	470					360
		Precision grade	600				530	360
	Ball screw lead: 10 mm	Normal grade/High accuracy grade	790					600
		Precision grade	1,000				880	600
Dimensions (mm)	AL		220	270	370	470	570	670
	L		150	200	300	400	500	600
	C		100	100	200	300	400	500
	G		25	50	50	50	50	50
	P		100	100	200	200	200	200
	F		100	100	200	200	400	400
	H		25	50	50	100	50	100
No. of mounting holes	n		2	2	3	4	5	6
	n1		2	2	2	2	3	3
Mass[4] (kg)			1.6	1.9	2.5	3.1	3.7	4.3

[2] The value with 2 short blocks (D type) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 short blocks (D type) has 0.3 kg added.

Without Cover
Direct Motor Coupling

Dimensions



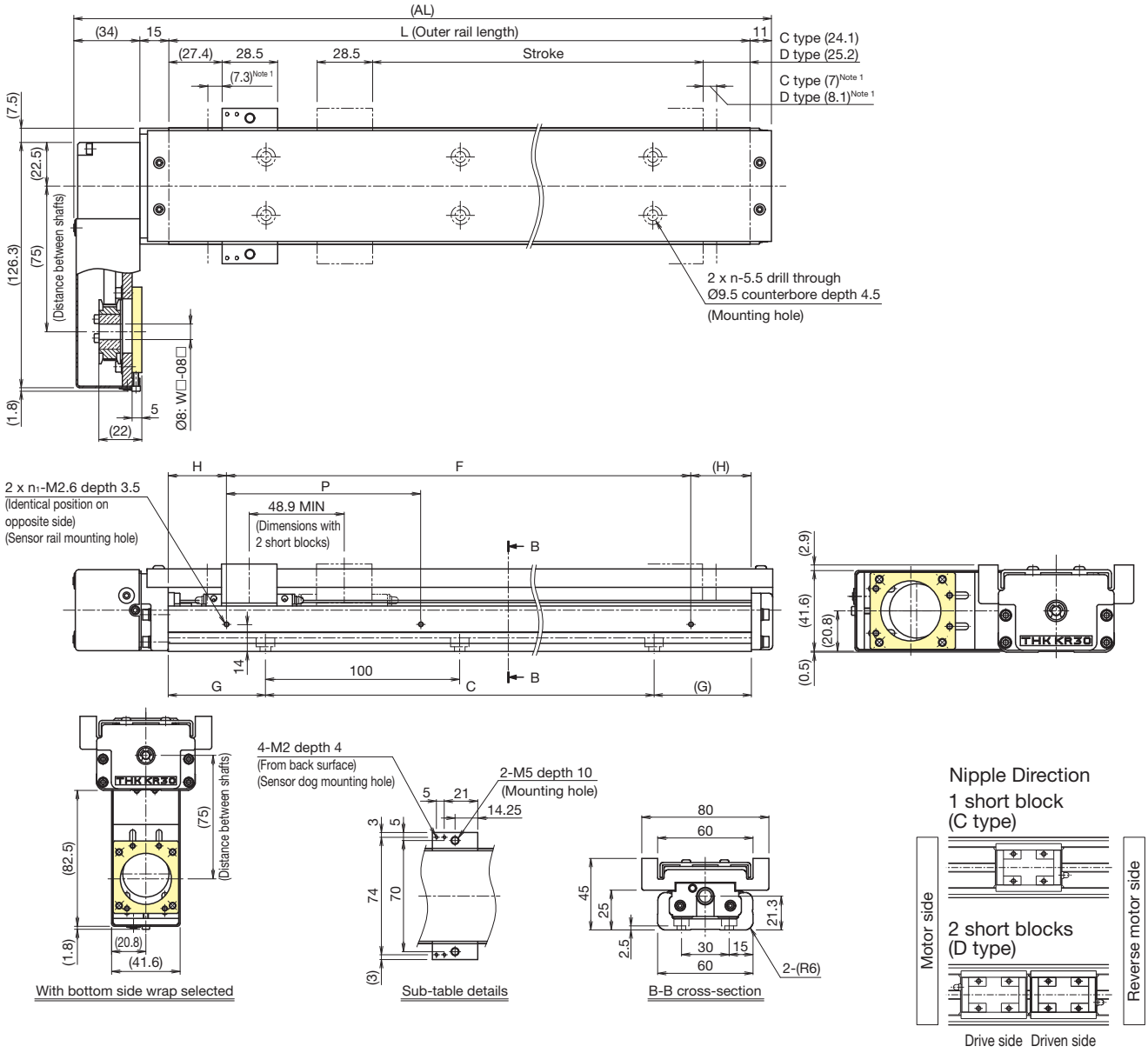
[1] Dimensions from the mechanical stopper to the stroke start position.
[2] Shows the short block length when calculating the enabled stroke range. 95.6 mm (2 blocks total) for KR30H with 2 short blocks (D type).

Stroke (mm) (Stroke between mechanical stoppers)	C type		70 (84.3)	120 (134.3)	220 (234.3)	320 (334.3)	420 (434.3)	520 (534.3)
	D type[3]		20 (35.4)	70 (85.4)	170 (185.4)	270 (285.4)	370 (385.4)	470 (485.4)
Maximum speed[4] (mm/s)	Ball screw lead: 5 mm	Normal grade/High accuracy grade	390					300
		Precision grade	500				450	300
	Ball screw lead: 6 mm	Normal grade/High accuracy grade	470					360
		Precision grade	600				530	360
	Ball screw lead: 10 mm	Normal grade/High accuracy grade	790					600
		Precision grade	1,000				880	600
Dimensions (mm)	AL		220	270	370	470	570	670
	L		150	200	300	400	500	600
	C		100	100	200	300	400	500
	G		25	50	50	50	50	50
	P		100	100	200	200	200	200
	F		100	100	200	200	400	400
	H		25	50	50	100	50	100
No. of mounting holes	n		2	2	3	4	5	6
	n1		2	2	2	2	3	3
Mass[5] (kg)			1.4	1.7	2.3	2.8	3.4	4

[3] The value with 2 short blocks (D type) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 short blocks (D type) has 0.2 kg added.

With Cover
Motor Wrap

Dimensions



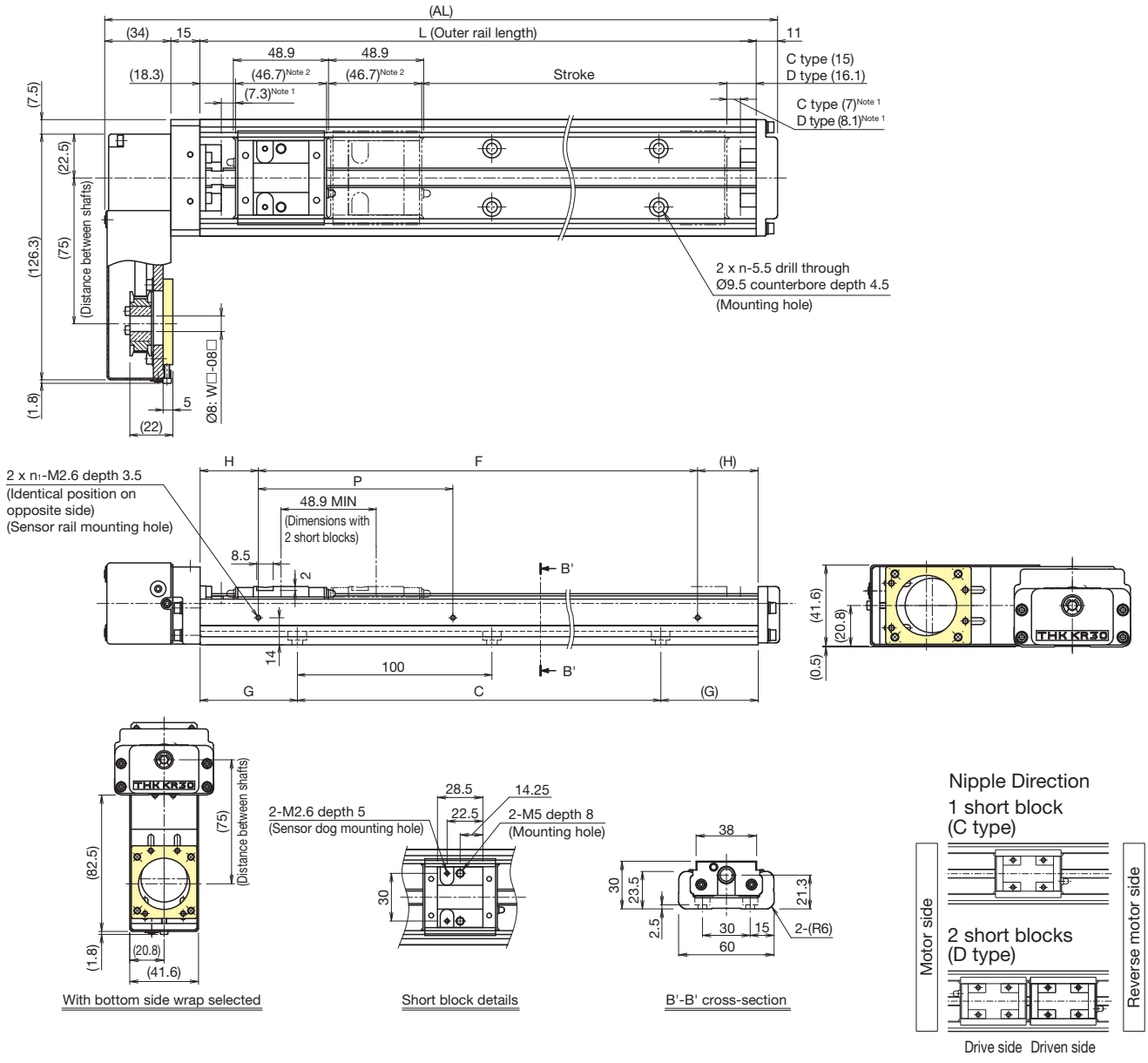
[1] Dimensions from the mechanical stopper to the stroke start position.

Stroke (mm) (Stroke between mechanical stoppers)	C type		70 (84.3)	120 (134.3)	220 (234.3)	320 (334.3)	420 (434.3)	520 (534.3)
	D type[2]		20 (35.4)	70 (85.4)	170 (185.4)	270 (285.4)	370 (385.4)	470 (485.4)
Maximum speed[3] (mm/s)	Ball screw lead: 5 mm	Normal grade/High accuracy grade	390					300
		Precision grade	500				450	300
	Ball screw lead: 6 mm	Normal grade/High accuracy grade	470					360
		Precision grade	600				530	360
	Ball screw lead: 10 mm	Normal grade/High accuracy grade	790					600
		Precision grade	1,000				880	600
Dimensions (mm)	AL		210	260	360	460	560	660
	L		150	200	300	400	500	600
	C		100	100	200	300	400	500
	G		25	50	50	50	50	50
	P		100	100	200	200	200	200
	F		100	100	200	200	400	400
	H		25	50	50	100	50	100
No. of mounting holes	n		2	2	3	4	5	6
	n_1		2	2	2	2	3	3
Mass[4] (kg)			1.9	2.2	2.8	3.4	4.1	4.7

[2] The value with 2 short blocks (D type) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 short blocks (D type) has 0.3 kg added.

Without Cover
Motor Wrap

Dimensions



With bottom side wrap selected

Short block details

B'-B' cross-section

[1] Dimensions from the mechanical stopper to the stroke start position.
[2] Shows the short block length when calculating the enabled stroke range. 95.6 mm (2 blocks total) for KR30H with 2 short blocks (D type).

Stroke (mm) (Stroke between mechanical stoppers)	C type		70 (84.3)	120 (134.3)	220 (234.3)	320 (334.3)	420 (434.3)	520 (534.3)
	D type[3]		20 (35.4)	70 (85.4)	170 (185.4)	270 (285.4)	370 (385.4)	470 (485.4)
Maximum speed[4] (mm/s)	Ball screw lead: 5 mm	Normal grade/High accuracy grade	390					300
		Precision grade	500				450	300
	Ball screw lead: 6 mm	Normal grade/High accuracy grade	470					360
		Precision grade	600				530	360
	Ball screw lead: 10 mm	Normal grade/High accuracy grade	790					600
		Precision grade	1,000				880	600
Dimensions (mm)	AL		210	260	360	460	560	660
	L		150	200	300	400	500	600
	C		100	100	200	300	400	500
	G		25	50	50	50	50	50
	P		100	100	200	200	200	200
	F		100	100	200	200	400	400
	H		25	50	50	100	50	100
No. of mounting holes	n		2	2	3	4	5	6
	n_1		2	2	2	2	3	3
Mass[5] (kg)			1.7	2	2.6	3.2	3.7	4.3

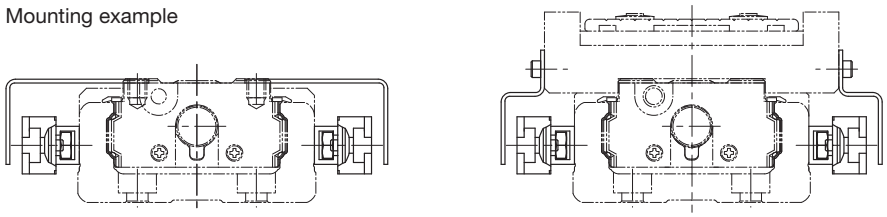
[3] The value with 2 short blocks (D type) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 short blocks (D type) has 0.2 kg added.

Options

Sensors

Optional photo sensors and proximity sensors are available. Sensor-equipped models also feature a dedicated sensor rail and sensor dog.
Sensors, sensor rails, and sensor dogs can be mounted on both sides when the stroke is less than 70 mm.

Mounting example

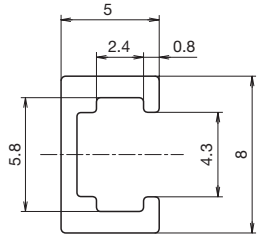


Symbol	Description	Model	Accessories
0	None	-	-
1	With sensor rail	-	Mounting screws, sensor rail (x1 or 2)
2	Photo sensor[1] (x3)	EE-SX671 (OMRON Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2), mounting plates (x3), connectors (EE-1001 x3)
6	Photo sensor[1] (x3)	EE-SX674 (OMRON Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2), mounting plates (x3), connectors (EE-1001 x3)
7	Proximity sensor N.O. contact[2] (x3)	APM-D3A1-001 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
B	Proximity sensor N.C. contact[3] (x3)	APM-D3B1-003 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
E	Proximity sensor N.O. contact[2] (x1) N.C. contact[3] (x2)	APM-D3A1-001 (Azbil Corporation) APM-D3B1-003 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
H	Proximity sensor N.O. contact[2] (x3)	GX-F12A (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
L	Proximity sensor N.C. contact[3] (x3)	GX-F12B (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
J	Proximity sensor N.O. contact[2] (x1) N.C. contact[3] (x2)	GX-F12A (Panasonic Industry Co., Ltd.) GX-F12B (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
M	Proximity sensor N.O. contact[2] (x1) (PNP output) N.C. contact[3] (x2) (PNP output)	GX-F12A-P (Panasonic Industry Co., Ltd.) GX-F12B-P (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)

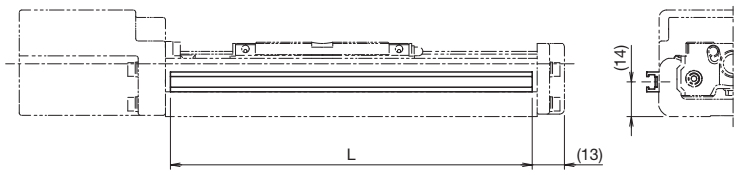
[1] The photo sensors can be switched between ON when lit and ON when unlit.
[2] N.O. contact: Normally open contact point
[3] N.C. contact: Normally closed contact point
Notes: 1. If proximity sensors are close to one another, they may not function properly. If that happens, please prepare a type with a different frequency.
2. Mounting of sensors other than those in the table above is possible. Contact THK for details.

Sensor Rail Mounting Dimensions

Mounting only a sensor rail is also possible.



Sensor rail details



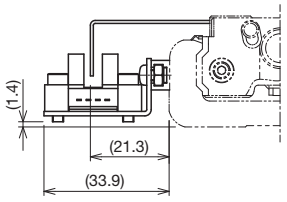
Stroke[4] (mm)	Outer rail length (mm)	L (mm)
50	150	146
100	200	196
200	300	296
300	400	396
400	500	496
500	600	596

[4] Stroke with 1 block (A type).

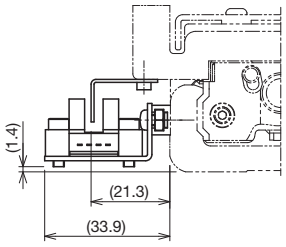
Photo Sensor Mounting Dimensions

Connector: EE-1001 (OMRON Corporation) x3 included.
To be mounted by the customer.

Without cover



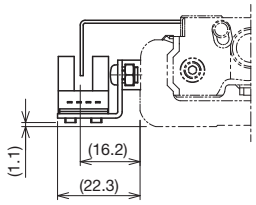
With cover



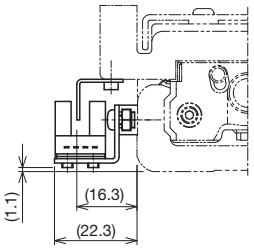
Symbol	Model	Manufacturer
2	EE-SX671	OMRON Corporation

Sensor dog width (without cover): 8.5 mm
Sensor dog width (with cover): 10 mm

Without cover



With cover

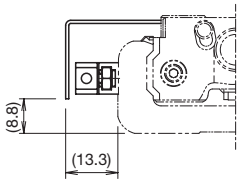


Symbol	Model	Manufacturer
6	EE-SX674	OMRON Corporation

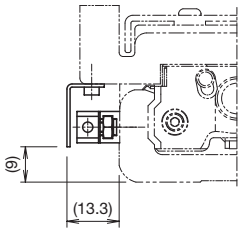
Sensor dog width (without cover): 8.5 mm
Sensor dog width (with cover): 10 mm

Proximity Sensor Mounting Dimensions

Without cover



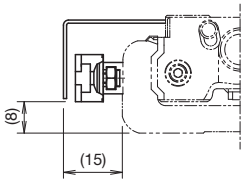
With cover



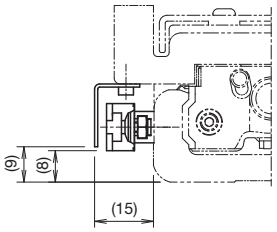
Symbol	Model	Manufacturer
7, B, E	APM-D3A1-001	Azbil Corporation
	APM-D3B1-003	

Sensor dog width (without cover): 8.5 mm
Sensor dog width (with cover): 10 mm

Without cover



With cover



Symbol	Model	Manufacturer
H, L, J	GX-F12A	Panasonic Industry Co., Ltd.
	GX-F12B	
M	GX-F12A-P	
	GX-F12B-P	

Sensor dog width (without cover): 8.5 mm
Sensor dog width (with cover): 10 mm

Options

Intermediate Flange (Direct Coupling)

Several types of intermediate flanges for mounting motors are available.
When selecting "0" or "1" for Model Number Coding ⑥ With/without motor, specify an intermediate flange that matches the motor used.

Compatibility Table: Motors Used, Intermediate Flanges, and Couplings

Motor type	Manufacturer	Series		Motor model	Motor rated output (W)	Flange size	Housing A/ Intermediate flange	Compatible coupling models	
								MIKI PULLEY CO., LTD.	Nabeya Bi-tech Kaisha (NBK)
AC servo motor	YASKAWA Electric Corporation	Σ-V		SGMJV-A5	50	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
				SGMAV-A5					
				SGMJV-01	100				
				SGMAV-01					
				SGMJV-C2	150				
		Σ-7		SGM7J-A5	50	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
				SGM7A-A5					
				SGM7J-01	100				
				SGM7A-01					
				SGM7J-C2	150				
		Σ–X		SGMXJ-A5	50	40×40	AQ	SFC–020DA2–6B–8B	XGT2–19C–6–8
				SGMXA-A5					
				SGMXJ-01	100				
				SGMXA-01					
				SGMXJ-C2	150				
				SGMXA-C2					
	Mitsubishi Electric Corporation	MELSERVO	J4	HG-KR053	50	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
				HG-MR053					
				HG-KR13	100				
				HG-MR13					
			J5	HK-KT053W	50	40×40	AQ	SFC–020DA2–6B–8B	XGT2–19C–6–8
				HK-KT13W	100				
			JN	HF-KN053	50	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
				HF-KN13	100				
	TAMAGAWA SEIKI CO., LTD.	TBL-iII		TS4602	50	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
				TS4603	100				
				TS4604	150				
		TBL-iIV		TSM3102	50	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
				TSM3104	100				
	Panasonic Corporation	MINAS	A5	MSMD5A	50	38×38	AP	SFC-020DA2-6B-8B	XGT2-19C-6-8
				MSME5A					
				MSMD01	100				
				MSME01					
			A6	MSMF5A	50	38×38	AP	SFC-020DA2-6B-8B	XGT2-19C-6-8
				MHMF5A		40×40	AQ		
				MSMF01	100	38	AP	SFC-020DA2-6B-8B	XGT2-19C-6-8
				MHMF01		40×40	AQ		
	KEYENCE CORPORATION	SV		SV-M005	50	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
				SV-M010	100				
		SV2		SV2-M005	50	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
				SV2-M010	100				
	SANYO DENKI CO., LTD.	SANMOTION R		R2□A04005	50	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
				R2EA04008	80				
				R2□A04010	100				
	OMRON Corporation	OMNUC G5		R88M-K05030	50	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
				R88M-K10030	100				
		1S		R88M-1M10030	100	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
	FANUC CORPORATION	βis Series		βis0.2/5000	50	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
				βis0.3/5000	100				

Motor type	Manufacturer	Series		Motor model	Flange size	Housing A/ Intermediate flange	Compatible coupling models	
							MIKI PULLEY CO., LTD.	Nabeya Bi-tech Kaisha (NBK)
Stepper motor	ORIENTAL MOTOR CO., LTD.	α step		AZ4*, AR4* (excluding AZM48)	42×42	AR	SFC-010DA2-6B-6B-L32	XGT2-15C-6-6
				AZM48	42×42	AR	SFC-010DA2-6B-8B-L32	XGT2-19C-6-8
				AZ6*, AR6*	60×60	AU	SFC-020DA2-6B-10B	XGT2-25C-6-10
		5-phase	CRK[1]	CRK54*	42×42	AR	SFC-010DA2-5B-6B-L32	XGT2-15C-5-6
				CRK56* (CRK569PM*)	60×60	AU	SFC-020DA2-6B-8B (SFC-020DA2-6B-10B)	XGT2-25C-6-8 (XGT2-25C-6-10)
			RK II	RKS54*	42×42	AR	SFC-010DA2-6B-6B-L32	XGT2-15C-6-6
				RKS56*	60×60	AU	SFC-020DA2-6B-10B	XGT2-25C-6-10
			PKP[1]	PKP54*	42×42	AR	SFC-010DA2-5B-6B-L32	XGT2-15C-5-6
				PKP56*	56.4×56.4	AT	SFC-020DA2-6B-8B	XGT2-19C-6-8
				PKP56* (PKP569FM*)	60×60	AU	SFC-020DA2-6B-8B (SFC-020DA2-6B-10B)	XGT2-25C-6-8 (XGT2-25C-6-10)
		2-phase	PKP/CVD	PKP24*	42×42	AR	SFC-010DA2-5B-6B-L32	XGT2-15C-5-6
				PKP26*	56.4×56.4	AT	SFC-020DA2-6B-8B	XGT2-25C-6-8
	KEYENCE CORPORATION	2-phase		QS-M42	42×42	AR	SFC-010DA2-5B-6B-L32	XGT2-15C-5-6
				QS-M60	60×60	AU	SFC-020DA2-6B-8B	XGT2-25C-6-8
	SANYO DENKI CO., LTD.	PB		PBDM423, PBA**423	42×42	AR	SFC-010DA2-6B-6B-L32	XGT2-15C-6-6
				PBDM60*, PBA**60*	60×60	AU	SFC-020DA2-6B-10B-L34	XGT2-25C-6-10
		5-phase		FAF54*/FDF54*/ FA511M42/FB511M42	42×42	AR	SFC-010DA2-6B-6B-L32	XGT2-15C-6-6
				FAM56*/FDM56*/ FA512M60/FB512M60	60×60	AU	SFC-020DA2-6B-10B-L34	XGT2-25C-6-10
		2-phase		DB14H52*	42×42	AR	SFC-010DA2-5B-6B-L32	XGT2-15C-5-6
				DU15H52*		AR	SFC-010DA2-5B-6B-L32	XGT2-15C-5-6
				D*16H71*	56×56	AT	SFC-020DA2-6B-6.35B-L34	XGT2-19C-6-6.35
				DB16H78*	60×60	AU	SFC-020DA2-6B-8B-L34	XGT2-25C-6-8

[1] Items in parentheses have different motor shaft diameters and require a coupling to be specified.

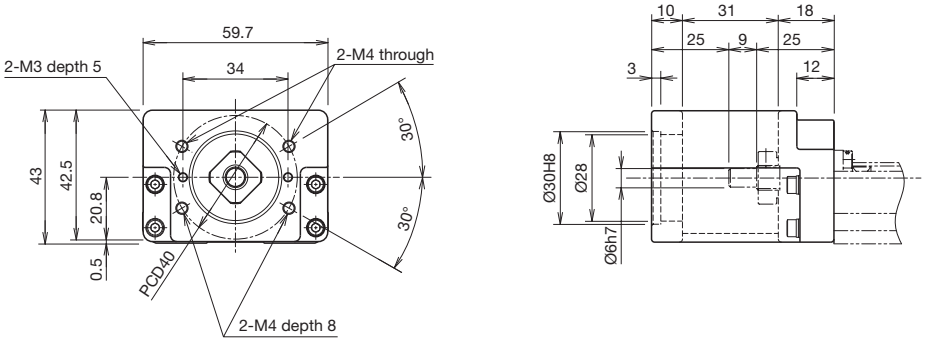
Notes: 1. The table shows only a portion of the model numbers for motors. For details regarding model numbers, please see the catalog for each respective motor manufacturer.
2. If the maximum torque for motors exceeds the permissible input torque (A/B → p. 43, C/D → p. 49), please consider a safety measure to limit the torque.
3. When installing a motor other than the motor model numbers listed above, contact THK.

Housing A

KR**
●◇

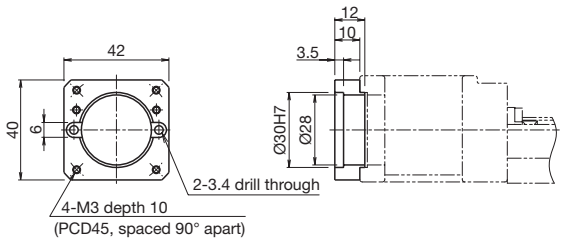
Actuator model
●: Housing A
◇: Intermediate flange

KR30H
A0

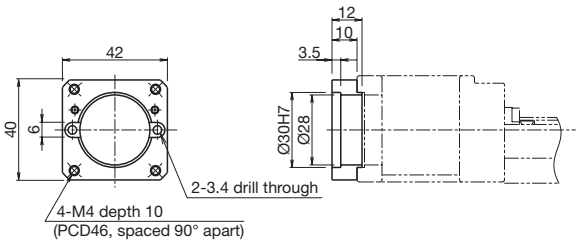


Intermediate Flange

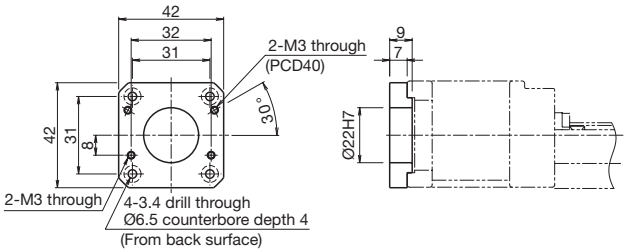
KR30H
AP



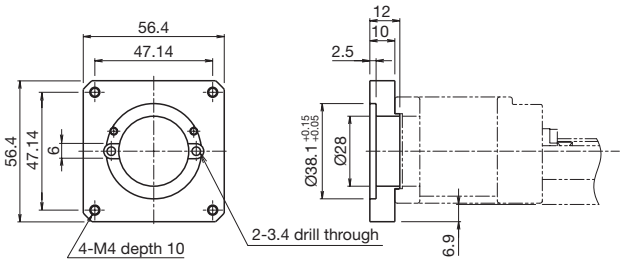
KR30H
AQ



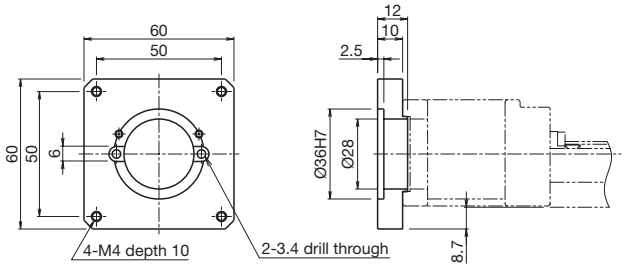
KR30H
AR



KR30H
AT



KR30H
AU



Options

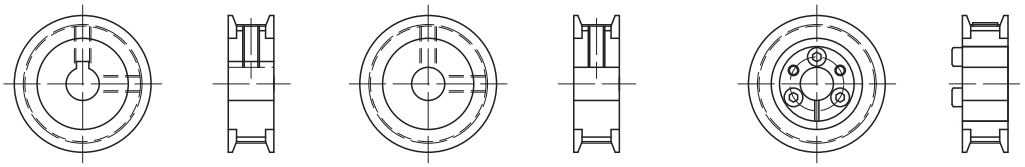
Intermediate Flange (Motor Wrap)

Several types of intermediate flanges for mounting motors are available.
When selecting "R1," "R2," "R3," "R4," "R5," or "R6" for Model Number Coding ⑥ With/without motor, specify an intermediate flange that matches the motor used.

Symbol Coding

Motor wrap symbol ①	Intermediate flange ②		Motor shaft diameter (mm) ③	Motor shaft securing method ④
W	Q	-	08	D
W	Refer to the Compatibility Table: Motors Used and Motor Wrap Symbols below.		Specify a motor shaft diameter. (Refer to the Compatibility Table: Motors Used and Motor Wrap Symbols below.)	K: Key D: D-cut M: Friction tightening tool

Motor Shaft Securing Method



Key　　D-cut　　Friction tightening tool

Compatibility Table: Motors Used and Motor Wrap Symbols

Motor type	Manufacturer	Series		Motor model	Motor rated output (W)	Flange size	Housing A/Intermediate flange
AC servo motor	YASKAWA Electric Corporation	Σ-V		SGMJV-A5	50	40×40	WQ-08K, WQ-08M
				SGMAV-A5			
				SGMJV-01	100		
				SGMAV-01			
				SGMJV-C2	150		
		Σ-7		SGM7J-A5	50	40×40	WQ-08K, WQ-08M
				SGM7A-A5			
				SGM7J-01	100		
				SGM7A-01			
				SGM7J-C2	150		
		Σ-X		SGMXJ-A5	50	40×40	WQ–08K, WQ–08M
				SGMXA-A5			
				SGMXJ-01	100		
				SGMXA-01			
				SGMXJ-C2	150		
				SGMXA-C2			
	Mitsubishi Electric Corporation	MELSERVO	J4	HG-KR053	50	40×40	WQ-08D, WQ-08M
				HG-MR053			
				HG-KR13	100		
				HG-MR13			
			J5	HK-KT053W	50	40×40	WQ–08D, WQ–08M
				HK-KT13W	100		
			JN	HF-KN053	50	40×40	WQ-08D, WQ-08M
				HF-KN13	100		
	TAMAGAWA SEIKI CO., LTD.	TBL-iII		TS4602	50	40×40	WQ-08D, WQ-08M
				TS4603	100		
				TS4604	150		
		TBL-iIV		TSM3102	50	40×40	WQ-08D, WQ-08M
				TSM3104	100		
	Panasonic Corporation	MINAS	A5	MSMD5A	50	38×38	WP-08D, WP-08K, WP-08M
				MSME5A			
				MSMD01	100		
				MSME01			
			A6	MSMF5A	50	38×38	WP-08K, WP-08M
				MHMF5A		40×40	WQ-08K, WQ-08M
				MSMF01	100	38×38	WP-08K, WP-08M
				MHMF01		40×40	WQ-08K, WQ-08M
	KEYENCE CORPORATION	SV		SV-M005	50	40×40	WQ-08K, WQ-08M
				SV-M010	100		
		SV2		SV2-M005	50	40×40	WQ-08K, WQ-08M
				SV2-M010	100		
	SANYO DENKI CO., LTD.	SANMOTION R		R2□A04005	50	40×40	WQ-08M
				R2EA04008	80		
				R2□A04010	100		
	OMRON Corporation	OMNUC G5		R88M-K05030	50	40×40	WQ-08K, WQ-08M
				R88M-K10030	100		
		1S		R88M-1M10030	100	40×40	WQ-08K, WQ-08M

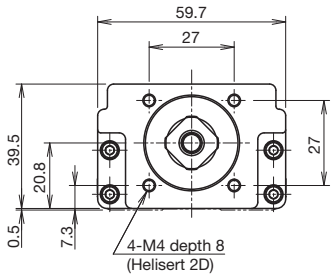
Notes: 1. The table shows only a portion of the model numbers for motors. For details regarding model numbers, please see the catalog for each respective motor manufacturer.
2. If the maximum torque for motors exceeds the permissible input torque (A/B → p. 43, C/D → p. 49), please consider a safety measure to limit the torque.
3. When installing a motor other than the motor model numbers listed above, contact THK.

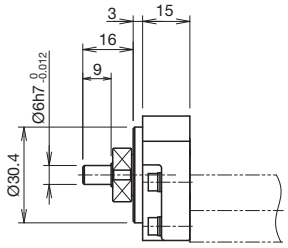
Motor Wrap Housing A

KR**
●◇

Actuator model
●: Housing A
◇: Intermediate flange

KR30H
40





Note: The shaft end must be considered separately with motor wrap types. Contact THK for details.

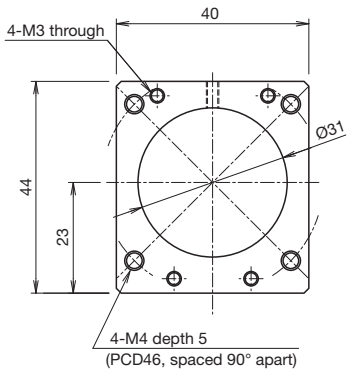
Motor Wrap Specification (Intermediate Flange)

KR**
W□

Actuator model
□: Intermediate flange

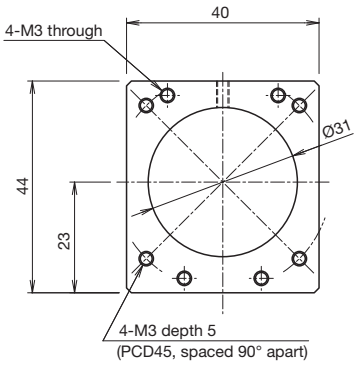
KR30H
WQ

Thickness: 5 mm



KR30H
WP

Thickness: 5 mm



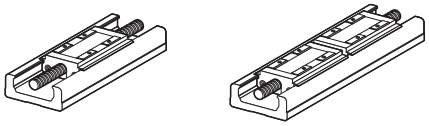
KR33 A/B

Direct motor coupling | Motor wrap | Width 60 mm | Height 33 mm | Max. stroke 600 mm

Model Number Coding

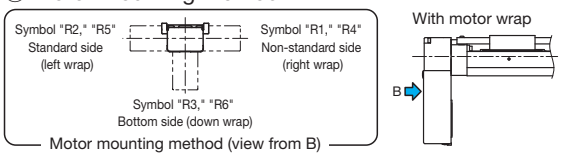
Model ①	Ball screw lead ②	Block type ③	QZ specification ④		Stroke ⑤		Accuracy grade ⑥	With/without motor ⑦		Cover ⑧	Sensors ⑨	Housing A/ Intermediate flange ⑩
KR33	06	A	QZA	-	0085	-	P	0	-	1	2	AQ
KR33	05: 5 mm	A: x1	No symbol: Without QZ		0050: 50 mm		No symbol: Normal grade	With direct coupling		0: Without cover	0	With direct coupling
	06: 6 mm	B: x2	QZ		to		H: High accuracy grade	0: Direct coupling (without motor)		1: With cover	1	A0
	10: 10 mm		QZA		0600: 600 mm		P: Precision grade	1: Direct coupling (THK will purchase and mount the motor you specify.)		2: With bellows	2	AP
			QZB		When selecting 2: With bellows for ⑧ Cover, specify the stroke with bellows. → p. 165 to p. 166			With motor wrap			6	AQ
			QZAD					R1: Non-standard side wrap (without motor)			7	AR
			When selecting "05" for "② Ball screw lead," QZ specification cannot be selected. Check the stroke for type with QZ when selecting anything other than "No symbol." → p. 79 to p. 84					R2: Standard side wrap (without motor)			B	AT
								R3: Bottom side wrap (without motor)			E	AU
								R4: Non-standard side wrap (THK will purchase and mount the motor you specify.)			H	40
								R5: Standard side wrap (THK will purchase and mount the motor you specify.)			L	With motor wrap
								R6: Bottom side wrap (THK will purchase and mount the motor you specify.)			J	WP-08D
								When selecting "0": A coupling is not provided. Indicate when placing an order if a coupling is required. When selecting "1," "R4," "R5," or "R6": The specified motor will be installed. Indicate the motor cable direction separately. Select ⑩ Intermediate flange to match the specified motor.			M	WP-08K
											Sensor details → p. 73	WP-08M
												WQ-08D
												WQ-08K
												WQ-08M
												With direct coupling → p. 75 With motor wrap → p. 77

③ Block Type



A: 1 block (A type) B: 2 blocks (B type)

⑦ Motor Mounting Method



Selection Information

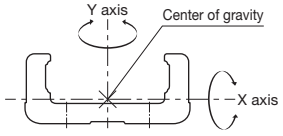
Basic Specifications

LM Guide	Basic dynamic load rating C (N)		11,600		
	Basic static load rating C_0 (N)		20,200		
	Radial clearance (mm)	Normal grade/High accuracy grade (H)	-0.004 to +0.002		
		Precision grade (P)	-0.012 to -0.004		
	Geometric moment of inertia	I_X[1] (mm^4)	6.2×10^4		
		I_Y[2] (mm^4)	3.8×10^5		
		Mass (kg/m)	6.6		
Ball screw	Ball screw lead (mm)		5	6	10
	Basic dynamic load rating Ca (N)	Normal grade/High accuracy grade (H)	2,950	2,840	1,760
		Precision grade (P)	1,860	2,250	1,370
	Basic static load rating C_0a (N)	Normal grade/High accuracy grade (H)	5,390	4,900	2,840
		Precision grade (P)	2,690	2,740	1,570
	Screw shaft diameter (mm)		Ø10		
	Thread minor diameter (mm)		Ø7.8		
	Ball center-to-center diameter (mm)		Ø10.5		
	Permissible rotational speed[3] (min^{-1})	Normal grade/High accuracy grade (H)	4,700		
		Precision grade (P)	6,000		
Bearing unit (fixed side)	Axial direction	Basic dynamic load rating Ca (N)	1,790		
		Static permissible load P_0a (N)	2,590		
Permissible input torque (N·m)		Direct coupling	1.2		
		Motor wrap	0.98		
Static permissible moment[4, 5] (N·m)			M_A: 166 (908), M_B: 166 (908), M_C: 428 (857)		
Service life[6] (km)			5,000		10,000
Standard grease/Grease nipple used			THK AFB-LF Grease/PB107		

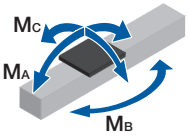
[1] I_X is the geometric moment of inertia about the X axis.
[2] I_Y is the geometric moment of inertia about the Y axis.
[3] The permissible rotational speed may decrease as the stroke becomes longer.
[4] The value in parentheses is with 2 blocks (B type) attached.
[5] See p. 168 for the values if "1" or "2" is selected for item ⑧ in the Model Number Coding.
[6] Calculated under the following conditions.
Stroke: 400 mm (A type), 325 mm (B type) / Speed: 250 mm/s (for 5 mm lead), 300 mm/s (for 6 mm lead), 500 mm/s (for 10 mm lead) / Load mass: Maximum load capacity (p. 9) / Acceleration/deceleration: As when set to maximum load capacity (p. 9) / Center of gravity: Center of the table's upper surface.

Notes: 1. LM Guide load rating is the load rating per block.
2. Precision grade (P-grade) ball screws have integrated spacer balls with a 1:1 ratio.

Geometric Moment of Inertia



Static Permissible Moment



Accuracy

Accuracy grade	Item	Stroke[7] 50	100	200	300	400	500	600
Normal grade (no symbol)	Positioning repeatability (mm)	±0.01						
	Positioning accuracy (mm)	Not specified						
	Running parallelism (vertical direction) (mm)	Not specified						
	Backlash (mm)	0.02						
	Starting torque (N·cm)	7						

Accuracy grade	Item	Stroke[7] 50	100	200	300	400	500	600
High accuracy grade (H)	Positioning repeatability (mm)	±0.005						
	Positioning accuracy (mm)	0.06				0.1		0.14
	Running parallelism (vertical direction) (mm)	0.025				0.035		
	Backlash (mm)	0.02						
	Starting torque (N·cm)	7						

Accuracy grade	Item	Stroke[7] 50	100	200	300	400	500	600
Precision grade (P)	Positioning repeatability (mm)	±0.003						
	Positioning accuracy (mm)	0.02				0.025		0.03
	Running parallelism (vertical direction) (mm)	0.01				0.015		
	Backlash (mm)	0.003						
	Starting torque (N·cm)	15						

[7] Stroke with 1 block (A type, without QZ).

Notes: 3. Precision evaluation in accordance with THK standards.
4. Measured using a motor for inspection. With motor wrap specifications, measurements are not made in the completed motor wrap state.
5. The starting torque represents the value when containing THK AFB-LF Grease.
6. The starting torque may exceed standards if using vacuum grease, clean room grease, or other high-viscosity greases, so care should be taken when selecting a motor.
7. Contact THK for accuracy higher than the standard stroke.

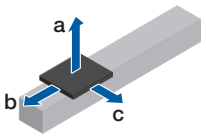
Motor Selection Information

Stroke[1] (mm)	Outer rail length (mm)	LM Guide				Ball screw		Motor mounting part	
		Moving part mass (kg)			Sliding resistance value[2] (N)	Lead (mm)	Shaft length (mm)	Direct coupling	Motor wrap
		Block mass	Sub-table mass	Total mass				Shaft end diameter (mm)	Timing pulley (sum of two) Inertial moment x 10^{-4} (kg·m²)
50 to 600	150 to 700	A type: 0.4 B type: 0.8	A type: 0.2 B type: 0.4	A type: 0.6 B type: 1.2	3.4	5, 6, 10	194 to 744	Ø6h7	0.041

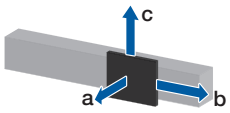
[1] Stroke with 1 block (A type, without QZ).
[2] Value with 1 block (A type, without QZ). This value is the sum of the rolling resistance value and seal resistance value.
Note: Refer to p. 75 for applicable couplings.

Permissible Overhang Length[3]

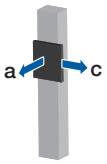
Horizontal



Wall-Mounted



Vertical



Estimated motor capacity 100 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	A type	5	10.5	600	120	180
			21.5	280	50	90
			43.5	120	20	40
		6	10.5	600	120	180
			21.5	280	50	90
			43.5	120	20	40
		10	9	600	11	210
			18.5	320	50	100
			37.5	150	20	50
	B type	5	15	600	510	260
			30.5	600	240	120
			61.5	510	110	60
		6	15	600	510	260
			30.5	600	240	120
			61.5	510	110	60
		10	9	600	600	430
			18.5	600	320	210
			37.5	600	150	100
Motor wrap	A type	5	10.5	600	120	180
			21.5	280	50	90
			43.5	120	20	40
		6	10.5	600	120	180
			21.5	280	50	90
			43.5	120	20	40
		10	9	600	110	210
			18.5	320	50	100
			37.5	150	20	50
	B type	5	15	600	510	260
			30.5	600	240	120
			61.5	510	110	60
		6	15	600	510	260
			30.5	600	240	120
			61.5	510	110	60
		10	9	600	600	430
			18.5	600	330	210
			37	600	150	100

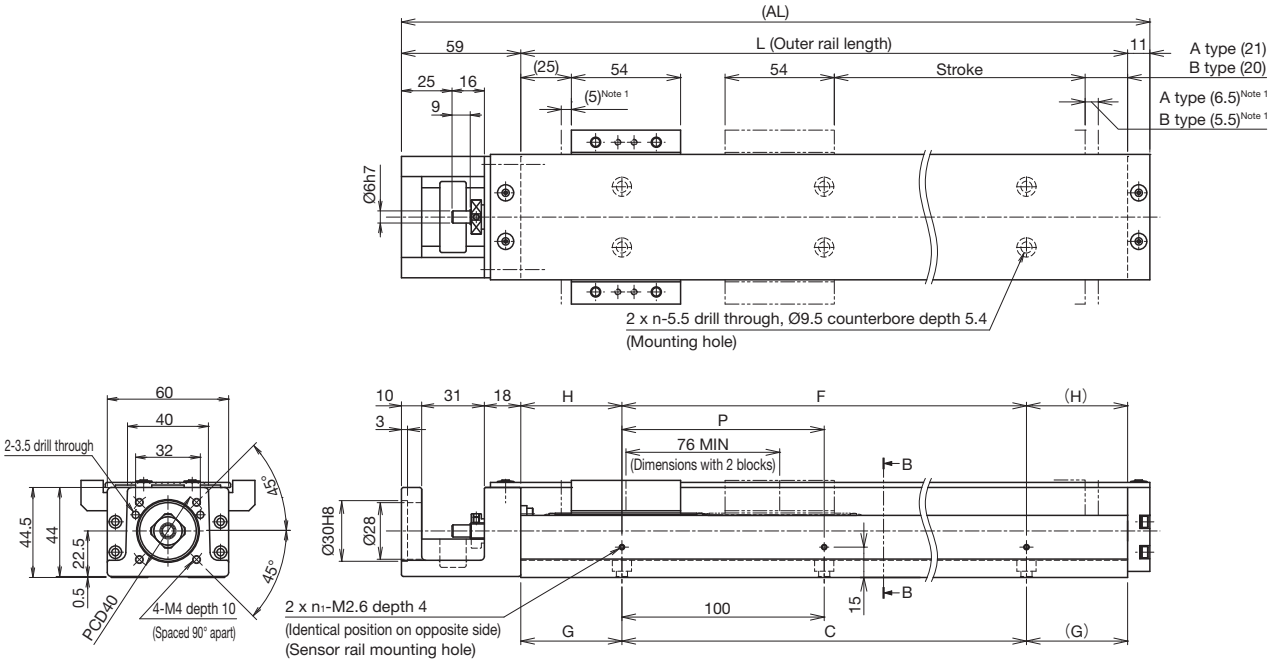
Estimated motor capacity 100 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	A type	5	8	220	150	530
			16.5	90	60	250
			33	30	20	120
		6	8	220	150	530
			16	90	70	260
			32.5	30	20	130
		10	6	300	160	600
			12	130	70	350
			24	50	30	170
	B type	5	12	300	290	600
			24.5	130	140	480
			49	50	70	240
		6	12	300	290	600
			24.5	130	140	480
			49	50	70	240
		10	9	410	390	600
			18.5	180	190	600
			37.5	70	90	310
Motor wrap	A type	5	8	220	150	530
			16.5	90	60	250
			33	30	20	120
		6	8	220	150	530
			16	90	70	260
			32.5	30	20	130
		10	6	300	160	600
			12	130	70	350
			24	50	30	170
	B type	5	12	300	290	600
			24.5	130	140	480
			49	50	70	240
		6	12	300	290	600
			24.5	130	140	480
			49	50	70	240
		10	9	410	390	600
			18.5	180	190	600
			37	80	90	320

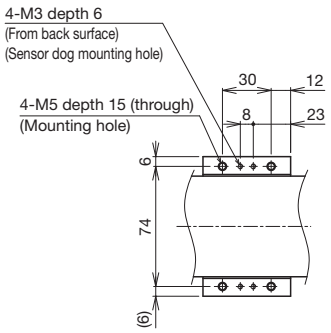
Estimated motor capacity 100 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	c (mm)
Direct coupling	A type	5	3.5	350	270
			7	160	130
			14.5	70	60
		6	3.5	340	280
			7.5	150	130
			15	60	60
		10	3	330	320
			6	150	150
			12	60	60
	B type	5	3.5	600	600
			7	600	390
			14	520	190
		6	3.5	600	600
			7.5	600	360
			15	480	180
		10	3	600	600
			6	600	450
			12.5	480	210
Motor wrap	A type	5	3.5	370	280
			7	170	140
			14	80	70
		6	2.5	450	390
			5.5	210	170
			11.5	90	80
		10	2.5	500	390
			5.5	230	170
			10.5	100	90
	B type	5	2.5	600	600
			5	600	540
			10.5	600	260
		6	2.5	600	600
			5.5	600	490
			11.5	600	230
		10	2.5	600	600
			5	600	540
			10	600	270

[3] This is the value with the service life of the LM Guide limited to 5,000 km (for leads of 5 mm and 6 mm) or 10,000 km (for leads of 10 mm). The calculation conditions are as follows.
Stroke: 325 mm (A type, B type) / Acceleration/deceleration: 0.3 G / Speed: 250 mm/s (for 5 mm lead), 300 mm/s (for 6 mm lead), 500 mm/s (for 10 mm lead) / Overhang direction: Loaded only in a single direction. Dimensions a, b, and c are from the center of the table's upper surface.

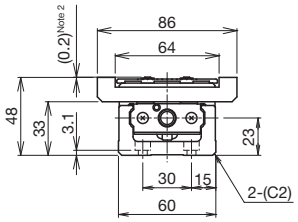
With Cover
Direct Motor Coupling

Dimensions

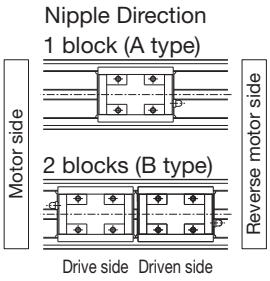




Sub-table details



B-B cross-section



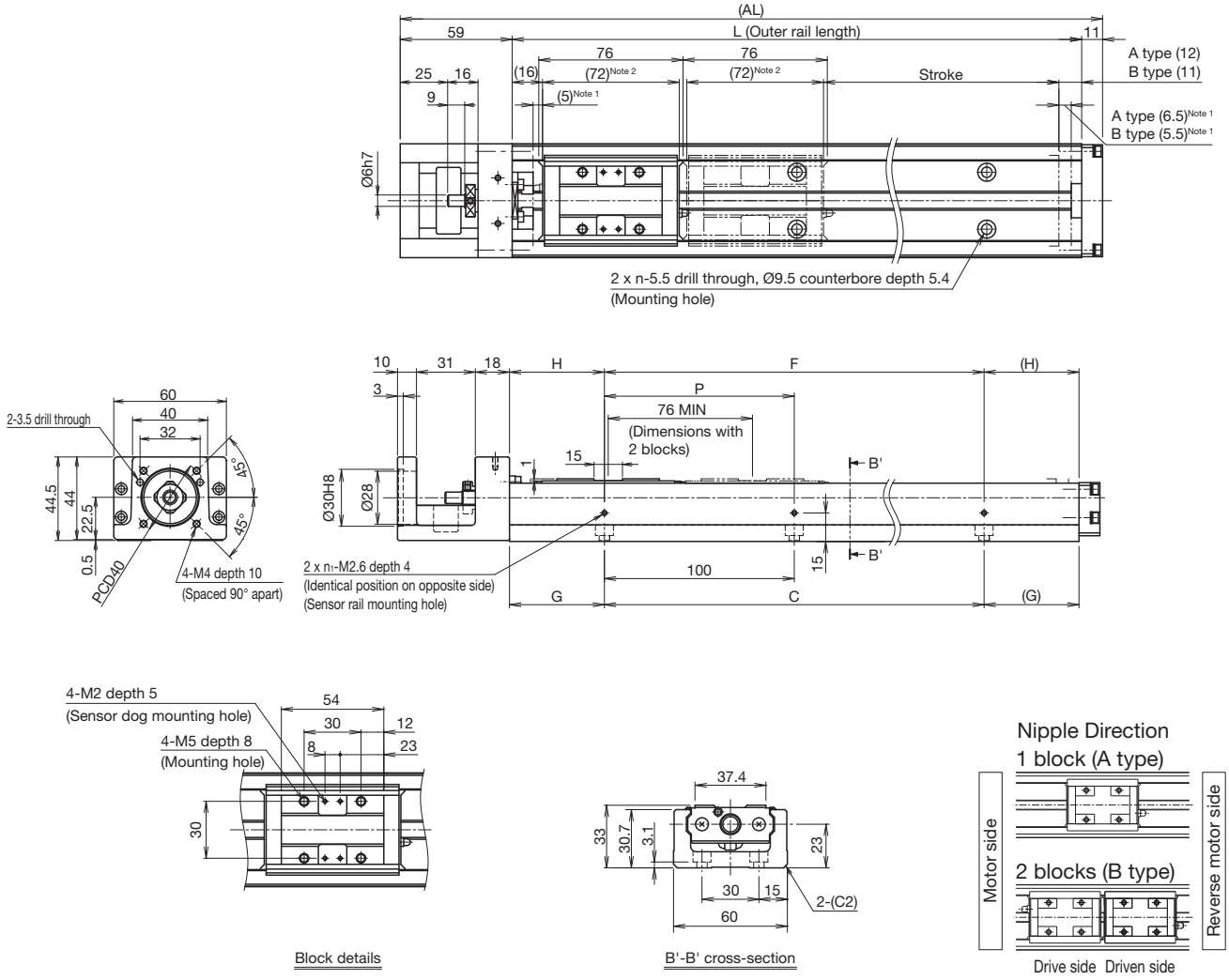
[1] Dimensions from the mechanical stopper to the stroke start position.
[2] When designing the components that will be mounted to the sub-table, please note that the upper surface of the cover mounting bolts will be higher than the upper surface of the sub-table.

Stroke (mm) (Stroke between mechanical stoppers)	A type		50 (61.5)	100 (111.5)	200 (211.5)	300 (311.5)	400 (411.5)	500 (511.5)	600 (611.5)
	B type[3]		-	-	125 (135.5)	225 (235.5)	325 (335.5)	425 (435.5)	525 (535.5)
Maximum speed[4] (mm/s)	Ball screw lead: 5 mm	Normal grade/High accuracy grade	390					330	230
		Precision grade	500					330	230
	Ball screw lead: 6 mm	Normal grade/High accuracy grade	470					390	280
		Precision grade	600				590	390	280
	Ball screw lead: 10 mm	Normal grade/High accuracy grade	790					650	470
		Precision grade	1,000				980	650	470
Dimensions (mm)	AL		220	270	370	470	570	670	770
	L		150	200	300	400	500	600	700
	C		100	100	200	300	400	500	600
	G		25	50	50	50	50	50	50
	P		100	100	200	200	200	200	200
	F		100	100	200	200	400	400	600
	H		25	50	50	100	50	100	50
No. of mounting holes	n		2	2	3	4	5	6	7
	n_1		2	2	2	2	3	3	4
Mass[5] (kg)			2.2	2.6	3.3	4.1	4.9	5.6	6.4

[3] The value with 2 blocks (B type, without QZ) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 blocks (B type) has 0.6 kg added.

Without Cover
Direct Motor Coupling

Dimensions



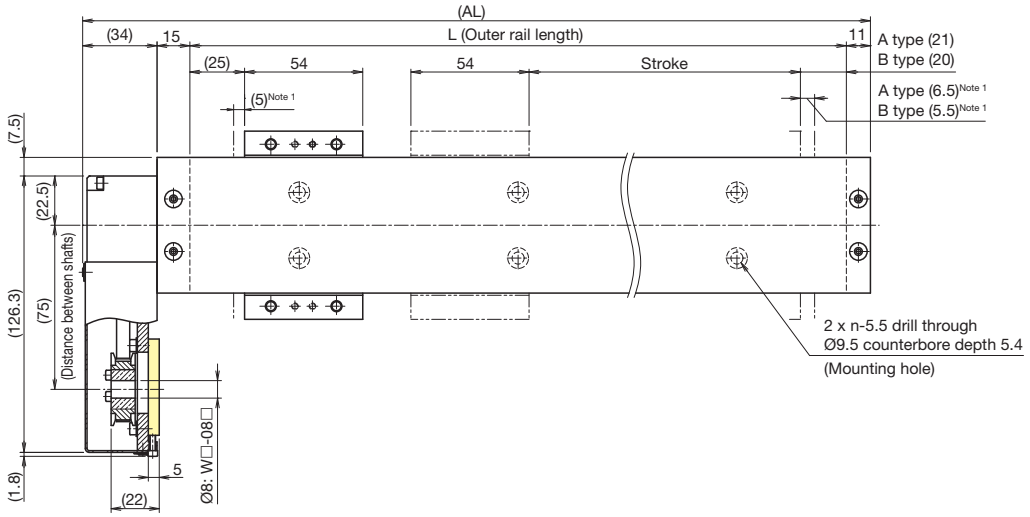
[1] Dimensions from the mechanical stopper to the stroke start position.
[2] Shows the block length when calculating the enabled stroke range.
148 mm (2 blocks total) for KR33 with 2 blocks (B type, without QZ).

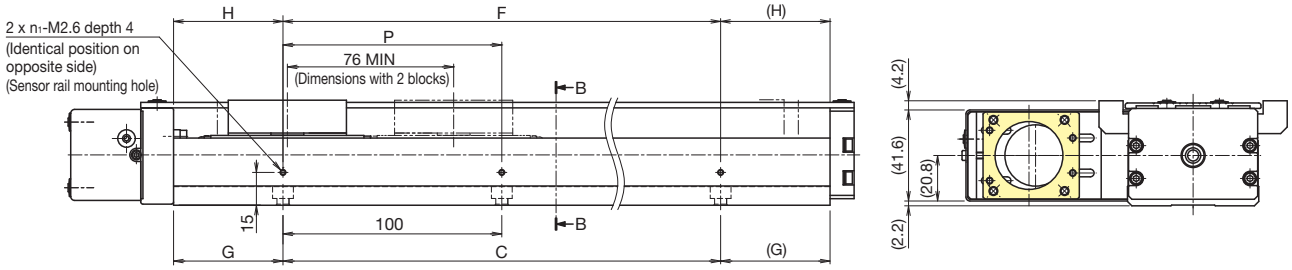
Stroke (mm) (Stroke between mechanical stoppers)			50 (61.5)	100 (111.5)	200 (211.5)	300 (311.5)	400 (411.5)	500 (511.5)	600 (611.5)
	A type								
	B type[3]		-	-	125 (135.5)	225 (235.5)	325 (335.5)	425 (435.5)	525 (535.5)
Maximum speed[4] (mm/s)	Ball screw lead: 5 mm	Normal grade/High accuracy grade	390					330	230
		Precision grade	500					330	230
	Ball screw lead: 6 mm	Normal grade/High accuracy grade	470					390	280
		Precision grade	600				590	390	280
	Ball screw lead: 10 mm	Normal grade/High accuracy grade	790					650	470
		Precision grade	1,000				980	650	470
Dimensions (mm)	AL		220	270	370	470	570	670	770
	L		150	200	300	400	500	600	700
	C		100	100	200	300	400	500	600
	G		25	50	50	50	50	50	50
	P		100	100	200	200	200	200	200
	F		100	100	200	200	400	400	600
	H		25	50	50	100	50	100	50
No. of mounting holes	n		2	2	3	4	5	6	7
	n_1		2	2	2	2	3	3	4
Mass[5] (kg)			1.9	2.2	3	3.7	4.4	5.2	5.9

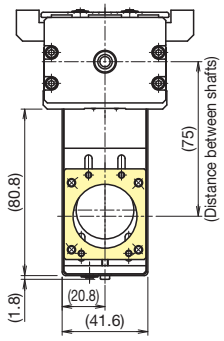
[3] The value with 2 blocks (B type, without QZ) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 blocks (B type) has 0.4 kg added.

With Cover
Motor Wrap

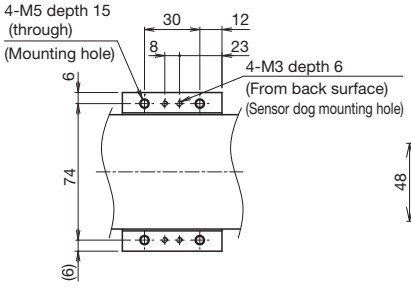
Dimensions



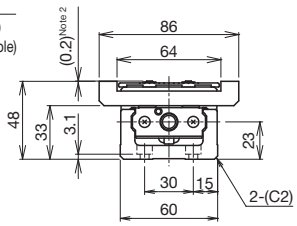




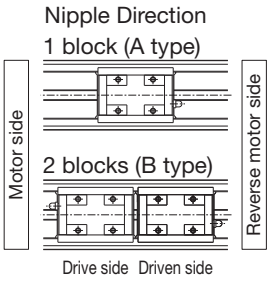
With bottom side wrap selected



Sub-table details



B-B cross-section



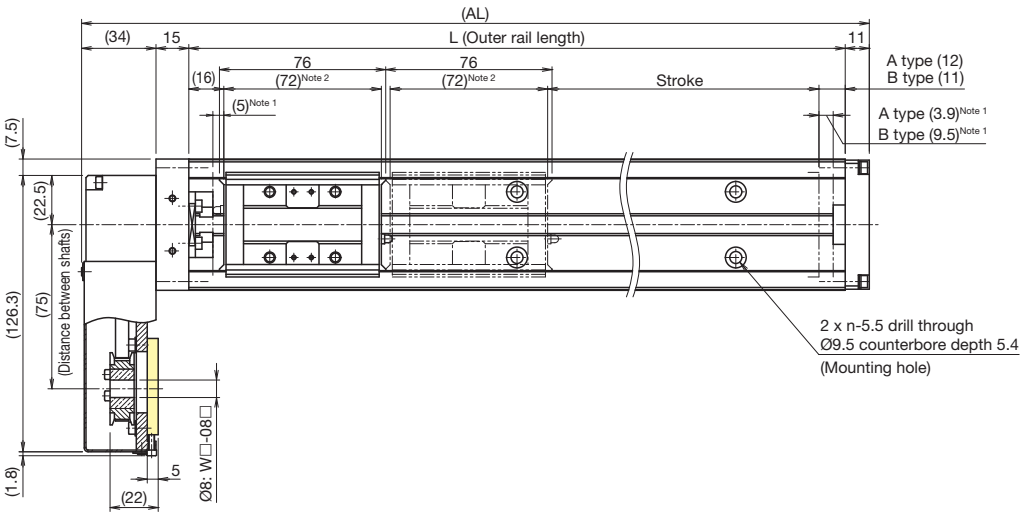
[1] Dimensions from the mechanical stopper to the stroke start position.
[2] When designing the components that will be mounted to the sub-table, please note that the upper surface of the cover mounting bolts will be higher than the upper surface of the sub-table.

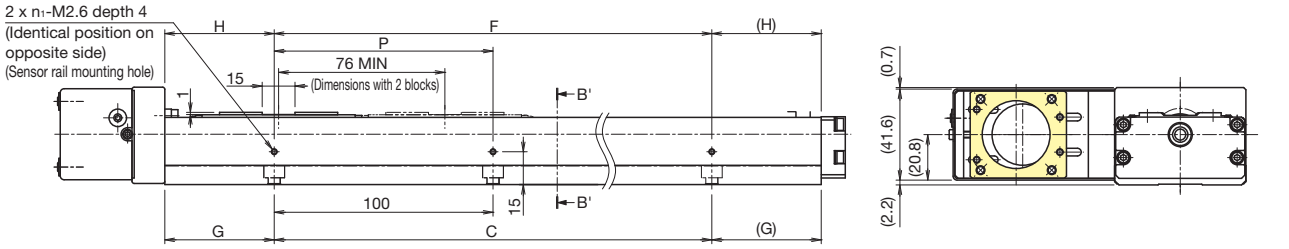
Stroke (mm) (Stroke between mechanical stoppers)			50 (61.5)	100 (111.5)	200 (211.5)	300 (311.5)	400 (411.5)	500 (511.5)	600 (611.5)
	A type								
	B type[3]		-	-	125 (135.5)	225 (235.5)	325 (335.5)	425 (435.5)	525 (535.5)
Maximum speed[4] (mm/s)	Ball screw lead: 5 mm	Normal grade/High accuracy grade	390					330	230
		Precision grade	500					330	230
	Ball screw lead: 6 mm	Normal grade/High accuracy grade	470					390	280
		Precision grade	600				590	390	280
	Ball screw lead: 10 mm	Normal grade/High accuracy grade	790					650	470
		Precision grade	1,000				980	650	470
Dimensions (mm)	AL		210	260	360	460	560	660	760
	L		150	200	300	400	500	600	700
	C		100	100	200	300	400	500	600
	G		25	50	50	50	50	50	50
	P		100	100	200	200	200	200	200
	F		100	100	200	200	400	400	600
	H		25	50	50	100	50	100	50
No. of mounting holes	n		2	2	3	4	5	6	7
	n_1		2	2	2	2	3	3	4
Mass[5] (kg)			2.5	2.9	3.6	4.4	5.2	5.9	6.7

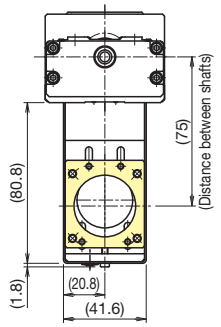
[3] The value with 2 blocks (B type, without QZ) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 blocks (B type) has 0.6 kg added.

Without Cover
Motor Wrap

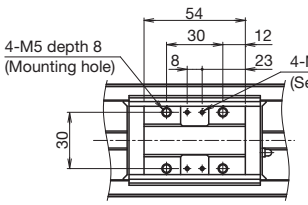
Dimensions



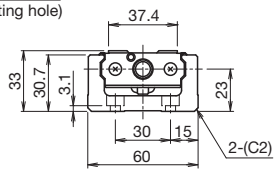




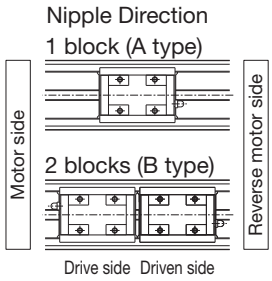
With bottom side wrap selected



Block details



B'-B' cross-section



[1] Dimensions from the mechanical stopper to the stroke start position.
[2] Shows the block length when calculating the enabled stroke range.
148 mm (2 blocks total) for KR33 with 2 blocks (B type, without QZ).

Stroke (mm) (Stroke between mechanical stoppers)			50 (61.5)	100 (111.5)	200 (211.5)	300 (311.5)	400 (411.5)	500 (511.5)	600 (611.5)
	A type								
	B type[3]		-	-	125 (135.5)	225 (235.5)	325 (335.5)	425 (435.5)	525 (535.5)
Maximum speed[4] (mm/s)	Ball screw lead: 5 mm	Normal grade/High accuracy grade	390					330	230
		Precision grade	500					330	230
	Ball screw lead: 6 mm	Normal grade/High accuracy grade	470					390	280
		Precision grade	600				590	390	280
	Ball screw lead: 10 mm	Normal grade/High accuracy grade	790					650	470
		Precision grade	1,000				980	650	470
Dimensions (mm)	AL		210	260	360	460	560	660	760
	L		150	200	300	400	500	600	700
	C		100	100	200	300	400	500	600
	G		25	50	50	50	50	50	50
	P		100	100	200	200	200	200	200
	F		100	100	200	200	400	400	600
	H		25	50	50	100	50	100	50
No. of mounting holes	n		2	2	3	4	5	6	7
	n_1		2	2	2	2	3	3	4
Mass[5] (kg)			2.2	2.6	3.3	4	4.7	5.5	6.2

[3] The value with 2 blocks (B type, without QZ) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 blocks (B type) has 0.4 kg added.

KR33 C/D

Direct motor coupling | Motor wrap | Width 60 mm | Height 33 mm | Max. stroke 625 mm

Model Number Coding

Model ①	Ball screw lead ②	Block type ③	QZ specification ④	Stroke ⑤	Accuracy grade ⑥	With/without motor ⑦	Cover ⑧	Sensors ⑨	Housing A/ Intermediate flange ⑩
KR33	05: 5 mm	C: x1	No symbol: Without QZ	0025: 25 mm	No symbol: Normal grade	With direct coupling	0: Without cover	0	With direct coupling
	06: 6 mm	D: x2	QZ	to	H: High accuracy grade	0: Direct coupling (without motor)	1: With cover	1	A0
	10: 10 mm		QZA	0625: 625 mm	P: Precision grade	1: Direct coupling (THK will purchase and mount the motor you specify.)	2: With bellows	2	AP
			QZB			With motor wrap		6	AQ
			QZAD			R1: Non-standard side wrap (without motor)		7	AR
						R2: Standard side wrap (without motor)		B	AT
						R3: Bottom side wrap (without motor)		E	AU
						R4: Non-standard side wrap (THK will purchase and mount the motor you specify.)		H	40
						R5: Standard side wrap (THK will purchase and mount the motor you specify.)		L	With motor wrap
						R6: Bottom side wrap (THK will purchase and mount the motor you specify.)		J	WP-08D
								M	WP-08K
								Sensor details → p. 73	WP-08M
									WQ-08D
									WQ-08K
									WQ-08M

When selecting "05" for "② Ball screw lead," QZ specification cannot be selected.

Check the stroke for type with QZ when selecting anything other than "No symbol." → p. 79 to p. 84

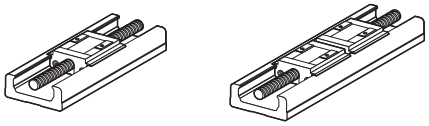
When selecting 2: With bellows for ⑧ Cover, specify the stroke with bellows. → p. 167 to p. 168

When selecting "0": A coupling is not provided. Indicate when placing an order if a coupling is required.

When selecting "1," "R4," "R5," or "R6": The specified motor will be installed. Indicate the motor cable direction separately. Select ⑩ Intermediate flange to match the specified motor.

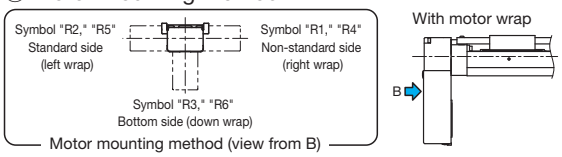
With direct coupling → p. 75
With motor wrap → p. 77

③ Block Type



C: 1 short block (C type)　　D: 2 short blocks (D type)

⑦ Motor Mounting Method



Selection Information

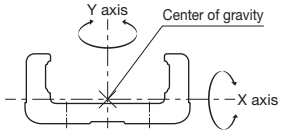
Basic Specifications

LM Guide	Basic dynamic load rating C (N)		4,900		
	Basic static load rating C_0 (N)		10,000		
	Radial clearance (mm)	Normal grade/High accuracy grade (H)	-0.004 to +0.002		
		Precision grade (P)	-0.012 to -0.004		
	Geometric moment of inertia	I_X[1] (mm^4)	6.2×10^4		
		I_Y[2] (mm^4)	3.8×10^5		
		Mass (kg/m)	6.6		
Ball screw	Ball screw lead (mm)		5	6	10
	Basic dynamic load rating Ca (N)	Normal grade/High accuracy grade (H)	2,950	2,840	1,760
		Precision grade (P)	1,860	2,250	1,370
	Basic static load rating C_0a (N)	Normal grade/High accuracy grade (H)	5,390	4,900	2,840
		Precision grade (P)	2,690	2,740	1,570
	Screw shaft diameter (mm)		Ø10		
	Thread minor diameter (mm)		Ø7.8		
	Ball center-to-center diameter (mm)		Ø10.5		
	Permissible rotational speed[3] (min^{-1})	Normal grade/High accuracy grade (H)	4,700		
		Precision grade (P)	6,000		
Bearing unit (fixed side)	Axial direction	Basic dynamic load rating Ca (N)	1,790		
		Static permissible load P_0a (N)	2,590		
Permissible input torque (N·m)		Direct coupling	1.2		
		Motor wrap	0.98		
Static permissible moment[4, 5] (N·m)			M_A: 44 (319), M_B: 44 (319), M_C: 214 (427)		
Service life[6] (km)			5,000		10,000
Standard grease/Grease nipple used			THK AFB-LF Grease/PB107		

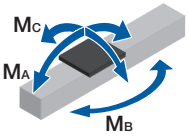
[1] I_X is the geometric moment of inertia about the X axis.
[2] I_Y is the geometric moment of inertia about the Y axis.
[3] The permissible rotational speed may decrease as the stroke becomes longer.
[4] The value in parentheses is with 2 short blocks (D type) attached.
[5] See p. 168 for the values if "1" or "2" is selected for item ⑧ in the Model Number Coding.
[6] Calculated under the following conditions.
Stroke: 425 mm (C type), 375 mm (D type) / Speed: 250 mm/s (for 5 mm lead), 300 mm/s (for 6 mm lead), 500 mm/s (for 10 mm lead) / Load mass: Maximum load capacity (p. 9) / Acceleration/deceleration: As when set to maximum load capacity (p. 9) / Center of gravity: Center of the table's upper surface.

Notes: 1. LM Guide load rating is the load rating per short block.
2. Precision grade (P-grade) ball screws have integrated spacer balls with a 1:1 ratio.

Geometric Moment of Inertia



Static Permissible Moment



Accuracy

Accuracy grade	Item	Stroke[7] 75	125	225	325	425	525	625
Normal grade (no symbol)	Positioning repeatability (mm)	±0.01						
	Positioning accuracy (mm)	Not specified						
	Running parallelism (vertical direction) (mm)	Not specified						
	Backlash (mm)	0.02						
	Starting torque (N·cm)	7						

Accuracy grade	Item	Stroke[7] 75	125	225	325	425	525	625
High accuracy grade (H)	Positioning repeatability (mm)	±0.005						
	Positioning accuracy (mm)	0.06				0.1		0.14
	Running parallelism (vertical direction) (mm)	0.025				0.035		
	Backlash (mm)	0.02						
	Starting torque (N·cm)	7						

Accuracy grade	Item	Stroke[7] 75	125	225	325	425	525	625
Precision grade (P)	Positioning repeatability (mm)	±0.003						
	Positioning accuracy (mm)	0.02				0.025		0.03
	Running parallelism (vertical direction) (mm)	0.01				0.015		
	Backlash (mm)	0.003						
	Starting torque (N·cm)	15						

[7] Stroke with 1 short block (C type, without QZ).

Notes: 3. Precision evaluation in accordance with THK standards.
4. Measured using a motor for inspection. With motor wrap specifications, measurements are not made in the completed motor wrap state.
5. The starting torque represents the value when containing THK AFB-LF Grease.
6. The starting torque may exceed standards if using vacuum grease, clean room grease, or other high-viscosity greases, so care should be taken when selecting a motor.
7. Contact THK for accuracy higher than the standard stroke.

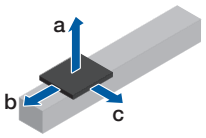
Motor Selection Information

Stroke[1] (mm)	Outer rail length (mm)	LM Guide				Ball screw		Motor mounting part	
		Moving part mass (kg)			Sliding resistance value[2] (N)	Lead (mm)	Shaft length (mm)	Direct coupling	Motor wrap
		Block mass	Sub-table mass	Total mass				Shaft end diameter (mm)	Timing pulley (sum of two) Inertial moment x 10^{-4} (kg·m²)
75 to 625	150 to 700	C type: 0.2 D type: 0.4	C type: 0.1 D type: 0.2	C type: 0.3 D type: 0.6	3.1	5, 6, 10	191 to 741	Ø6h7	0.041

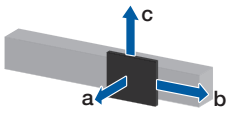
[1] Stroke with 1 short block (C type, without QZ).
[2] Value with 1 short block (C type, without QZ). This value is the sum of the rolling resistance value and seal resistance value.
Note: Refer to p. 75 for applicable couplings.

Permissible Overhang Length[3]

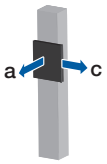
Horizontal



Wall-Mounted



Vertical



Estimated motor capacity 100 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	C type	5	7.5	90	30	130
			15.5	30	10	60
			31	0	0	30
		6	7	100	30	130
			14	40	10	60
			28	0	0	30
		10	3.5	230	60	270
			7	100	30	130
			14	40	10	70
	D type	5	11	600	210	170
			22	470	90	80
			44.5	220	40	40
		6	11	600	210	170
			22	470	90	80
			44.5	220	40	40
		10	9	600	190	210
			18.5	570	90	100
			37.5	260	30	50
Motor wrap	C type	5	7.5	90	30	130
			15.5	30	10	60
			31	0	0	30
		6	7	100	30	130
			14	40	10	60
			28	0	0	30
		10	3.5	230	60	280
			7	100	30	140
			14	40	10	70
	D type	5	11	600	210	170
			22	470	90	80
			44.5	220	40	40
		6	11	600	210	170
			22	470	90	80
			44.5	220	40	40
		10	9	600	190	210
			18.5	570	90	100
			37.5	260	30	50

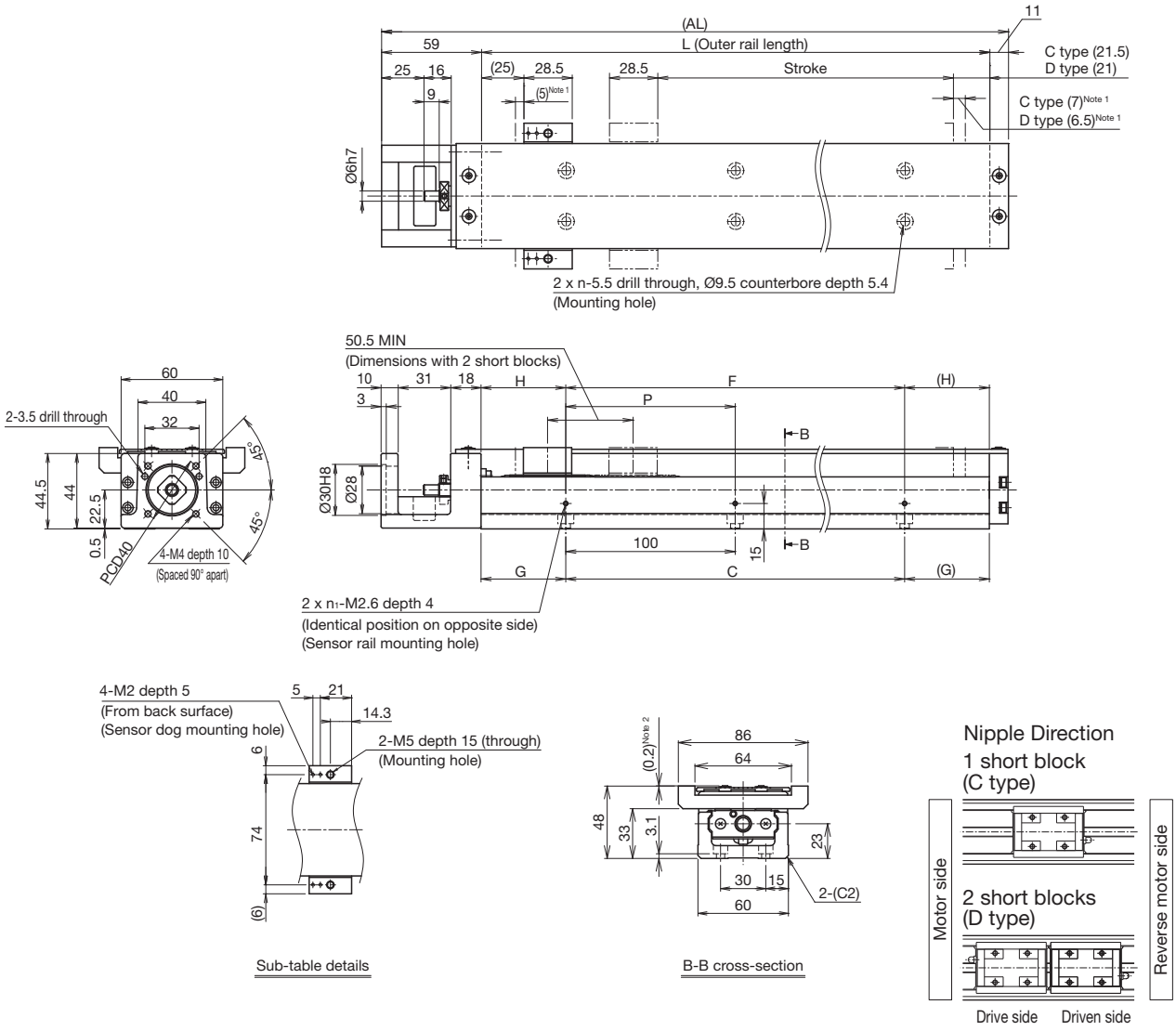
Estimated motor capacity 100 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	C type	5	3.5	230	70	410
			7.5	90	30	190
			15	30	10	90
		6	3.5	230	70	420
			7.5	90	30	190
			15	30	10	90
		10	2.5	340	90	590
			5	190	40	290
			10	70	10	110
	D type	5	7	250	210	600
			14.5	110	100	340
			29	40	50	170
		6	7	250	200	400
			14.5	110	100	330
			29	40	50	160
		10	5.5	330	260	600
			11.5	140	120	420
			23	60	50	210
Motor wrap	C type	5	3.5	230	70	410
			7.5	90	30	190
			15	30	10	90
		6	3.5	230	70	420
			7.5	90	30	190
			15	30	10	90
		10	2.5	340	90	590
			5	190	40	290
			10	70	10	110
	D type	5	7	250	210	600
			14.5	110	100	340
			29	40	50	170
		6	7	250	200	400
			14.5	110	100	330
			29	40	50	160
		10	5.5	330	260	600
			11.5	140	120	420
			23	60	50	210

Estimated motor capacity 100 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	c (mm)
Direct coupling	C type	5	1	180	250
			2	80	110
			4.5	20	40
		6	1	180	250
			2	80	110
			4.5	20	40
		10	0.5	250	250
			1.5	110	110
			3.5	30	40
	D type	5	3.5	600	320
			7	330	160
			14	150	80
		6	3.5	600	320
			7.5	310	150
			15	140	70
		10	3	600	370
			6	400	180
			12	170	90
Motor wrap	C type	5	1	180	250
			2	80	110
			4.5	20	40
		6	1	180	250
			2	80	110
			4.5	20	40
		10	0.5	250	250
			1.5	110	110
			3.5	30	40
	D type	5	2.5	600	450
			5	450	220
			10.5	210	100
		6	2.5	600	450
			5.5	430	200
			11.5	190	90
		10	2.5	600	450
			5	480	220
			10.5	230	100

[3] This is the value with the service life of the LM Guide limited to 5,000 km (for leads of 5 mm and 6 mm) or 10,000 km (for leads of 10 mm). The calculation conditions are as follows.
Stroke: 350 mm (C type), 300 mm (D type) / Acceleration/deceleration: 0.3 G / Speed: 250 mm/s (for 5 mm lead), 300 mm/s (for 6 mm lead), 500 mm/s (for 10 mm lead) / Overhang direction: Loaded only in a single direction. Dimensions a, b, and c are from the center of the table's upper surface.

With Cover
Direct Motor Coupling

Dimensions



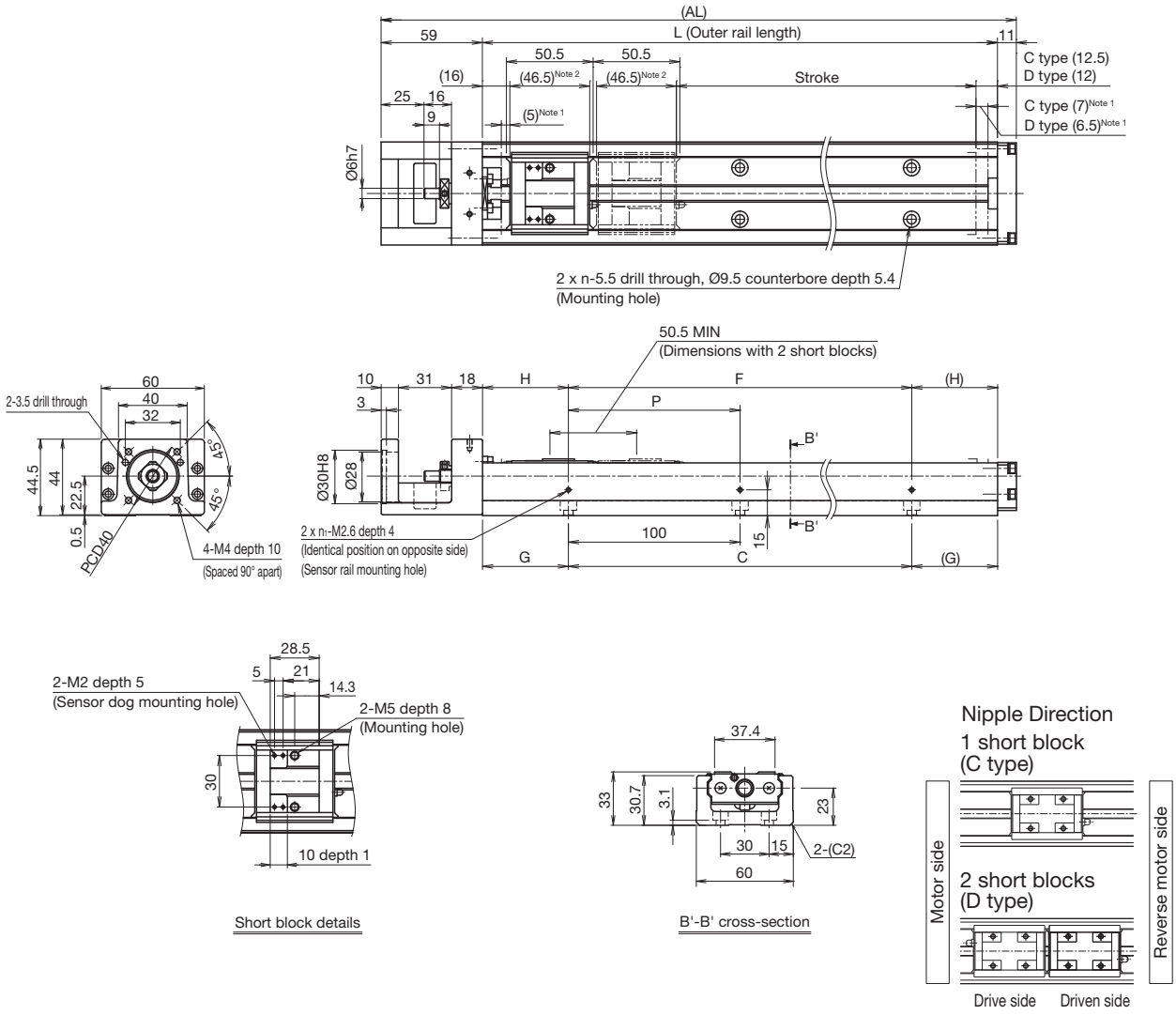
[1] Dimensions from the mechanical stopper to the stroke start position.
[2] When designing the components that will be mounted to the sub-table, please note that the upper surface of the cover mounting bolts will be higher than the upper surface of the sub-table.

Stroke (mm) (Stroke between mechanical stoppers)	C type		75 (87)	125 (137)	225 (237)	325 (337)	425 (437)	525 (537)	625 (637)
	D type[3]		25 (36.5)	75 (86.5)	175 (186.5)	275 (286.5)	375 (386.5)	475 (486.5)	575 (586.5)
Maximum speed[4] (mm/s)	Ball screw lead: 5 mm	Normal grade/High accuracy grade	390					300	220
		Precision grade	500				450	300	220
	Ball screw lead: 6 mm	Normal grade/High accuracy grade	470					360	260
		Precision grade	600				530	360	260
	Ball screw lead: 10 mm	Normal grade/High accuracy grade	790					600	430
		Precision grade	1,000				880	600	430
Dimensions (mm)	AL		220	270	370	470	570	670	770
	L		150	200	300	400	500	600	700
	C		100	100	200	300	400	500	600
	G		25	50	50	50	50	50	50
	P		100	100	200	200	200	200	200
	F		100	100	200	200	400	400	600
	H		25	50	50	100	50	100	50
No. of mounting holes	n		2	2	3	4	5	6	7
	n_1		2	2	2	2	3	3	4
Mass[5] (kg)			1.9	2.3	3	3.8	4.6	5.3	6.1

[3] The value with 2 short blocks (D type, without QZ) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 short blocks (D type) has 0.3 kg added.

Without Cover
Direct Motor Coupling

Dimensions



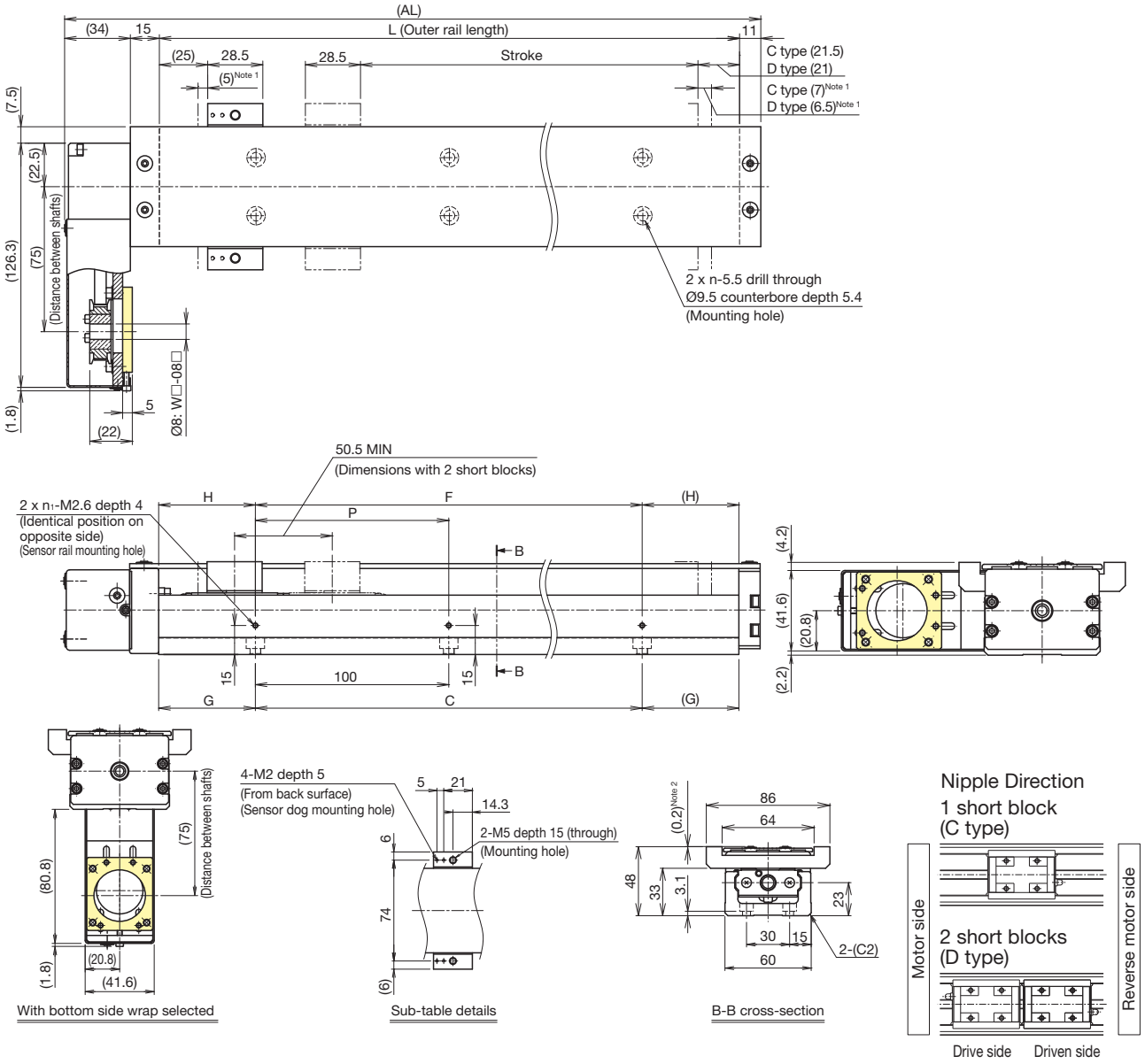
[1] Dimensions from the mechanical stopper to the stroke start position.
[2] Shows the short block length when calculating the enabled stroke range. 97.2 mm (2 blocks total) for KR33 with 2 short blocks (D type, without QZ).

Stroke (mm) (Stroke between mechanical stoppers)	C type		75 (87)	125 (137)	225 (237)	325 (337)	425 (437)	525 (537)	625 (637)
	D type[3]		25 (36.5)	75 (86.5)	175 (186.5)	275 (286.5)	375 (386.5)	475 (486.5)	575 (586.5)
Maximum speed[4] (mm/s)	Ball screw lead: 5 mm	Normal grade/High accuracy grade	390					300	220
		Precision grade	500				450	300	220
	Ball screw lead: 6 mm	Normal grade/High accuracy grade	470					360	260
		Precision grade	600				530	360	260
	Ball screw lead: 10 mm	Normal grade/High accuracy grade	790					600	430
		Precision grade	1,000				880	600	430
Dimensions (mm)	AL		220	270	370	470	570	670	770
	L		150	200	300	400	500	600	700
	C		100	100	200	300	400	500	600
	G		25	50	50	50	50	50	50
	P		100	100	200	200	200	200	200
	F		100	100	200	200	400	400	600
	H		25	50	50	100	50	100	50
No. of mounting holes	n		2	2	3	4	5	6	7
	n_1		2	2	2	2	3	3	4
Mass[5] (kg)			1.7	2	2.8	3.5	4.2	5	5.7

[3] The value with 2 short blocks (D type, without QZ) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 short blocks (D type) has 0.2 kg added.

With Cover
Motor Wrap

Dimensions



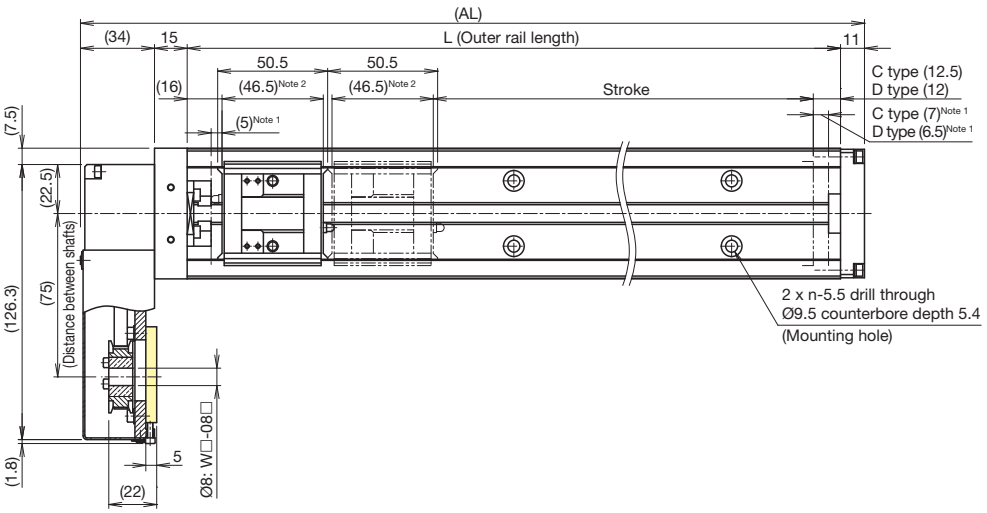
[1] Dimensions from the mechanical stopper to the stroke start position.
[2] When designing the components that will be mounted to the sub-table, please note that the upper surface of the cover mounting bolts will be higher than the upper surface of the sub-table.

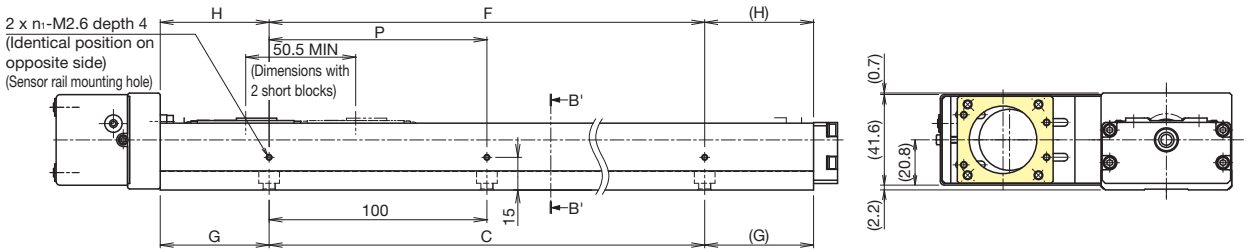
Stroke (mm) (Stroke between mechanical stoppers)	C type		75 (87)	125 (137)	225 (237)	325 (337)	425 (437)	525 (537)	625 (637)
	D type[3]		25 (36.5)	75 (86.5)	175 (186.5)	275 (286.5)	375 (386.5)	475 (486.5)	575 (586.5)
Maximum speed[4] (mm/s)	Ball screw lead: 5 mm	Normal grade/High accuracy grade	390					300	220
		Precision grade	500				450	300	220
	Ball screw lead: 6 mm	Normal grade/High accuracy grade	470					360	260
		Precision grade	600				530	360	260
	Ball screw lead: 10 mm	Normal grade/High accuracy grade	790					600	430
		Precision grade	1,000				880	600	430
Dimensions (mm)	AL		210	260	360	460	560	660	760
	L		150	200	300	400	500	600	700
	C		100	100	200	300	400	500	600
	G		25	50	50	50	50	50	50
	P		100	100	200	200	200	200	200
	F		100	100	200	200	400	400	600
	H		25	50	50	100	50	100	50
No. of mounting holes	n		2	2	3	4	5	6	7
	n_1		2	2	2	2	3	3	4
Mass[5] (kg)			2.2	2.6	3.3	4.1	4.9	5.6	6.4

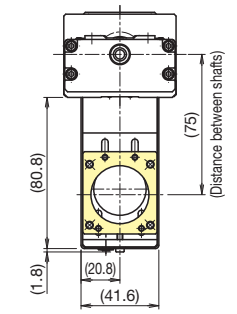
[3] The value with 2 short blocks (D type, without QZ) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 short blocks (D type) has 0.3 kg added.

Without Cover
Motor Wrap

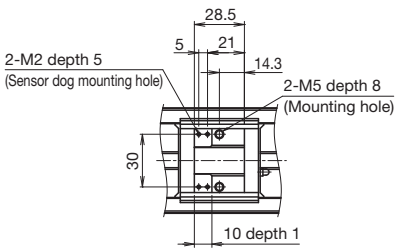
Dimensions



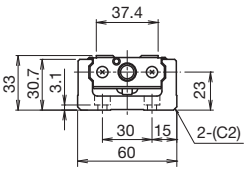




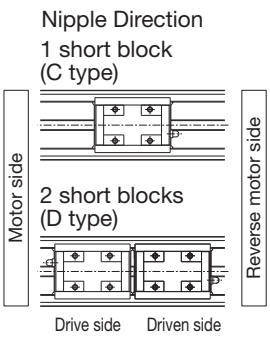
With bottom side wrap selected



Short block details



B'-B' cross-section



[1] Dimensions from the mechanical stopper to the stroke start position.
[2] Shows the short block length when calculating the enabled stroke range.
97.2 mm (2 blocks total) for KR33 with 2 short blocks (D type, without QZ).

Stroke (mm) (Stroke between mechanical stoppers)	C type		75 (87)	125 (137)	225 (237)	325 (337)	425 (437)	525 (537)	625 (637)
	D type[3]		25 (36.5)	75 (86.5)	175 (186.5)	275 (286.5)	375 (386.5)	475 (486.5)	575 (586.5)
Maximum speed[4] (mm/s)	Ball screw lead: 5 mm	Normal grade/High accuracy grade	390					300	220
		Precision grade	500				450	300	220
	Ball screw lead: 6 mm	Normal grade/High accuracy grade	470					360	260
		Precision grade	600				530	360	260
	Ball screw lead: 10 mm	Normal grade/High accuracy grade	790					600	430
		Precision grade	1,000				880	600	430
Dimensions (mm)	AL		210	260	360	460	560	660	760
	L		150	200	300	400	500	600	700
	C		100	100	200	300	400	500	600
	G		25	50	50	50	50	50	50
	P		100	100	200	200	200	200	200
	F		100	100	200	200	400	400	600
	H		25	50	50	100	50	100	50
No. of mounting holes	n		2	2	3	4	5	6	7
	n_1		2	2	2	2	3	3	4
Mass[5] (kg)			2	2.4	3.1	3.8	4.5	5.3	6

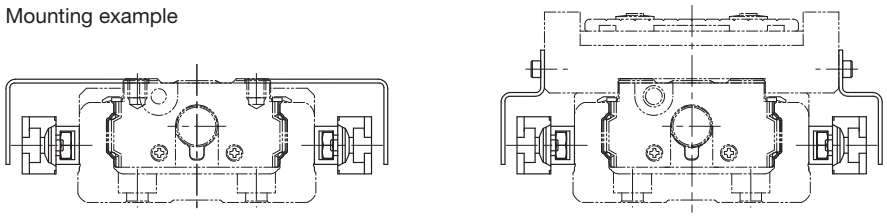
[3] The value with 2 short blocks (D type, without QZ) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 short blocks (D type) has 0.2 kg added.

Options

Sensors

Optional photo sensors and proximity sensors are available. Sensor-equipped models also feature a dedicated sensor rail and sensor dog.
Sensors, sensor rails, and sensor dogs can be mounted on both sides when the stroke is less than 70 mm.

Mounting example

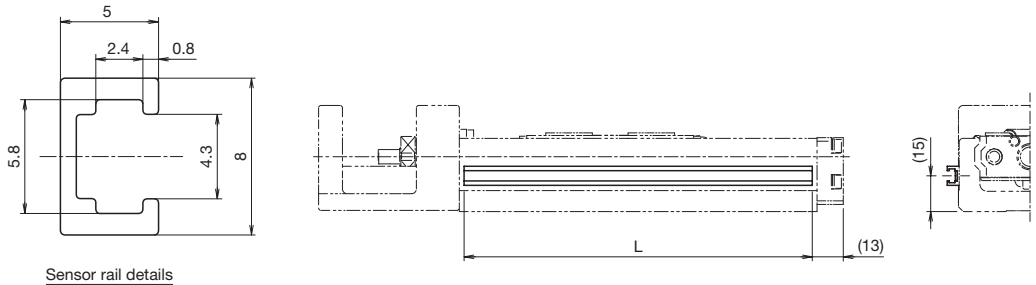


Symbol	Description	Model	Accessories
0	None	-	-
1	With sensor rail	-	Mounting screws, sensor rail (x1 or 2)
2	Photo sensor[1] (x3)	EE-SX671 (OMRON Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2), mounting plates (x3), connectors (EE-1001 x3)
6	Photo sensor[1] (x3)	EE-SX674 (OMRON Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2), mounting plates (x3), connectors (EE-1001 x3)
7	Proximity sensor N.O. contact[2] (x3)	APM-D3A1-001 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
B	Proximity sensor N.C. contact[3] (x3)	APM-D3B1-003 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
E	Proximity sensor N.O. contact[2] (x1) N.C. contact[3] (x2)	APM-D3A1-001 (Azbil Corporation) APM-D3B1-003 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
H	Proximity sensor N.O. contact[2] (x3)	GX-F12A (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
L	Proximity sensor N.C. contact[3] (x3)	GX-F12B (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
J	Proximity sensor N.O. contact[2] (x1) N.C. contact[3] (x2)	GX-F12A (Panasonic Industry Co., Ltd.) GX-F12B (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
M	Proximity sensor N.O. contact[2] (x1) (PNP output) N.C. contact[3] (x2) (PNP output)	GX-F12A-P (Panasonic Industry Co., Ltd.) GX-F12B-P (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)

[1] The photo sensors can be switched between ON when lit and ON when unlit.
[2] N.O. contact: Normally open contact point
[3] N.C. contact: Normally closed contact point
Notes: 1. If proximity sensors are close to one another, they may not function properly. If that happens, please prepare a type with a different frequency.
2. Mounting of sensors other than those in the table above is possible. Contact THK for details.

Sensor Rail Mounting Dimensions

Mounting only a sensor rail is also possible.



Sensor rail details

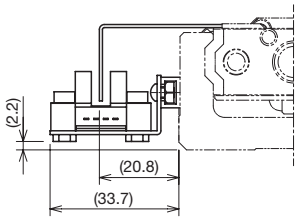
Stroke[4] (mm)	Outer rail length (mm)	L (mm)
50	150	146
100	200	196
200	300	296
300	400	396
400	500	496
500	600	596
600	700	696

[4] Stroke with 1 block (A type).

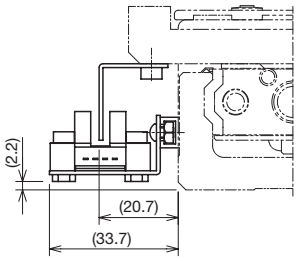
Photo Sensor Mounting Dimensions

Connector: EE-1001 (OMRON Corporation) x3 included.
To be mounted by the customer.

Without cover



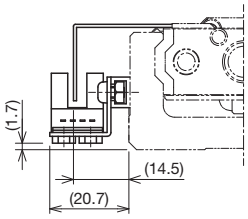
With cover



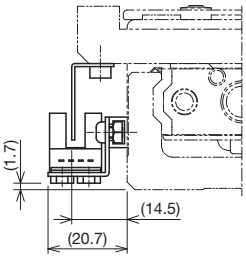
Symbol	Model	Manufacturer
2	EE-SX671	OMRON Corporation

Sensor dog width: 15 mm (10 mm)[1]

Without cover



With cover



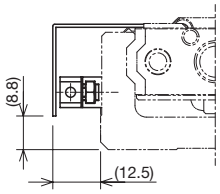
Symbol	Model	Manufacturer
6	EE-SX674	OMRON Corporation

Sensor dog width: 15 mm (10 mm)[1]

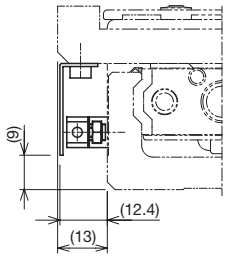
[1] The value in parentheses is for short block specifications.

Proximity Sensor Mounting Dimensions

Without cover



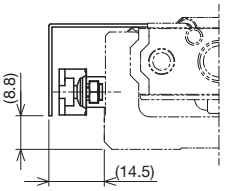
With cover



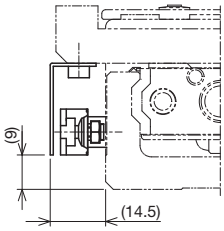
Symbol	Model	Manufacturer
7, B, E	APM-D3A1-001	Azbil Corporation
	APM-D3B1-003	

Sensor dog width: 15 mm (10 mm)[2]

Without cover



With cover



Symbol	Model	Manufacturer
H, L, J	GX-F12A	Panasonic Industry Co., Ltd.
	GX-F12B	
M	GX-F12A-P	
	GX-F12B-P	

Sensor dog width: 15 mm (10 mm)[2]

[2] The value in parentheses is for short block specifications.

Options

Intermediate Flange (Direct Coupling)

Several types of intermediate flanges for mounting motors are available.
When selecting "0" or "1" for Model Number Coding ⑦ With/without motor, specify an intermediate flange that matches the motor used.

Compatibility Table: Motors Used, Intermediate Flanges, and Couplings

Motor type	Manufacturer	Series		Motor model	Motor rated output (W)	Flange size	Housing A/ Intermediate flange	Compatible coupling models	
								MIKI PULLEY CO., LTD.	Nabeya Bi-tech Kaisha (NBK)
AC servo motor	YASKAWA Electric Corporation	Σ-V		SGMJV-A5	50	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
				SGMAV-A5					
				SGMJV-01	100				
				SGMAV-01					
				SGMJV-C2	150				
		Σ-7		SGM7J-A5	50	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
				SGM7A-A5					
				SGM7J-01	100				
				SGM7A-01					
				SGM7J-C2	150				
		Σ-X		SGMXJ-A5	50	40×40	AQ	SFC–020DA2–6B–8B	XGT2–19C–6–8
				SGMXA-A5					
				SGMXJ-01	100				
				SGMXA-01					
				SGMXJ-C2	150				
				SGMXA-C2					
	Mitsubishi Electric Corporation	MELSERVO	J4	HG-KR053	50	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
				HG-MR053					
				HG-KR13	100				
				HG-MR13					
			J5	HK-KT053W	50	40×40	AQ	SFC–020DA2–6B–8B	XGT2–19C–6–8
				HK-KT13W	100				
			JN	HF-KN053	50	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
				HF-KN13	100				
	TAMAGAWA SEIKI CO., LTD.	TBL-iII		TS4602	50	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
				TS4603	100				
				TS4604	150				
		TBL-iIV		TSM3102	50	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
				TSM3104	100				
	Panasonic Corporation	MINAS	A5	MSMD5A	50	38×38	AP	SFC-020DA2-6B-8B	XGT2-19C-6-8
				MSME5A					
				MSMD01	100				
				MSME01					
			A6	MSMF5A	50	38×38	AP	SFC-020DA2-6B-8B	XGT2-19C-6-8
				MHMF5A		40×40	AQ		
				MSMF01	100	38×38	AP	SFC-020DA2-6B-8B	XGT2-19C-6-8
				MHMF01		40×40	AQ		
	KEYENCE CORPORATION	SV		SV-M005	50	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
				SV-M010	100				
		SV2		SV2-M005	50	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
				SV2-M010	100				
	SANYO DENKI CO., LTD.	SANMOTION R		R2□A04005	50	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
				R2EA04008	80				
				R2□A04010	100				
	OMRON Corporation	OMNUC G5		R88M-K05030	50	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
				R88M-K10030	100				
		1S		R88M-1M10030	100	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
	FANUC CORPORATION	βis Series		βis0.2/5000	50	40×40	AQ	SFC-020DA2-6B-8B	XGT2-19C-6-8
				βis0.3/5000	100				

Motor type	Manufacturer	Series		Motor model	Flange size	Housing A/ Intermediate flange	Compatible coupling models	
							MIKI PULLEY CO., LTD.	Nabeya Bi-tech Kaisha (NBK)
Stepper motor	ORIENTAL MOTOR CO., LTD.	α step		AZ4*, AR4* (excluding AZM48)	42×42	AR	SFC-010DA2-6B-6B-L32	XGT2-15C-6-6
				AZM48	42×42	AR	SFC-010DA2-6B-8B-L32	XGT2-19C-6-8
				AZ6*, AR6*	60×60	AU	SFC-020DA2-6B-10B	XGT2-25C-6-10
		5-phase	CRK[1]	CRK54*	42×42	AR	SFC-010DA2-5B-6B-L32	XGT2-15C-5-6
				CRK56* (CRK569PM*)	60×60	AU	SFC-020DA2-6B-8B (SFC-020DA2-6B-10B)	XGT2-25C-6-8 (XGT2-25C-6-10)
			RK II	RKS54*	42×42	AR	SFC-010DA2-6B-6B-L32	XGT2-15C-6-6
				RKS56*	60×60	AU	SFC-020DA2-6B-10B	XGT2-25C-6-10
			PKP[1]	PKP54*	42×42	AR	SFC-010DA2-5B-6B-L32	XGT2-15C-5-6
				PKP56*	56.4×56.4	AT	SFC-020DA2-6B-8B	XGT2-19C-6-8
				PKP56* (PKP569FM*)	60×60	AU	SFC-020DA2-6B-8B (SFC-020DA2-6B-10B)	XGT2-25C-6-8 (XGT2-25C-6-10)
		2-phase	PKP/CVD	PKP24*	42×42	AR	SFC-010DA2-5B-6B-L32	XGT2-15C-5-6
				PKP26*	56.4×56.4	AT	SFC-020DA2-6B-8B	XGT2-25C-6-8
	KEYENCE CORPORATION	2-phase		QS-M42	42×42	AR	SFC-010DA2-5B-6B-L32	XGT2-15C-5-6
				QS-M60	60×60	AU	SFC-020DA2-6B-8B	XGT2-25C-6-8
	SANYO DENKI CO., LTD.	PB		PBDM423, PBA**423	42×42	AR	SFC-010DA2-6B-6B-L32	XGT2-15C-6-6
				PBDM60*, PBA**60*	60×60	AU	SFC-020DA2-6B-10B-L34	XGT2-25C-6-10
		5-phase		FAF54*/FDF54*/ FA511M42/FB511M42	42×42	AR	SFC-010DA2-6B-6B-L32	XGT2-15C-6-6
				FAM56*/FDM56*/ FA512M60/FB512M60	60×60	AU	SFC-020DA2-6B-10B-L34	XGT2-25C-6-10
		2-phase		DB14H52*	42×42	AR	SFC-010DA2-5B-6B-L32	XGT2-15C-5-6
				DU15H52*		AR	SFC-010DA2-5B-6B-L32	XGT2-15C-5-6
				D*16H71*	56×56	AT	SFC-020DA2-6B-6.35B-L34	XGT2-19C-6-6.35
				DB16H78*	60×60	AU	SFC-020DA2-6B-8B-L34	XGT2-25C-6-8

[1] Items in parentheses have different motor shaft diameters and require a coupling to be specified.

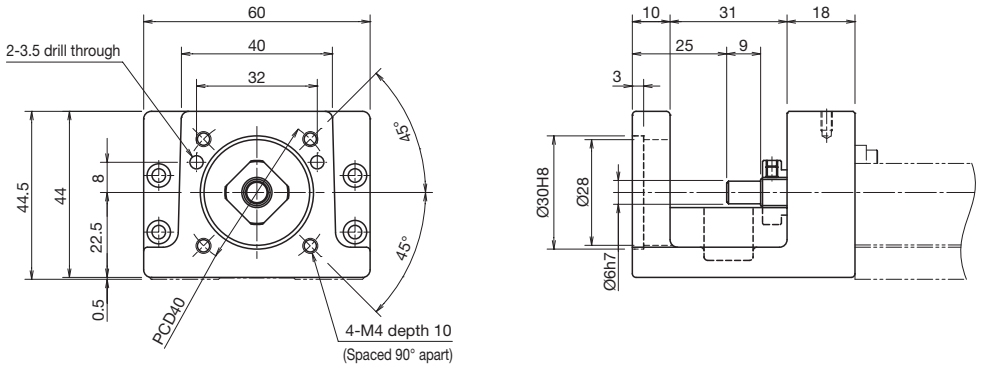
Notes: 1. The table shows only a portion of the model numbers for motors. For details regarding model numbers, please see the catalog for each respective motor manufacturer.
2. If the maximum torque for motors exceeds the permissible input torque (A/B → p. 61, C/D → p. 67), please consider a safety measure to limit the torque.
3. When installing a motor other than the motor model numbers listed above, contact THK.

Housing A

KR**
●◇

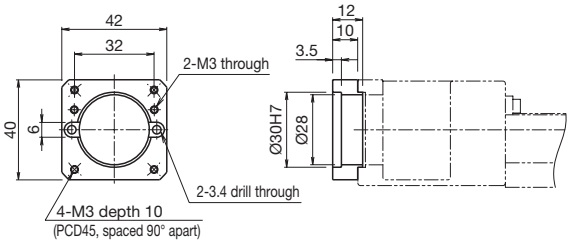
Actuator model
●: Housing A
◇: Intermediate flange

KR33
A0

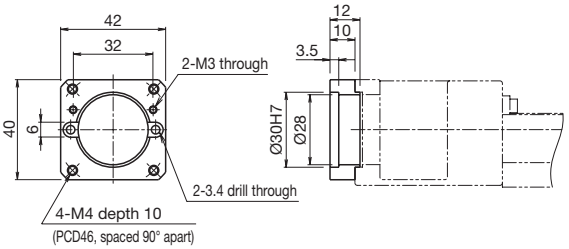


Intermediate Flange

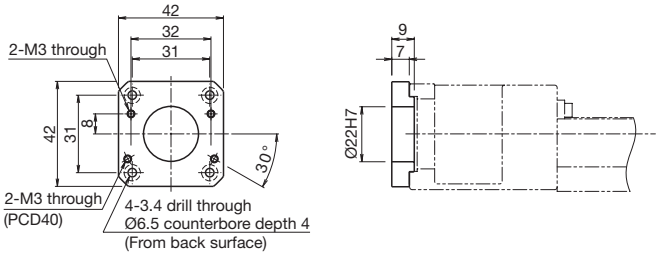
KR33
AP



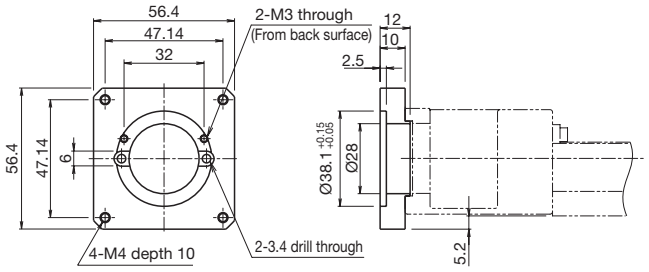
KR33
AQ



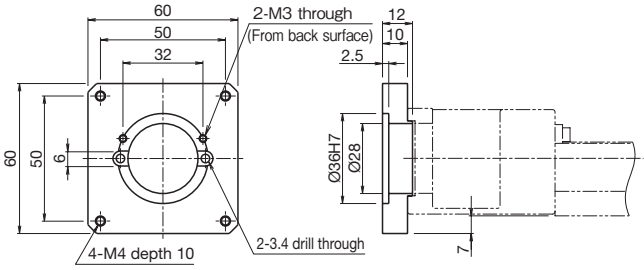
KR33
AR



KR33
AT



KR33
AU



Options

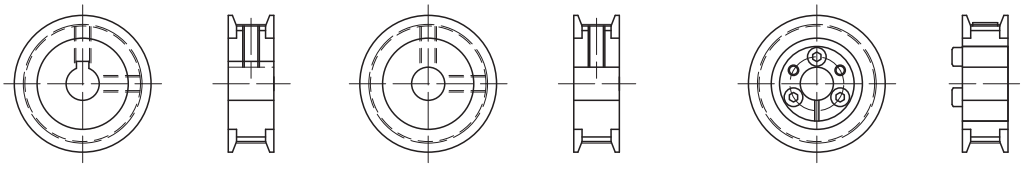
Intermediate Flange (Motor Wrap)

Several types of intermediate flanges for mounting motors are available.
When selecting "R1," "R2," "R3," "R4," "R5," or "R6" for Model Number Coding ⑦ With/without motor, specify an intermediate flange that matches the motor used.

Symbol Coding

Motor wrap symbol ①	Intermediate flange ②		Motor shaft diameter (mm) ③	Motor shaft securing method ④
W	Q	-	08	D
W	Refer to the Compatibility Table: Motors Used and Motor Wrap Symbols below.		Specify a motor shaft diameter. (Refer to the Compatibility Table: Motors Used and Motor Wrap Symbols below.)	K: Key D: D-cut M: Friction tightening tool

Motor Shaft Securing Method



Key　　D-cut　　Friction tightening tool

Compatibility Table: Motors Used and Motor Wrap Symbols

Motor type	Manufacturer	Series		Motor model	Motor rated output (W)	Flange size	Housing A/Intermediate flange
AC servo motor	YASKAWA Electric Corporation	Σ-V		SGMJV-A5	50	40×40	WQ-08K, WQ-08M
				SGMAV-A5			
				SGMJV-01	100		
				SGMAV-01			
				SGMJV-C2	150		
		Σ-7		SGM7J-A5	50	40×40	WQ-08K, WQ-08M
				SGM7A-A5			
				SGM7J-01	100		
				SGM7A-01			
				SGM7J-C2	150		
		Σ-X		SGMXJ-A5	50	40×40	WQ–08K, WQ–08M
				SGMXA-A5			
				SGMXJ-01	100		
				SGMXA-01			
				SGMXJ-C2	150		
				SGMXA-C2			
	Mitsubishi Electric Corporation	MELSERVO	J4	HG-KR053	50	40×40	WQ-08D, WQ-08M
				HG-MR053			
				HG-KR13	100		
				HG-MR13			
			J5	HK-KT053W	50	40×40	WQ–08D, WQ–08M
				HK-KT13W	100		
			JN	HF-KN053	50	40×40	WQ-08D, WQ-08M
				HF-KN13	100		
	TAMAGAWA SEIKI CO., LTD.	TBL-iII		TS4602	50	40×40	WQ-08D, WQ-08M
				TS4603	100		
				TS4604	150		
		TBL-iIV		TSM3102	50	40×40	WQ-08D, WQ-08M
				TSM3104	100		
	Panasonic Corporation	MINAS	A5	MSMD5A	50	38×38	WP-08D, WP-08K, WP-08M
				MSME5A			
				MSMD01	100		
				MSME01			
			A6	MSMF5A	50	38×38	WP-08K, WP-08M
				MHMF5A		40×40	WQ-08K, WQ-08M
				MSMF01	100	38×38	WP-08K, WP-08M
				MHMF01		40×40	WQ-08K, WQ-08M
	KEYENCE CORPORATION	SV		SV-M005	50	40×40	WQ-08K, WQ-08M
				SV-M010	100		
		SV2		SV2-M005	50	40×40	WQ-08K, WQ-08M
				SV2-M010	100		
	SANYO DENKI CO., LTD.	SANMOTION R		R2□A04005	50	40×40	WQ-08M
				R2EA04008	80		
				R2□A04010	100		
	OMRON Corporation	OMNUC G5		R88M-K05030	50	40×40	WQ-08K, WQ-08M
				R88M-K10030	100		
		1S		R88M-1M10030	100	40×40	WQ-08K, WQ-08M

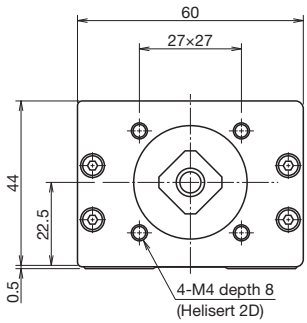
Notes: 1. The table shows only a portion of the model numbers for motors. For details regarding model numbers, please see the catalog for each respective motor manufacturer.
2. If the maximum torque for motors exceeds the permissible input torque (A/B → p. 61, C/D → p. 67), please consider a safety measure to limit the torque.
3. When installing a motor other than the motor model numbers listed above, contact THK.

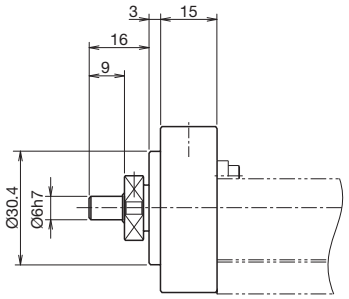
Motor Wrap Housing A

KR**
●◇

Actuator model
●: Housing A
◇: Intermediate flange

KR33
40





Note: The shaft end must be considered separately with motor wrap types. Contact THK for details.

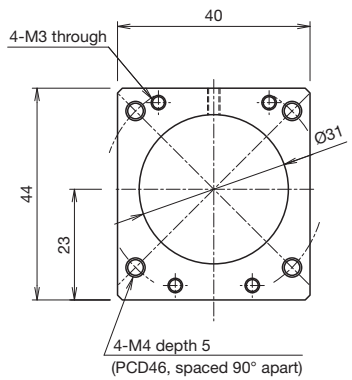
Motor Wrap Specification (Intermediate Flange)

KR**
W□

Actuator model
□: Intermediate flange

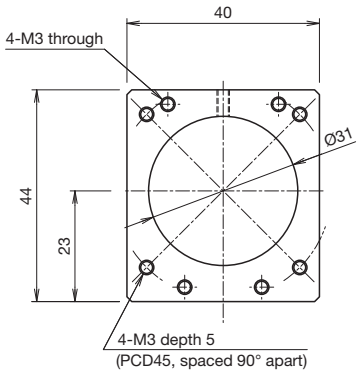
KR33
WQ

Thickness: 5 mm



KR33
WP

Thickness: 5 mm

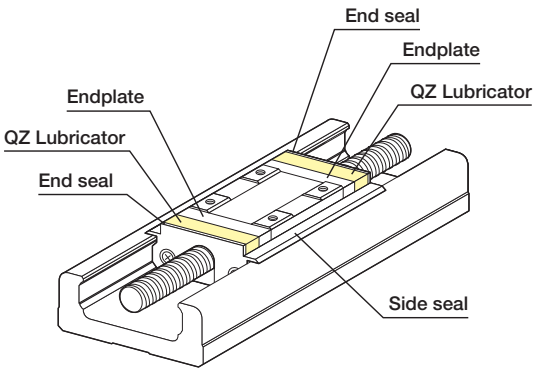


Options

QZ Lubricator

The QZ Lubricator for KR feeds the right amount of lubricant to the outer rail and ball screw shaft raceways. This allows an oil film to be constantly formed between the balls and the raceway, and it significantly extends the lubrication maintenance interval.

Note 1: QZ cannot be selected when 5 mm lead is selected.



Appearance

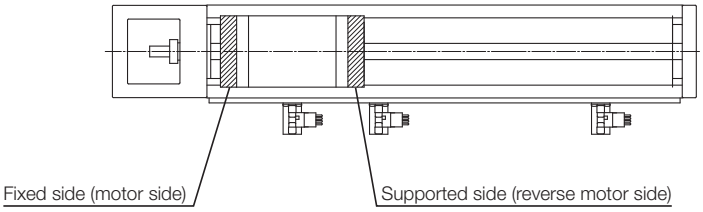
Features

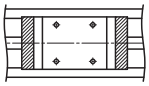
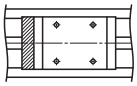
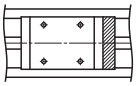
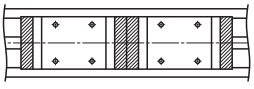
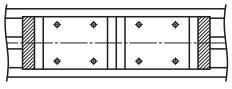
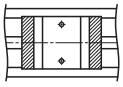
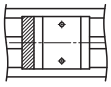
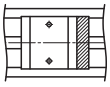
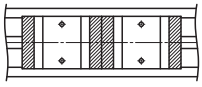
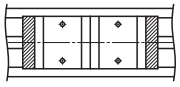
- Since it compensates for oil loss, the lubrication maintenance interval can be significantly extended.
- It is an eco-friendly lubrication system that does not contaminate the surrounding area, as it feeds the right amount of lubricant to the ball raceway.

QZ Configuration

Symbol	Block type	Description
QZ	A/B/C/D	QZ all-block double-sided specification
QZA	A/C	QZ fixed side specification
QZB	A/C	QZ supported side specification
QZAD	B/D	QZ fixed side (drive side block) + QZ supported side (driven side block) specification

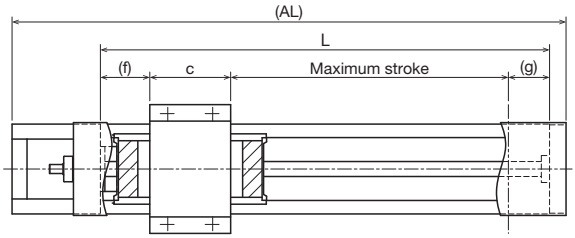
Note 2: QZ specification types do not have a grease nipple mounted. Contact THK if a grease nipple is required.



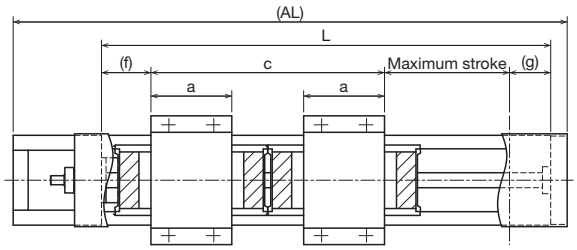
Block type \ QZ configuration	QZ	QZA	QZB	QZAD
A type (1 block)	 Fixed side / Supported side	 Fixed side / Supported side	 Fixed side / Supported side	-
B type (2 blocks)	 Fixed side / Supported side	-	-	 Fixed side / Supported side
C type (1 short block)	 Fixed side / Supported side	 Fixed side / Supported side	 Fixed side / Supported side	-
D type (2 short blocks)	 Fixed side / Supported side	-	-	 Fixed side / Supported side

Dimensions with QZ Lubricator

QZ (With Cover)
Block Type: A/B/C/D



Block Type A/C



Block Type B/D

Unit: mm

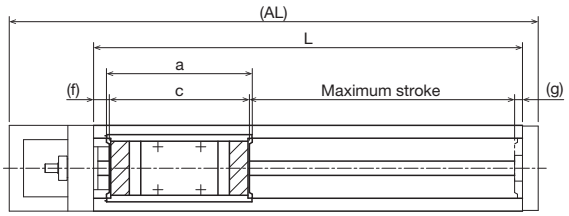
Block type	Overall length AL	Outer rail length L	Stroke[1]	Maximum stroke[1]	a	c	f	g
A	270	200	75	85.5	-	54	33	27.5
	370	300	175	185.5				
	470	400	275	285.5				
	570	500	375	385.5				
	670	600	475	485.5				
	770	700	575	585.5				
B	370	300	70	83.5	54	156	33	27.5
	470	400	170	183.5				
	570	500	270	283.5				
	670	600	370	383.5				
	770	700	470	483.5				
C	220	150	50	61	-	28.5	33	27.5
	270	200	100	111				
	370	300	200	211				
	470	400	300	311				
	570	500	400	411				
	670	600	500	511				
	770	700	600	611				
D	370	300	125	134.5	28.5	105	33	27.5
	470	400	225	234.5				
	570	500	325	334.5				
	670	600	425	434.5				
	770	700	525	534.5				

[1] The value for B/D block types is with 2 blocks attached.

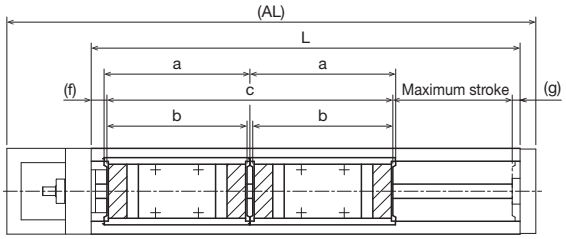
Options

Dimensions with QZ Lubricator

QZ (Without Cover)
Block Type: A/B/C/D



Block Type A/C



Block Type B/D

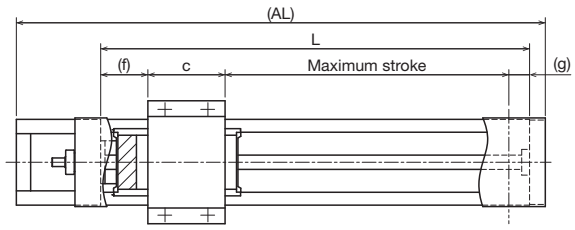
Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke[1]	Maximum stroke[1]	a	b	c	f	g
A	270	200	75	85.5	102	-	98	11	5.5
	370	300	175	185.5					
	470	400	275	285.5					
	570	500	375	385.5					
	670	600	475	485.5					
	770	700	575	585.5					
B	370	300	70	83.5	102	98	200	11	5.5
	470	400	170	183.5					
	570	500	270	283.5					
	670	600	370	383.5					
	770	700	470	483.5					
C	220	150	50	61	76.5	-	72.5	11	5.5
	270	200	100	111					
	370	300	200	211					
	470	400	300	311					
	570	500	400	411					
	670	600	500	511					
	770	700	600	611					
D	370	300	125	134.5	76.5	72.5	149	11	5.5
	470	400	225	234.5					
	570	500	325	334.5					
	670	600	425	434.5					
	770	700	525	534.5					

[1] The value for B/D block types is with 2 blocks attached.

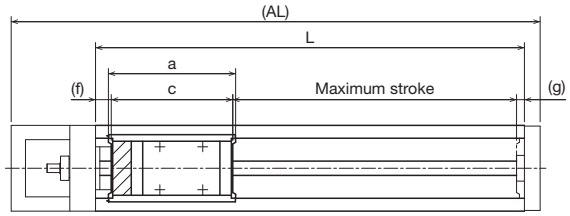
Dimensions with QZ Lubricator

QZA (With Cover)
Block Type: A/C



Block Type A/C

QZA (Without Cover)
Block Type: A/C



Block Type A/C

QZA (With Cover)

Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke	Maximum stroke	c	f	g
A	270	200	85	98.5	54	33	14.5
	370	300	185	198.5			
	470	400	285	298.5			
	570	500	385	398.5			
	670	600	485	498.5			
	770	700	585	598.5			
C	220	150	60	74	28.5	33	14.5
	270	200	110	124			
	370	300	210	224			
	470	400	310	324			
	570	500	410	424			
	670	600	510	524			
	770	700	610	624			

Note 1: B/D block types cannot be selected for QZA.

QZA (Without Cover)

Unit: mm

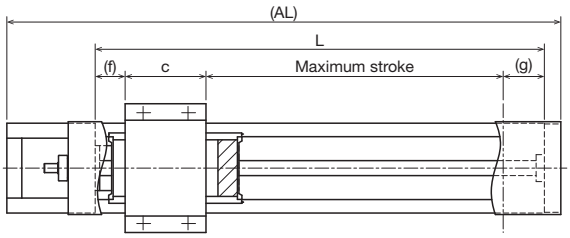
Block type	Overall length AL	Outer rail length L	Stroke	Maximum stroke	a	c	f	g
A	270	200	85	98.5	89	85	11	5.5
	370	300	185	198.5				
	470	400	285	298.5				
	570	500	385	398.5				
	670	600	485	498.5				
	770	700	585	598.5				
C	220	150	60	74	63.5	59.5	11	5.5
	270	200	110	124				
	370	300	210	224				
	470	400	310	324				
	570	500	410	424				
	670	600	510	524				
	770	700	610	624				

Note 2: B/D block types cannot be selected for QZA.

Options

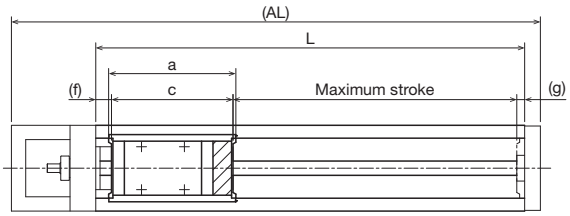
Dimensions with QZ Lubricator

QZB (With Cover)
Block Type: A/C



Block Type A/C

QZB (Without Cover)
Block Type: A/C



Block Type A/C

QZB (With Cover)

Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke	Maximum stroke	c	f	g
A	270	200	85	98.5	54	20	27.5
	370	300	185	198.5			
	470	400	285	298.5			
	570	500	385	398.5			
	670	600	485	498.5			
	770	700	585	598.5			
C	220	150	60	74	28.5	20	27.5
	270	200	110	124			
	370	300	210	224			
	470	400	310	324			
	570	500	410	424			
	670	600	510	524			
	770	700	610	624			

Note 1: B/D block types cannot be selected for QZB.

QZB (Without Cover)

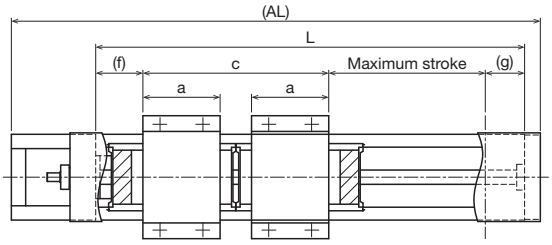
Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke	Maximum stroke	a	c	f	g
A	270	200	85	98.5	89	85	11	5.5
	370	300	185	198.5				
	470	400	285	298.5				
	570	500	385	398.5				
	670	600	485	498.5				
	770	700	585	598.5				
C	220	150	60	74	63.5	59.5	11	5.5
	270	200	110	124				
	370	300	210	224				
	470	400	310	324				
	570	500	410	424				
	670	600	510	524				
	770	700	610	624				

Note 2: B/D block types cannot be selected for QZB.

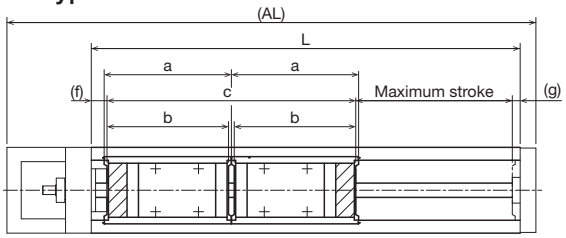
Dimensions with QZ Lubricator

QZAD (With Cover)
Block Type: B/D



Block Type B/D

QZAD (Without Cover)
Block Type: B/D



Block Type B/D

QZAD (With Cover)

Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke[1]	Maximum stroke[1]	a	c	f	g
B	370	300	100	109.5	54	130	33	27.5
	470	400	200	209.5				
	570	500	300	309.5				
	670	600	400	409.5				
	770	700	500	509.5				
D	270	200	50	60.5	28.5	79	33	27.5
	370	300	150	160.5				
	470	400	250	260.5				
	570	500	350	360.5				
	670	600	450	460.5				
	770	700	550	560.5				

[1] The value for B/D block types is with 2 blocks attached.
Note 1: A/C block types cannot be selected for QZAD.

QZAD (Without Cover)

Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke[2]	Maximum stroke[2]	a	b	c	f	g
B	370	300	100	109.5	89	85	174	11	5.5
	470	400	200	209.5					
	570	500	300	309.5					
	670	600	400	409.5					
	770	700	500	509.5					
D	270	200	50	60.5	63.5	59.5	123	11	5.5
	370	300	150	160.5					
	470	400	250	260.5					
	570	500	350	360.5					
	670	600	450	460.5					
	770	700	550	560.5					

[2] The value for B/D block types is with 2 blocks attached.
Note 2: A/C block types cannot be selected for QZAD.

KR45H A/B

Direct motor coupling | Motor wrap | Width 80 mm | Height 45 mm | Max. stroke 800 mm

Model Number Coding

Model ①	Ball screw lead ②	Block type ③	Stroke ④	Accuracy grade ⑤	With/without motor ⑥	Cover ⑦	Sensors ⑧	Housing A/ Intermediate flange ⑨
KR45H	10	A	0200	P	0	1	2	A0
KR45H	05: 5 mm	A: x1	0090: 90 mm	No symbol: Normal grade	With direct coupling	0: Without cover	0	With direct coupling
	10: 10 mm	B: x2	to	H: High accuracy grade	0: Direct coupling (without motor)	1: With cover	1	A0
	20: 20 mm		0800: 800 mm	P: Precision grade	1: Direct coupling (THK will purchase and mount the motor you specify.)	2: With bellows	2	AU
					With motor wrap		6	AY
					R1: Non-standard side wrap (without motor)		7	60
					R2: Standard side wrap (without motor)		B	With motor wrap
					R3: Bottom side wrap (without motor)		E	WV-14M
					R4: Non-standard side wrap (THK will purchase and mount the motor you specify.)		H	WY-11M
					R5: Standard side wrap (THK will purchase and mount the motor you specify.)		L	WY-14M
					R6: Bottom side wrap (THK will purchase and mount the motor you specify.)		J	With direct coupling → p. 99
							M	With motor wrap → p. 101

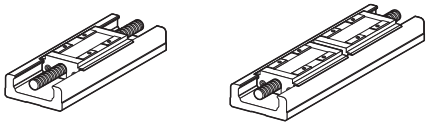
When selecting 2: With bellows for ⑦ Cover, specify the stroke with bellows. → p. 165 to p. 166

When selecting "0": A coupling is not provided. Indicate when placing an order if a coupling is required.

When selecting "1," "R4," "R5," or "R6": The specified motor will be installed. Indicate the motor cable direction separately. Select ⑨ Intermediate flange to match the specified motor.

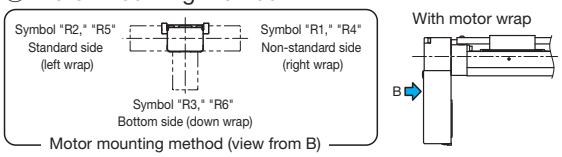
Sensor details → p. 97

③ Block Type



A: 1 block (A type) B: 2 blocks (B type)

⑥ Motor Mounting Method



Selection Information

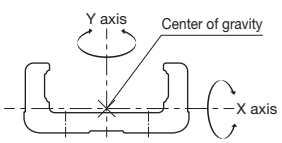
Basic Specifications

LM Guide	Basic dynamic load rating C (N)		23,300		
	Basic static load rating C_0 (N)		39,200		
	Radial clearance (mm)	Normal grade/High accuracy grade (H)	-0.006 to +0.003		
		Precision grade (P)	-0.016 to -0.006		
	Geometric moment of inertia	I_X[1] (mm^4)	8.4×10^4		
		I_Y[2] (mm^4)	8.9×10^5		
		Mass (kg/m)	9		
Ball screw	Ball screw lead (mm)		5	10	20
	Basic dynamic load rating Ca (N)	Normal grade/High accuracy grade (H)	5,500	3,140	3,040
		Precision grade (P)	4,100	2,940	3,430
	Basic static load rating C_0a (N)	Normal grade/High accuracy grade (H)	13,900	6,760	7,150
		Precision grade (P)	6,960	3,720	5,290
	Screw shaft diameter (mm)		Ø16	Ø15	
	Thread minor diameter (mm)		Ø13.4	Ø12.4	
	Ball center-to-center diameter (mm)		Ø16.75	Ø15.75	
	Permissible rotational speed[3] (min^{-1})	Normal grade/High accuracy grade (H)	2,980	3,170	
		Precision grade (P)	4,170	4,440	
Bearing unit (fixed side)	Axial direction	Basic dynamic load rating Ca (N)	6,660		
		Static permissible load P_0a (N)	3,240		
Permissible input torque (N·m)		Direct coupling	2.8	5.3	
		Motor wrap	2.8	4.5	
Static permissible moment[4, 5] (N·m)			M_A: 486 (2,732), M_B: 486 (2,732), M_C: 925 (1,850)		
Service life[6] (km)			5,000	10,000	
Standard grease/Grease nipple used			THK AFB-LF Grease/A-M6F		

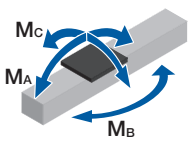
[1] I_X is the geometric moment of inertia about the X axis.
[2] I_Y is the geometric moment of inertia about the Y axis.
[3] The permissible rotational speed may decrease as the stroke becomes longer.
[4] The value in parentheses is with 2 blocks (B type) attached.
[5] See p. 168 for the values if "1" or "2" is selected for item ⑦ in the Model Number Coding.
[6] Calculated under the following conditions.
Stroke: 500 mm (A type), 390 mm (B type) / Speed: 240 mm/s (for 5 mm lead), 500 mm/s (for 10 mm lead), 1,000 mm/s (for 20 mm lead) / Load mass: Maximum load capacity (p. 9) / Acceleration/deceleration: As when set to maximum load capacity (p. 9) / Center of gravity: Center of the table's upper surface.

Notes: 1. LM Guide load rating is the load rating per block.
2. KR45H05, KR45H10 precision grade (P-grade) ball screws have integrated spacer balls with a 1:1 ratio.
3. KR45H20 precision grade (P-grade) ball screws have integrated spacer balls with a 2:1 ratio.

Geometric Moment of Inertia



Static Permissible Moment



Accuracy

Accuracy grade	Item	Stroke[7] 200	300	400	500	600	700	800
Normal grade (no symbol)	Positioning repeatability (mm)	±0.01						
	Positioning accuracy (mm)	Not specified						
	Running parallelism (vertical direction) (mm)	Not specified						
	Backlash (mm)	0.02						
	Starting torque (N·cm)	10						

Accuracy grade	Item	Stroke[7] 200	300	400	500	600	700	800
High accuracy grade (H)	Positioning repeatability (mm)	±0.005						
	Positioning accuracy (mm)	0.1				0.12	0.15	
	Running parallelism (vertical direction) (mm)	0.035				0.04	0.05	
	Backlash (mm)	0.02						
	Starting torque (N·cm)	10						

Accuracy grade	Item	Stroke[7] 200	300	400	500	600	700	800
Precision grade (P)	Positioning repeatability (mm)	±0.003					±0.005	
	Positioning accuracy (mm)	0.025				0.03	0.035	
	Running parallelism (vertical direction) (mm)	0.015				0.02	0.025	
	Backlash (mm)	0.003						
	Starting torque (N·cm)	15			17			

[7] Stroke with 1 block (A type).

Notes: 4. Precision evaluation in accordance with THK standards.
5. Measured using a motor for inspection. With motor wrap specifications, measurements are not made in the completed motor wrap state.
6. The starting torque represents the value when containing THK AFB-LF Grease.
7. The starting torque may exceed standards if using vacuum grease, clean room grease, or other high-viscosity greases, so care should be taken when selecting a motor.
8. Contact THK for accuracy higher than the standard stroke.

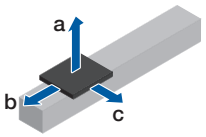
Motor Selection Information

Stroke[1] (mm)	Outer rail length (mm)	LM Guide				Ball screw		Motor mounting part	
		Moving part mass (kg)			Sliding resistance value[2] (N)	Lead (mm)	Shaft length (mm)	Direct coupling	Motor wrap
		Block mass	Sub-table mass	Total mass				Shaft end diameter (mm)	Timing pulley (sum of two) Inertial moment x 10^{-4} (kg·m²)
200 to 800	340 to 940	A type: 1 B type: 2	A type: 0.4 B type: 0.8	A type: 1.4 B type: 2.8	5.1	5, 10, 20	403 to 1,003	Ø10h7	0.86

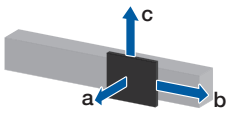
[1] Stroke with 1 block (A type).
[2] Value with 1 block (A type). This value is the sum of the rolling resistance value and seal resistance value.
Note: Refer to p. 99 for applicable couplings.

Permissible Overhang Length[3]

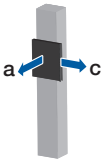
Horizontal



Wall-Mounted



Vertical



Estimated motor capacity 200 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	A type	5	16	230	80	70
			32.5	90	30	30
			65	20	10	10
		10	16	230	80	70
			32.5	90	30	30
			65	20	10	10
		20	6	680	210	200
			12	320	100	100
			24.5	130	50	40
	B type	5	22.5	800	270	100
			45.5	410	130	50
			91.5	180	60	20
		10	22.5	800	270	100
			45.5	410	130	50
			91.5	180	60	20
		20	4.5	800	800	530
			9.5	800	640	250
			19.5	800	310	120
Motor wrap	A type	5	16	230	80	70
			32.5	90	30	30
			65	20	10	10
		10	16	230	80	70
			32.5	90	30	30
			65	20	10	10
		20	3.5	800	370	340
			7.5	530	170	160
			15	250	80	80
	B type	5	22.5	800	270	100
			45.5	410	130	50
			91.5	180	60	20
		10	20.5	800	290	110
			41.5	450	140	50
			83.5	200	70	20
		20	3.5	800	800	690
			7	800	800	340
			14	800	430	170

Estimated motor capacity 200 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	A type	5	13	40	180	620
			26	0	90	310
			52	0	40	150
		10	13	40	180	620
			26	0	90	310
			52	0	30	150
		20	6	150	400	800
			12	50	190	670
			24.5	0	80	330
	B type	5	18	80	380	800
			36.5	20	180	620
			73.5	0	90	310
		10	18	80	380	800
			36.5	20	180	620
			73.5	0	90	310
		20	4.5	490	800	800
			9.5	210	720	800
			19.5	70	350	800
Motor wrap	A type	5	13	40	180	620
			26	0	90	310
			52	0	40	150
		10	13	40	180	620
			26	0	90	310
			52	0	30	150
		20	3.5	300	690	800
			7.5	110	320	800
			15	30	150	530
	B type	5	18	80	380	800
			36.5	20	180	620
			73.5	0	90	310
		10	18	80	380	800
			36.5	20	180	620
			73.5	0	90	310
		20	3.5	640	800	800
			7	300	800	800
			14	120	490	800

Estimated motor capacity 200 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	c (mm)
Direct coupling	A type	5	8.5	80	210
			17.5	20	100
			43.5	0	50
		10	4.5	180	410
			9	70	200
			18	10	100
		20	2	460	800
			4	210	460
			8	80	230
	B type	5	10.5	410	500
			21.5	180	240
			43.5	70	120
		10	5.5	800	800
			11.5	370	460
			23	160	230
		20	2	800	800
			4	800	800
			8	550	660
Motor wrap	A type	5	4.5	180	410
			9	70	200
			18.5	10	100
		10	4.5	180	410
			9	70	200
			18	10	100
		20	1.5	620	800
			3.5	240	530
			7	100	260
	B type	5	4	800	800
			8.5	510	620
			17	230	310
		10	4	800	800
			8.5	510	620
			17	230	310
		20	1.5	800	800
			3	800	800
			6.5	680	800

Estimated motor capacity 400 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	A type	5	16	230	80	70
			32.5	90	30	30
			65	20	10	10
		10	16	230	80	70
			32.5	90	30	30
			65	20	10	10
		20	10.5	370	120	110
			21.5	160	60	50
			43	60	30	20
	B type	5	22.5	800	270	100
			45.5	410	130	50
			91.5	180	60	20
		10	22.5	800	270	100
			45.5	410	130	50
			91.5	180	60	20
		20	12	800	500	200
			24	800	250	100
			48.5	380	120	50
Motor wrap	A type	5	16	230	80	70
			32.5	90	30	30
			65	20	10	10
		10	16	230	80	70
			32.5	90	30	30
			65	20	10	10
		20	10.5	370	120	110
			21.5	160	60	50
			43	60	30	20
	B type	5	22.5	800	270	100
			45.5	410	130	50
			91.5	180	60	20
		10	22.5	800	270	100
			45.5	410	130	50
			91.5	180	60	20
		20	10.5	800	580	230
			21	800	290	110
			42.5	440	140	50

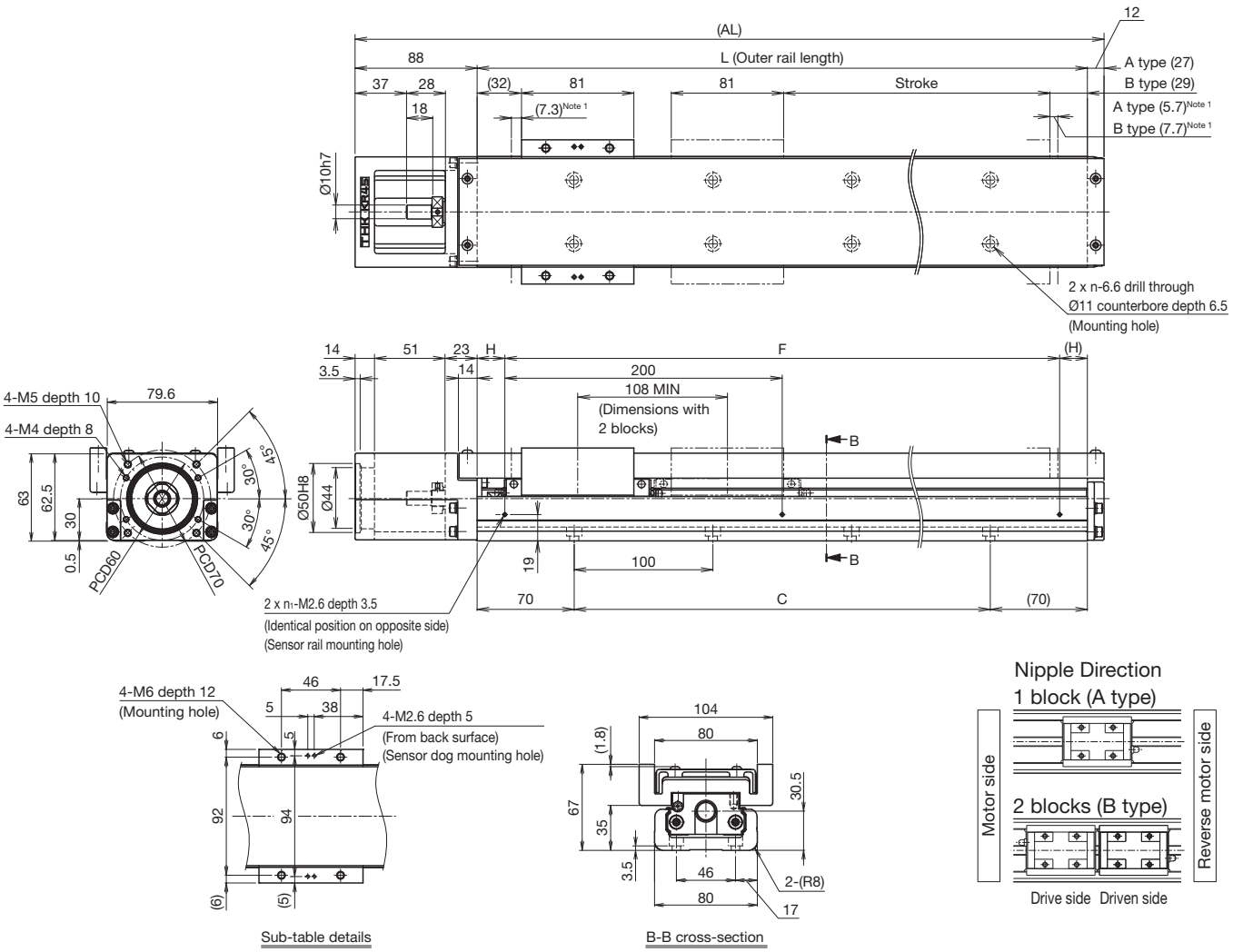
Estimated motor capacity 400 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	A type	5	13	40	180	620
			26	0	90	310
			52	0	40	150
		10	13	40	180	620
			26	0	90	310
			52	0	30	150
		20	7.5	110	310	800
			15.5	30	140	520
			31.5	0	50	250
	B type	5	18	80	380	800
			36.5	20	180	620
			73.5	0	90	310
		10	18	80	380	800
			36.5	20	180	620
			73.5	0	90	310
		20	12	150	570	800
			24	50	280	800
			48	0	140	470
Motor wrap	A type	5	13	40	180	620
			26	0	90	310
			52	0	40	150
		10	13	40	180	620
			26	0	90	310
			52	0	30	150
		20	7.5	110	310	800
			15.5	30	140	520
			31.5	0	50	250
	B type	5	18	80	380	800
			36.5	20	180	620
			73.5	0	90	310
		10	18	80	380	800
			36.5	20	180	620
			73.5	0	90	310
		20	10.5	180	650	800
			21	70	320	800
			42.5	10	160	530

Estimated motor capacity 400 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	c (mm)
Direct coupling	A type	5	8.5	80	210
			17.5	20	100
			35.5	0	50
		10	6	120	310
			12	40	150
			24.5	0	70
		20	4.5	180	410
			9	70	200
			18	10	100
	B type	5	10.5	410	500
			21.5	180	240
			43.5	70	120
		10	5.5	800	800
			11.5	370	460
			23	160	230
		20	4.5	800	800
			9	480	580
			18.5	210	280
Motor wrap	A type	5	4.5	180	410
			9	70	200
			18.5	10	100
		10	4.5	180	410
			9	70	200
			18	10	100
		20	4.5	180	410
			9	70	200
			18	10	100
	B type	5	4	800	800
			8.5	510	620
			17	230	310
		10	4	800	800
			8.5	510	620
			17	230	310
		20	4	800	800
			8	550	660
			16.5	240	320

[3] This is the value with the service life of the LM Guide limited to 5,000 km (for 5 mm lead) or 10,000 km (for 10 mm or 20 mm lead). The calculation conditions are as follows.
Stroke: 500 mm (A type), 390 mm (B type) / Acceleration/deceleration: 0.3 G / Speed: 240 mm/s (for 5 mm lead), 500 mm/s (for 10 mm lead), 1,000 mm/s (for 20 mm lead) / Overhang direction: Loaded only in a single direction. Dimensions a, b, and c are from the center of the table's upper surface.

With Cover
Direct Motor Coupling

Dimensions



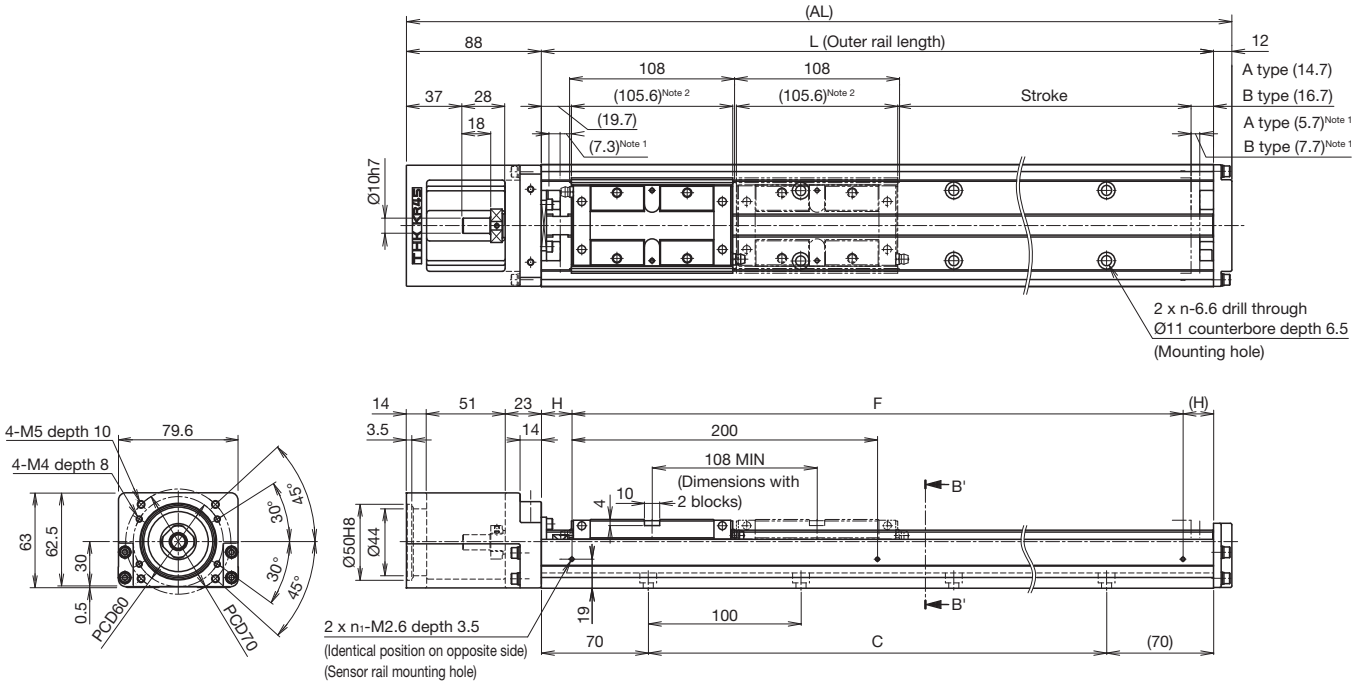
[1] Dimensions from the mechanical stopper to the stroke start position.

Stroke (mm) (Stroke between mechanical stoppers)			200 (213)	300 (313)	400 (413)	500 (513)	600 (613)	700 (713)	800 (813)
	A type		90 (105)	190 (205)	290 (305)	390 (405)	490 (505)	590 (605)	690 (705)
Maximum speed[3] (mm/s)	Ball screw lead: 5 mm	Normal grade/high accuracy grade	240						230
		Precision grade	340					290	230
	Ball screw lead: 10 mm	Normal grade/high accuracy grade	520						430
		Precision grade	740				730	550	430
	Ball screw lead: 20 mm	Normal grade/high accuracy grade	1,050						840
		Precision grade	1,480				1,430	1,080	840
Dimensions (mm)	AL		440	540	640	740	840	940	1,040
	L		340	440	540	640	740	840	940
	C		200	300	400	500	600	700	800
	F		200	400	400	600	600	800	800
	H		70	20	70	20	70	20	70
No. of mounting holes	n		3	4	5	6	7	8	9
	n_1		2	3	3	4	4	5	5
Mass[4] (kg)			6.4	7.6	8.7	9.9	11	12.2	13.3

[2] The value with 2 blocks (B type) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 blocks (B type) has 1.4 kg added.

Without Cover
Direct Motor Coupling

Dimensions



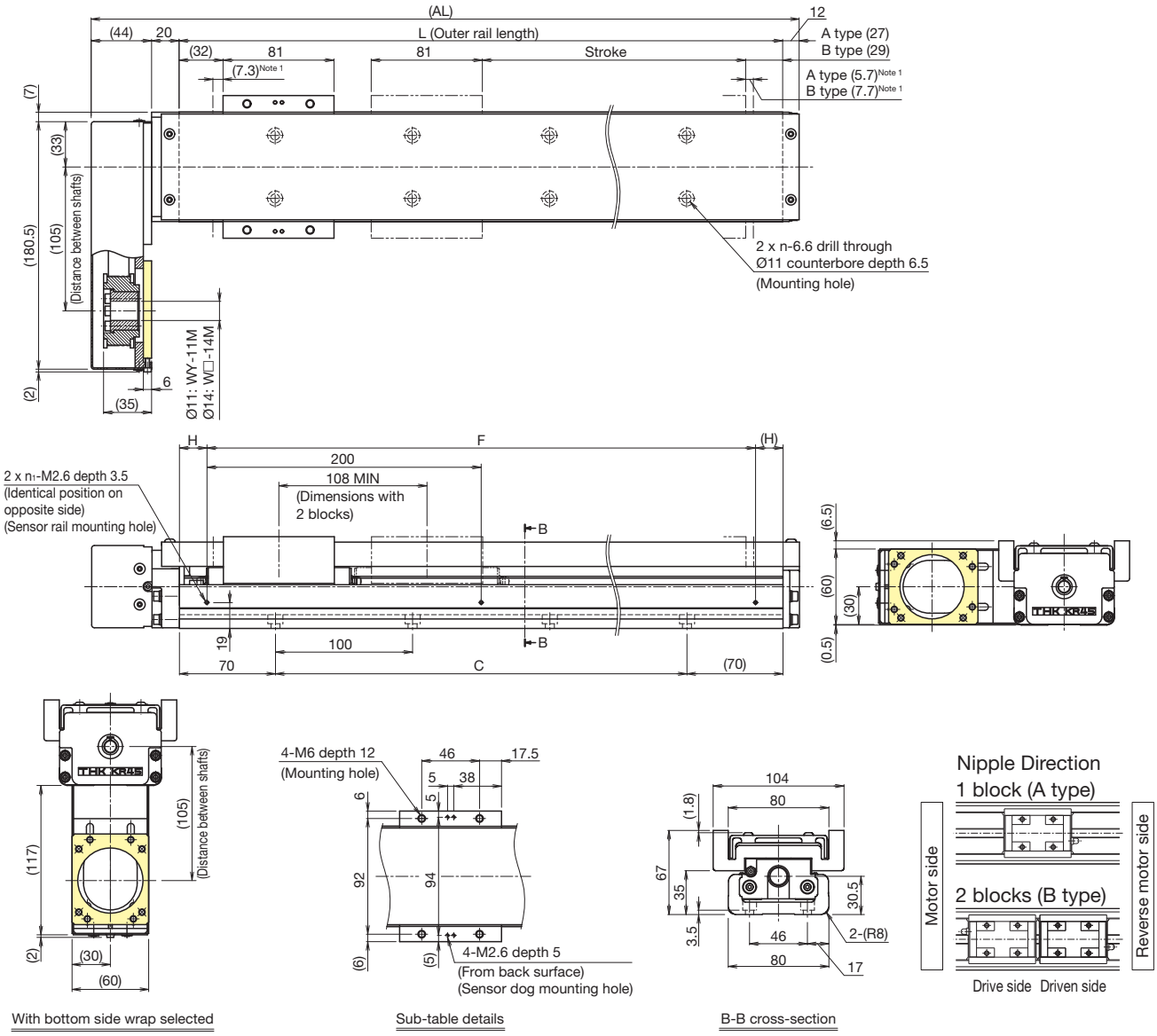
[1] Dimensions from the mechanical stopper to the stroke start position.
[2] Shows the block length when calculating the enabled stroke range.
213.6 mm (2 blocks total) for KR45H with 2 blocks (B type).

Stroke (mm) (Stroke between mechanical stoppers)			200 (213)	300 (313)	400 (413)	500 (513)	600 (613)	700 (713)	800 (813)
	A type								
	B type[3]		90 (105)	190 (205)	290 (305)	390 (405)	490 (505)	590 (605)	690 (705)
Maximum speed[4] (mm/s)	Ball screw lead: 5 mm	Normal grade/high accuracy grade	240						230
		Precision grade	340					290	230
	Ball screw lead: 10 mm	Normal grade/high accuracy grade	520						430
		Precision grade	740				730	550	430
	Ball screw lead: 20 mm	Normal grade/high accuracy grade	1,050						840
		Precision grade	1,480				1,430	1,080	840
Dimensions (mm)	AL		440	540	640	740	840	940	1,040
	L		340	440	540	640	740	840	940
	C		200	300	400	500	600	700	800
	F		200	400	400	600	600	800	800
	H		70	20	70	20	70	20	70
No. of mounting holes	n		3	4	5	6	7	8	9
	n_1		2	3	3	4	4	5	5
Mass[5] (kg)			5.4	6.5	7.5	8.6	9.7	10.7	11.8

[3] The value with 2 blocks (B type) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 blocks (B type) has 1 kg added.

With Cover
Motor Wrap

Dimensions



With bottom side wrap selected

Sub-table details

B-B cross-section

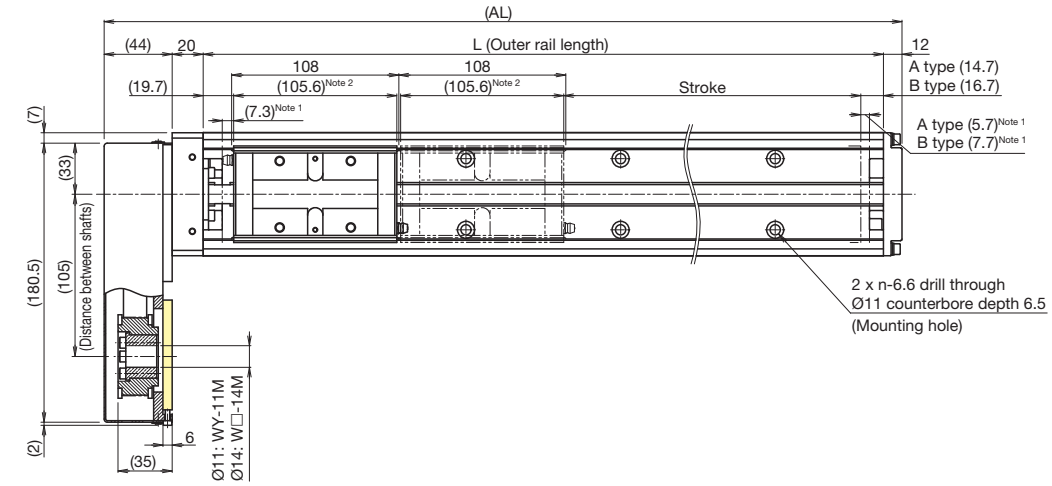
[1] Dimensions from the mechanical stopper to the stroke start position.

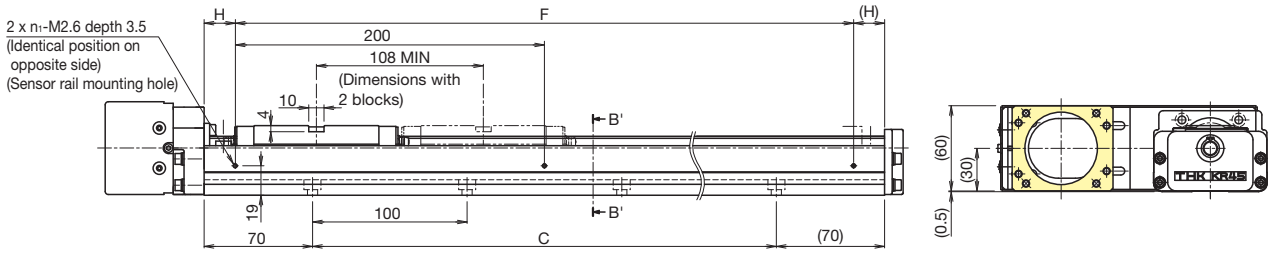
Stroke (mm) (Stroke between mechanical stoppers)	A type		200 (213)	300 (313)	400 (413)	500 (513)	600 (613)	700 (713)	800 (813)
	B type[2]		90 (105)	190 (205)	290 (305)	390 (405)	490 (505)	590 (605)	690 (705)
Maximum speed[3] (mm/s)	Ball screw lead: 5 mm	Normal grade/high accuracy grade	240						230
		Precision grade	340					290	230
	Ball screw lead: 10 mm	Normal grade/high accuracy grade	520						430
		Precision grade	740				730	550	430
	Ball screw lead: 20 mm	Normal grade/high accuracy grade	1,050						840
		Precision grade	1,480				1,430	1,080	840
Dimensions (mm)	AL		416	516	616	716	816	916	1,016
	L		340	440	540	640	740	840	940
	C		200	300	400	500	600	700	800
	F		200	400	400	600	600	800	800
	H		70	20	70	20	70	20	70
No. of mounting holes	n		3	4	5	6	7	8	9
	n_1		2	3	3	4	4	5	5
Mass[4] (kg)			7.4	8.5	9.7	10.8	12	13.1	14.2

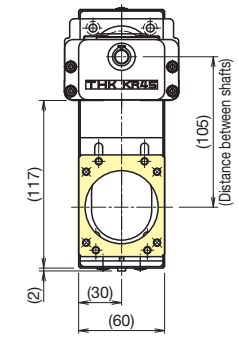
[2] The value with 2 blocks (B type) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 blocks (B type) has 1.4 kg added.

Without Cover
Motor Wrap

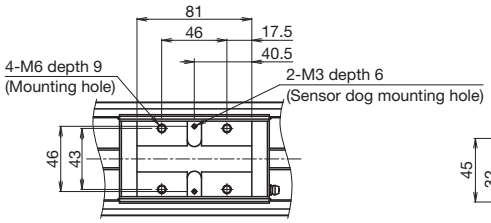
Dimensions



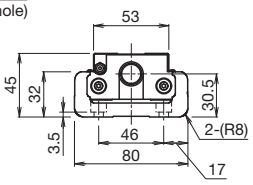




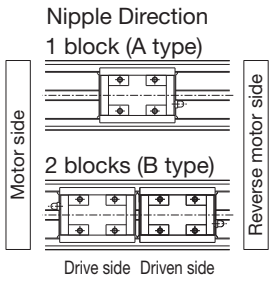
With bottom side wrap selected



Block details



B'-B' cross-section



[1] Dimensions from the mechanical stopper to the stroke start position.
[2] Shows the block length when calculating the enabled stroke range. 213.6 mm (2 blocks total) for KR45H with 2 blocks (B type).

Stroke (mm) (Stroke between mechanical stoppers)	A type		200 (213)	300 (313)	400 (413)	500 (513)	600 (613)	700 (713)	800 (813)
	B type[3]		90 (105)	190 (205)	290 (305)	390 (405)	490 (505)	590 (605)	690 (705)
Maximum speed[4] (mm/s)	Ball screw lead: 5 mm	Normal grade/high accuracy grade	240						230
		Precision grade	340					290	230
	Ball screw lead: 10 mm	Normal grade/high accuracy grade	520						430
		Precision grade	740				730	550	430
	Ball screw lead: 20 mm	Normal grade/high accuracy grade	1,050						840
		Precision grade	1,480				1,430	1,080	840
Dimensions (mm)	AL		416	516	616	716	816	916	1,016
	L		340	440	540	640	740	840	940
	C		200	300	400	500	600	700	800
	F		200	400	400	600	600	800	800
	H		70	20	70	20	70	20	70
No. of mounting holes	n		3	4	5	6	7	8	9
	n_1		2	3	3	4	4	5	5
Mass[5] (kg)			6.4	7.4	8.5	9.5	10.6	11.7	12.7

[3] The value with 2 blocks (B type) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 blocks (B type) has 1 kg added.

KR45H C/D

Direct motor coupling | Motor wrap | Width 80 mm | Height 45 mm | Max. stroke 830 mm

Model Number Coding

Model ①	Ball screw lead ②	Block type ③	Stroke ④	Accuracy grade ⑤	With/without motor ⑥	Cover ⑦	Sensors ⑧	Housing A/ Intermediate flange ⑨
KR45H	10	C	0230	P	0	1	2	A0
KR45H	05: 5 mm	C: x1	0160: 160 mm	No symbol: Normal grade	With direct coupling	0: Without cover	0	With direct coupling
	10: 10 mm	D: x2	to	H: High accuracy grade	0: Direct coupling (without motor)	1: With cover	1	A0
	20: 20 mm		0830: 830 mm	P: Precision grade	1: Direct coupling (THK will purchase and mount the motor you specify.)	2: With bellows	2	AU
					With motor wrap		6	AY
					R1: Non-standard side wrap (without motor)		7	60
					R2: Standard side wrap (without motor)		B	With motor wrap
					R3: Bottom side wrap (without motor)		E	WV-14M
					R4: Non-standard side wrap (THK will purchase and mount the motor you specify.)		H	WY-11M
					R5: Standard side wrap (THK will purchase and mount the motor you specify.)		L	WY-14M
					R6: Bottom side wrap (THK will purchase and mount the motor you specify.)		J	With direct coupling → p. 99
							M	With motor wrap → p. 101

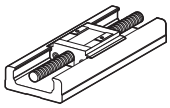
When selecting 2: With bellows for ⑦ Cover, specify the stroke with bellows. → p. 167 to p. 168

When selecting "0": A coupling is not provided. Indicate when placing an order if a coupling is required.

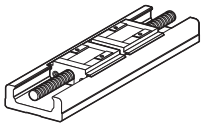
When selecting "1," "R4," "R5," or "R6": The specified motor will be installed. Indicate the motor cable direction separately. Select ⑨ Intermediate flange to match the specified motor.

Sensor details → p. 97

③ Block Type

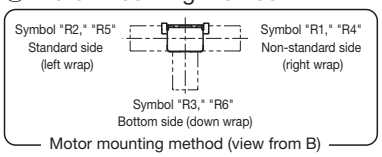


C: 1 short block (C type)



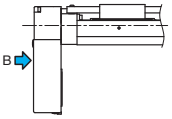
D: 2 short blocks (D type)

⑥ Motor Mounting Method



Motor mounting method (view from B)

With motor wrap



Selection Information

Basic Specifications

LM Guide	Basic dynamic load rating C (N)		11,900		
	Basic static load rating C_0 (N)		19,600		
	Radial clearance (mm)	Normal grade/High accuracy grade (H)	-0.006 to +0.003		
		Precision grade (P)	-0.016 to -0.006		
	Geometric moment of inertia	I_X[1] (mm^4)	8.4×10^4		
		I_Y[2] (mm^4)	8.9×10^5		
		Mass (kg/m)	9		
Ball screw	Ball screw lead (mm)		5	10	20
	Basic dynamic load rating Ca (N)	Normal grade/High accuracy grade (H)	5,500	3,140	3,040
		Precision grade (P)	4,100	2,940	3,430
	Basic static load rating C_0a (N)	Normal grade/High accuracy grade (H)	13,900	6,760	7,150
		Precision grade (P)	6,960	3,720	5,290
	Screw shaft diameter (mm)		Ø16	Ø15	
	Thread minor diameter (mm)		Ø13.4	Ø12.4	
	Ball center-to-center diameter (mm)		Ø16.75	Ø15.75	
	Permissible rotational speed[3] (min^{-1})	Normal grade/High accuracy grade (H)	2,980	3,170	
		Precision grade (P)	4,170	4,440	
Bearing unit (fixed side)	Axial direction	Basic dynamic load rating Ca (N)	6,660		
		Static permissible load P_0a (N)	3,240		
Permissible input torque (N·m)		Direct coupling	2.8	5.3	
		Motor wrap	2.8	4.5	
Static permissible moment[4, 5] (N·m)			M_A: 130 (994), M_B: 130 (994), M_C: 463 (925)		
Service life[6] (km)			5,000	10,000	
Standard grease/Grease nipple used			THK AFB-LF Grease/A-M6F		

[1] I_X is the geometric moment of inertia about the X axis.
[2] I_Y is the geometric moment of inertia about the Y axis.
[3] The permissible rotational speed may decrease as the stroke becomes longer.
[4] The value in parentheses is with 2 short blocks (D type) attached.
[5] See p. 168 for the values if "1" or "2" is selected for item ⑦ in the Model Number Coding.
[6] Calculated under the following conditions.
Stroke: 530 mm (C type), 460 mm (D type) / Speed: 240 mm/s (for 5 mm lead), 500 mm/s (for 10 mm lead), 1,000 mm/s (for 20 mm lead) / Load mass: Maximum load capacity (p. 9) / Acceleration/deceleration: As when set to maximum load capacity (p. 9) / Center of gravity: Center of the table's upper surface.

Notes: 1. LM Guide load rating is the load rating per short block.
2. KR45H05, KR45H10 precision grade (P-grade) ball screws have integrated spacer balls with a 1:1 ratio.
3. KR45H20 precision grade (P-grade) ball screws have integrated spacer balls with a 2:1 ratio.

Accuracy

Accuracy grade	Item	Stroke[7] 230	330	430	530	630	730	830
Normal grade (no symbol)	Positioning repeatability (mm)	±0.01						
	Positioning accuracy (mm)	Not specified						
	Running parallelism (vertical direction) (mm)	Not specified						
	Backlash (mm)	0.02						
	Starting torque (N·cm)	10						

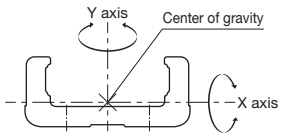
Accuracy grade	Item	Stroke[7] 230	330	430	530	630	730	830
High accuracy grade (H)	Positioning repeatability (mm)	±0.005						
	Positioning accuracy (mm)	0.1				0.12	0.15	
	Running parallelism (vertical direction) (mm)	0.035				0.04	0.05	
	Backlash (mm)	0.02						
	Starting torque (N·cm)	10						

Accuracy grade	Item	Stroke[7] 230	330	430	530	630	730	830
Precision grade (P)	Positioning repeatability (mm)	±0.003					±0.005	
	Positioning accuracy (mm)	0.025				0.03	0.035	
	Running parallelism (vertical direction) (mm)	0.015				0.02	0.025	
	Backlash (mm)	0.003						
	Starting torque (N·cm)	15			17			

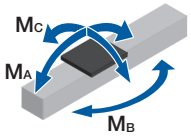
[7] Stroke with 1 short block (C type).

Notes: 4. Precision evaluation in accordance with THK standards.
5. Measured using a motor for inspection. With motor wrap specifications, measurements are not made in the completed motor wrap state.
6. The starting torque represents the value when containing THK AFB-LF Grease.
7. The starting torque may exceed standards if using vacuum grease, clean room grease, or other high-viscosity greases, so care should be taken when selecting a motor.
8. Contact THK for accuracy higher than the standard stroke.

Geometric Moment of Inertia



Static Permissible Moment



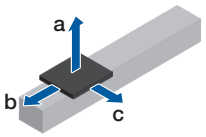
Motor Selection Information

Stroke[1] (mm)	Outer rail length (mm)	LM Guide				Ball screw		Motor mounting part	
		Moving part mass (kg)			Sliding resistance value[2] (N)	Lead (mm)	Shaft length (mm)	Direct coupling	Motor wrap
		Block mass	Sub-table mass	Total mass				Shaft end diameter (mm)	Timing pulley (sum of two) Inertial moment x 10^{-4} (kg·m²)
230 to 830	340 to 940	C type: 0.6 D type: 1.2	C type: 0.2 D type: 0.4	C type: 0.8 D type: 1.6	4.6	5, 10, 20	403 to 1,003	Ø10h7	0.86

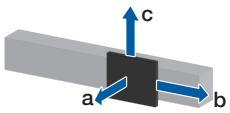
[1] Stroke with 1 short block (C type).
[2] Value with 1 short block (C type). This value is the sum of the rolling resistance value and seal resistance value.
Note: Refer to p. 99 for applicable couplings.

Permissible Overhang Length[3]

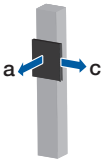
Horizontal



Wall-Mounted



Vertical



Estimated motor capacity 200 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	C type	5	9.5	170	60	60
			19	70	30	30
			38.5	10	0	10
		10	9.5	170	60	60
			19	70	30	30
			38.5	10	10	10
		20	3.5	540	170	170
			7.5	230	80	80
			15	90	40	40
	D type	5	16.5	360	120	70
			33	160	60	30
			66.5	60	20	10
		10	16.5	360	120	70
			33	160	60	30
			66.5	60	20	10
		20	5.5	800	360	220
			11.5	540	170	100
			23	250	80	50
Motor wrap	C type	5	11.5	140	50	50
			23.5	50	20	20
			47	0	10	10
		10	9.5	170	60	60
			19	70	30	30
			38.5	10	10	10
		20	3.5	540	170	170
			7.5	230	80	80
			15	90	40	40
	D type	5	16.5	360	120	70
			33	160	60	30
			66.5	60	20	10
		10	16.5	360	120	70
			33	160	60	30
			66.5	60	20	10
		20	4	800	490	300
			8.5	740	230	140
			17	350	110	70

Estimated motor capacity 200 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	C type	5	9	20	100	330
			18.5	0	0	160
			37.5	0	0	80
		10	6	50	130	500
			12.5	0	50	240
			25.5	0	20	110
		20	3	150	210	800
			6.5	40	90	460
			13	0	40	190
	D type	5	13	40	210	700
			26.5	0	100	340
			53	0	50	170
		10	13	40	210	700
			26.5	0	100	340
			53	0	50	170
		20	5.5	170	490	800
			11.5	60	230	790
			23	0	110	390
Motor wrap	C type	5	9	20	100	330
			18.5	0	0	160
			37.5	0	0	80
		10	6	50	130	500
			12.5	0	50	240
			25.5	0	20	110
		20	3	150	210	800
			6.5	40	90	460
			13	0	40	190
	D type	5	13	40	210	700
			26.5	0	100	340
			53	0	50	170
		10	13	40	210	700
			26.5	0	100	340
			53	0	50	170
		20	4	250	680	800
			8.5	90	320	800
			17	20	160	530

Estimated motor capacity 200 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	c (mm)
Direct coupling	C type	5	3	120	230
			6	40	110
			12	0	50
		10	2	190	340
			4.5	60	150
			9.5	10	50
		20	1	430	460
			2.5	150	210
			5.5	40	80
	D type	5	9	130	230
			18	40	110
			36.5	0	50
		10	4.5	300	460
			9	130	230
			18	40	110
		20	2	720	800
			4	340	520
			8	150	260
Motor wrap	C type	5	3	120	230
			6	40	110
			12	0	50
		10	2	190	340
			4.5	60	150
			9.5	10	50
		20	1	430	460
			2.5	150	210
			5.5	40	80
	D type	5	4.5	300	460
			9	130	230
			18	40	110
		10	4.5	300	460
			9	130	230
			18	40	110
		20	2	720	800
			4	340	520
			8	150	260

Estimated motor capacity 400 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	C type	5	17	140	50	50
			34.5	50	20	20
			69.5	0	0	10
		10	9.5	170	60	60
			19	70	30	30
			38.5	10	10	10
		20	3.5	540	170	170
			7.5	230	80	80
			15	90	40	40
	D type	5	24.5	360	120	70
			49	160	60	30
			98.5	60	20	10
		10	16.5	360	120	70
			33	160	60	30
			66.5	60	20	10
		20	13	470	150	90
			26	210	70	40
			52.5	80	30	20
Motor wrap	C type	5	17	140	50	50
			34.5	50	20	20
			69.5	0	0	10
		10	9.5	170	60	60
			19	70	30	30
			38.5	10	10	10
		20	3.5	540	170	170
			7.5	230	80	80
			15	90	40	40
	D type	5	24.5	360	120	70
			49	160	60	30
			98.5	60	20	10
		10	16.5	360	120	70
			33	160	60	30
			66.5	60	20	10
		20	12	510	160	100
			24	230	80	50
			48	100	40	20

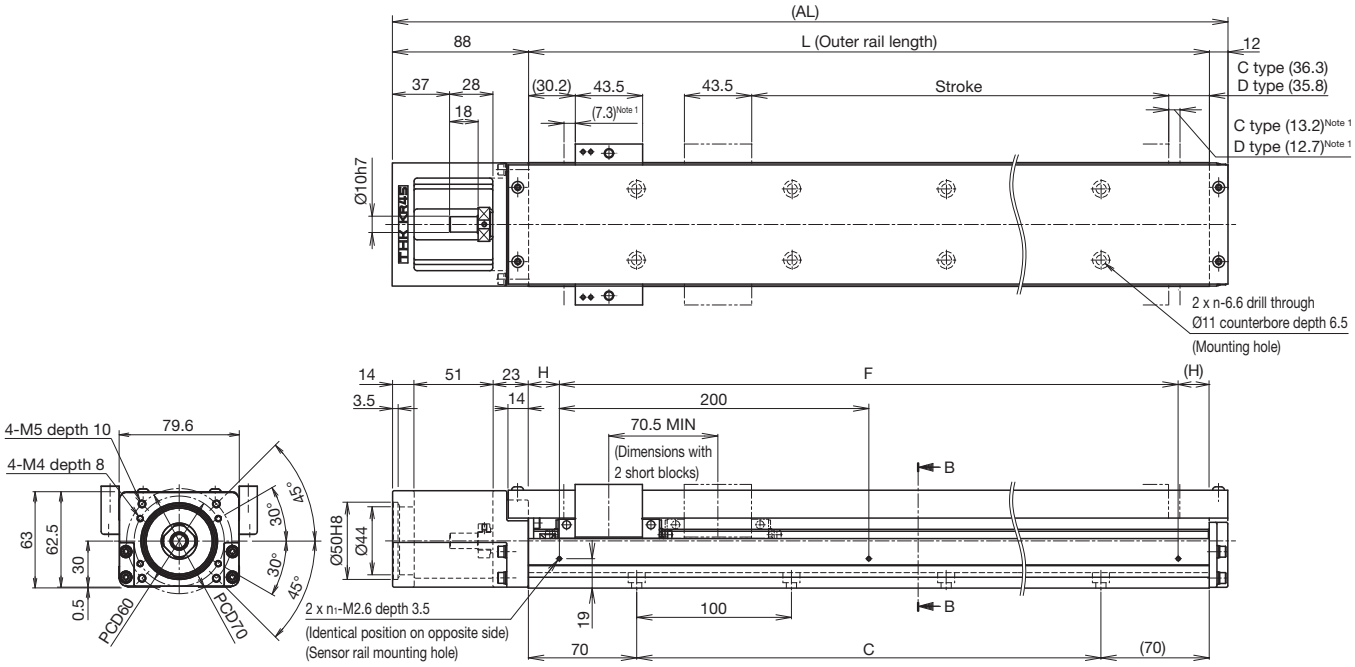
Estimated motor capacity 400 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	C type	5	11	50	130	500
			22.5	0	50	240
			45.5	0	20	110
		10	6	50	130	500
			12.5	0	50	240
			25.5	0	20	110
		20	3	150	210	800
			6.5	40	90	460
			13	0	40	190
	D type	5	19.5	40	210	700
			39.5	0	100	340
			79	0	50	170
		10	13	40	210	700
			26.5	0	100	340
			53	0	50	170
		20	9.5	80	280	800
			19.5	10	140	460
			39	0	70	230
Motor wrap	C type	5	11	50	130	500
			22.5	0	50	240
			45.5	0	20	110
		10	6	50	130	500
			12.5	0	50	240
			25.5	0	20	110
		20	3	150	210	800
			6.5	40	90	460
			13	0	40	190
	D type	5	19.5	40	210	700
			39.5	0	100	340
			79	0	50	170
		10	13	40	210	700
			26.5	0	100	340
			53	0	50	170
		20	9.5	80	280	800
			19.5	10	140	460
			39	0	70	230

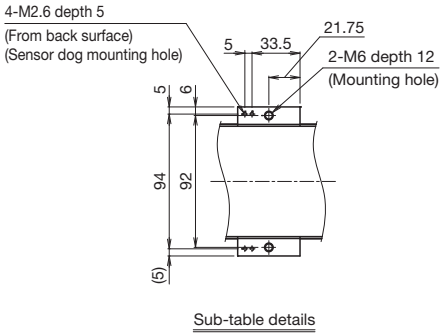
Estimated motor capacity 400 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	c (mm)
Direct coupling	C type	5	3	190	340
			6.5	60	150
			13.5	10	50
		10	2	190	340
			4.5	60	150
			9.5	10	50
		20	1.5	270	350
			3.5	90	160
			7	30	60
	D type	5	10	210	350
			20.5	90	170
			41	20	80
		10	6	210	350
			12	90	170
			24	20	80
		20	4.5	300	460
			9	130	230
			18	40	110
Motor wrap	C type	5	3	190	340
			6.5	60	150
			13.5	10	50
		10	2	190	340
			4.5	60	150
			9.5	10	50
		20	1.5	270	350
			3.5	90	160
			7	30	60
	D type	5	4	300	460
			8.5	130	230
			17.5	40	110
		10	4.5	300	460
			9	130	230
			18	40	110
		20	4.5	300	460
			9	130	230
			18	40	110

[3] This is the value with the service life of the LM Guide limited to 5,000 km (for 5 mm lead) or 10,000 km (for 10 mm or 20 mm lead). The calculation conditions are as follows.
Stroke: 530 mm (C type), 460 mm (D type) / Acceleration/deceleration: 0.3 G / Speed: 240 mm/s (for 5 mm lead), 500 mm/s (for 10 mm lead), 1,000 mm/s (for 20 mm lead) / Overhang direction: Loaded only in a single direction. Dimensions a, b, and c are from the center of the table's upper surface.

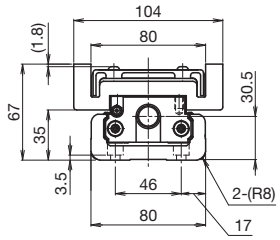
With Cover
Direct Motor Coupling

Dimensions

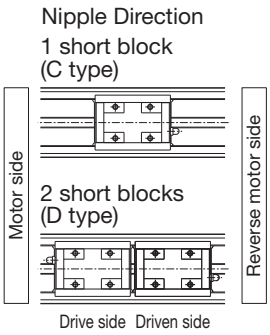




Sub-table details



B-B cross-section



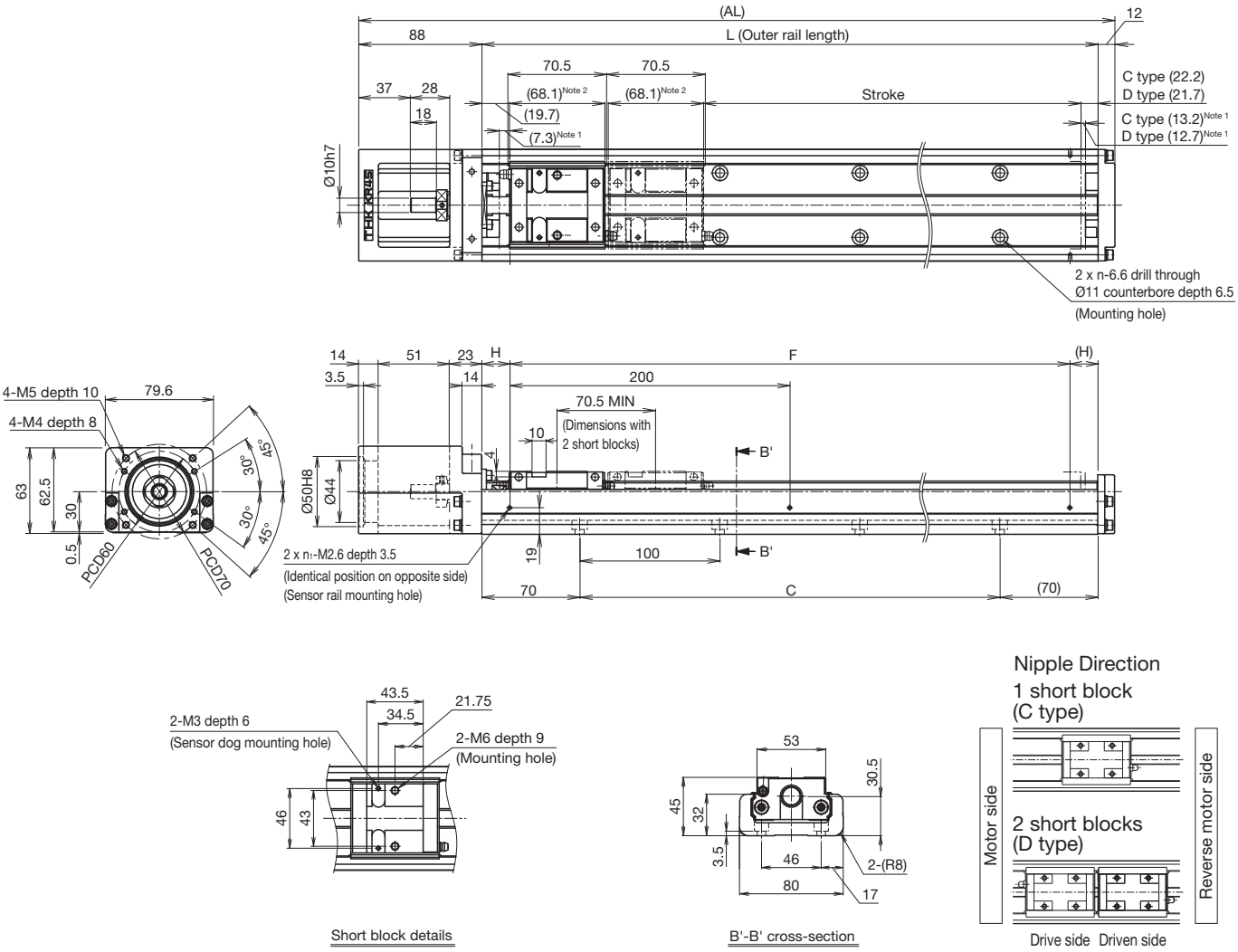
[1] Dimensions from the mechanical stopper to the stroke start position.

Stroke (mm) (Stroke between mechanical stoppers)		C type	230 (250.5)	330 (350.5)	430 (450.5)	530 (550.5)	630 (650.5)	730 (750.5)	830 (850.5)
		D type[2]	160 (180)	260 (280)	360 (380)	460 (480)	560 (580)	660 (680)	760 (780)
Maximum speed[3] (mm/s)	Ball screw lead: 5 mm	Normal grade/high accuracy grade	240						200
		Precision grade	340					260	200
	Ball screw lead: 10 mm	Normal grade/high accuracy grade	520					490	380
		Precision grade	740				640	490	380
	Ball screw lead: 20 mm	Normal grade/high accuracy grade	1,050					980	770
		Precision grade	1,480				1,280	980	770
Dimensions (mm)	AL		440	540	640	740	840	940	1,040
	L		340	440	540	640	740	840	940
	C		200	300	400	500	600	700	800
	F		200	400	400	600	600	800	800
	H		70	20	70	20	70	20	70
No. of mounting holes	n		3	4	5	6	7	8	9
	n_1		2	3	3	4	4	5	5
Mass[4] (kg)			5.8	7	8.1	9.3	10.4	11.6	12.7

[2] The value with 2 short blocks (D type) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 short blocks (D type) has 0.8 kg added.

Without Cover
Direct Motor Coupling

Dimensions



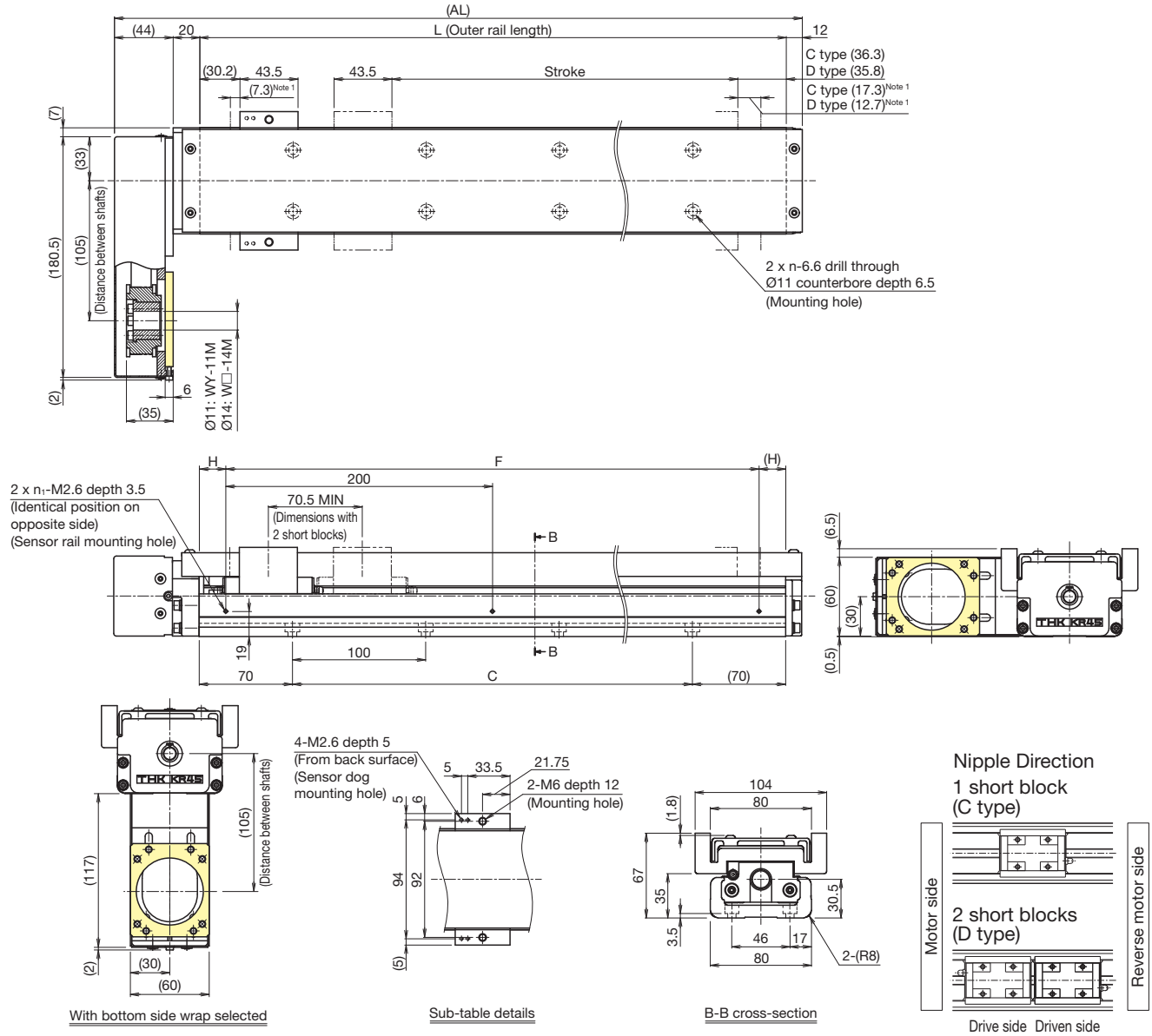
[1] Dimensions from the mechanical stopper to the stroke start position.
[2] Shows the short block length when calculating the enabled stroke range. 138.6 mm (2 blocks total) for KR45H with 2 short blocks (D type).

Stroke (mm) (Stroke between mechanical stoppers)	C type		230 (250.5)	330 (350.5)	430 (450.5)	530 (550.5)	630 (650.5)	730 (750.5)	830 (850.5)
	D type[3]		160 (180)	260 (280)	360 (380)	460 (480)	560 (580)	660 (680)	760 (780)
Maximum speed[4] (mm/s)	Ball screw lead: 5 mm	Normal grade/high accuracy grade	240						200
		Precision grade	340					260	200
	Ball screw lead: 10 mm	Normal grade/high accuracy grade	520					490	380
		Precision grade	740				640	490	380
	Ball screw lead: 20 mm	Normal grade/high accuracy grade	1,050					980	770
		Precision grade	1,480				1,280	980	770
Dimensions (mm)	AL		440	540	640	740	840	940	1,040
	L		340	440	540	640	740	840	940
	C		200	300	400	500	600	700	800
	F		200	400	400	600	600	800	800
	H		70	20	70	20	70	20	70
No. of mounting holes	n		3	4	5	6	7	8	9
	n_1		2	3	3	4	4	5	5
Mass[5] (kg)			5	6.1	7.1	8.2	9.3	10.3	11.4

[3] The value with 2 short blocks (D type) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 short blocks (D type) has 0.6 kg added.

With Cover
Motor Wrap

Dimensions



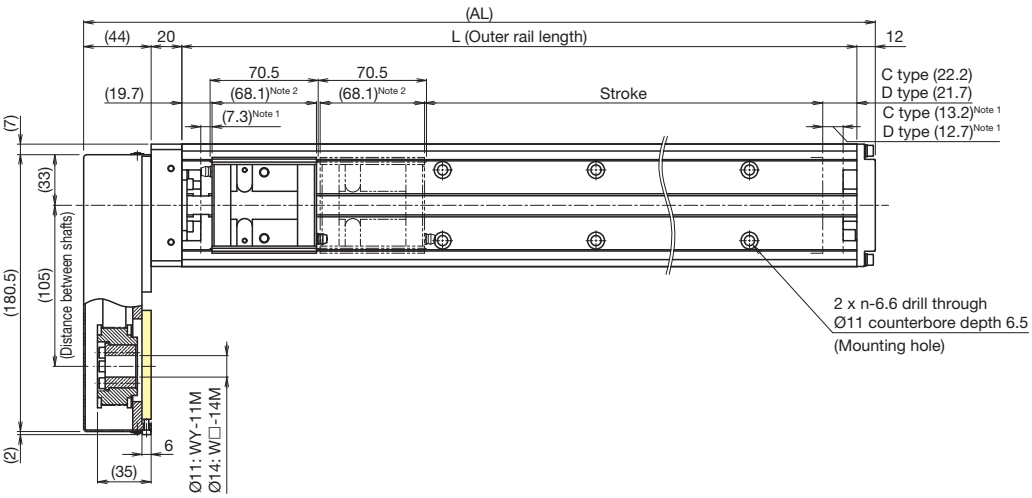
[1] Dimensions from the mechanical stopper to the stroke start position.

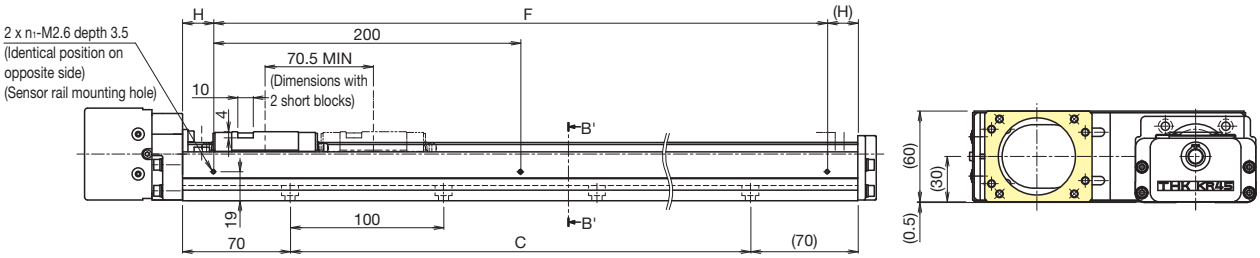
Stroke (mm) (Stroke between mechanical stoppers)	C type		230 (250.5)	330 (350.5)	430 (450.5)	530 (550.5)	630 (650.5)	730 (750.5)	830 (850.5)
	D type[2]		160 (180)	260 (280)	360 (380)	460 (480)	560 (580)	660 (680)	760 (780)
Maximum speed[3] (mm/s)	Ball screw lead: 5 mm	Normal grade/high accuracy grade	240						200
		Precision grade	340					260	200
	Ball screw lead: 10 mm	Normal grade/high accuracy grade	520					490	380
		Precision grade	740				640	490	380
	Ball screw lead: 20 mm	Normal grade/high accuracy grade	1,050					980	770
		Precision grade	1,480				1,280	980	770
Dimensions (mm)	AL		416	516	616	716	816	916	1,016
	L		340	440	540	640	740	840	940
	C		200	300	400	500	600	700	800
	F		200	400	400	600	600	800	800
	H		70	20	70	20	70	20	70
No. of mounting holes	n		3	4	5	6	7	8	9
	n_1		2	3	3	4	4	5	5
Mass[4] (kg)			6.8	7.9	9.1	10.2	11.4	12.5	13.6

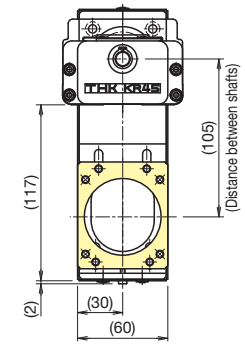
[2] The value with 2 short blocks (D type) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 short blocks (D type) has 0.8 kg added.

Without Cover
Motor Wrap

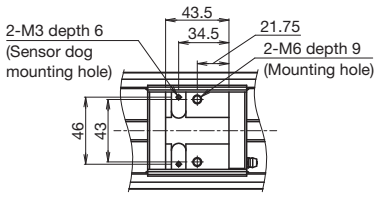
Dimensions



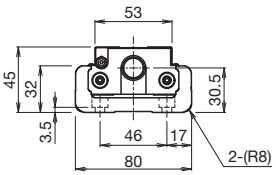




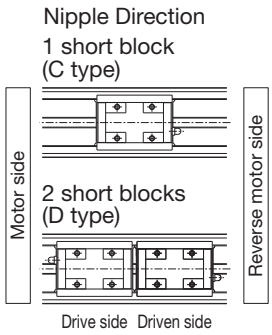
With bottom side wrap selected



Short block details



B'-B' cross-section



[1] Dimensions from the mechanical stopper to the stroke start position.
[2] Shows the short block length when calculating the enabled stroke range. 138.6 mm (2 blocks total) for KR45H with 2 short blocks (D type).

Stroke (mm) (Stroke between mechanical stoppers)	C type		230 (250.5)	330 (350.5)	430 (450.5)	530 (550.5)	630 (650.5)	730 (750.5)	830 (850.5)
	D type[3]		160 (180)	260 (280)	360 (380)	460 (480)	560 (580)	660 (680)	760 (780)
Maximum speed[4] (mm/s)	Ball screw lead: 5 mm	Normal grade/high accuracy grade	240						200
		Precision grade	340					260	200
	Ball screw lead: 10 mm	Normal grade/high accuracy grade	520					490	380
		Precision grade	740				640	490	380
	Ball screw lead: 20 mm	Normal grade/high accuracy grade	1,050					980	770
		Precision grade	1,480				1,280	980	770
Dimensions (mm)	AL		416	516	616	716	816	916	1,016
	L		340	440	540	640	740	840	940
	C		200	300	400	500	600	700	800
	F		200	400	400	600	600	800	800
	H		70	20	70	20	70	20	70
No. of mounting holes	n		3	4	5	6	7	8	9
	n_1		2	3	3	4	4	5	5
Mass[5] (kg)			6	7	8.1	9.1	10.2	11.3	12.3

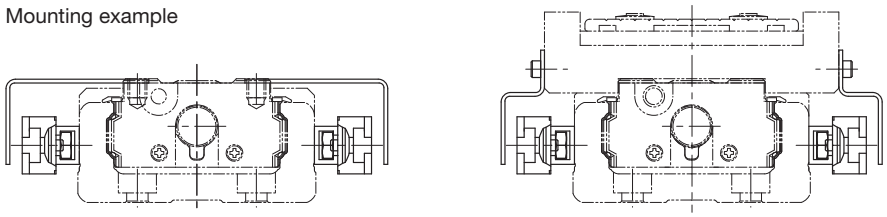
[3] The value with 2 short blocks (D type) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 short blocks (D type) has 0.6 kg added.

Options

Sensors

Optional photo sensors and proximity sensors are available. Sensor-equipped models also feature a dedicated sensor rail and sensor dog.
Sensors, sensor rails, and sensor dogs can be mounted on both sides when the stroke is less than 70 mm.

Mounting example

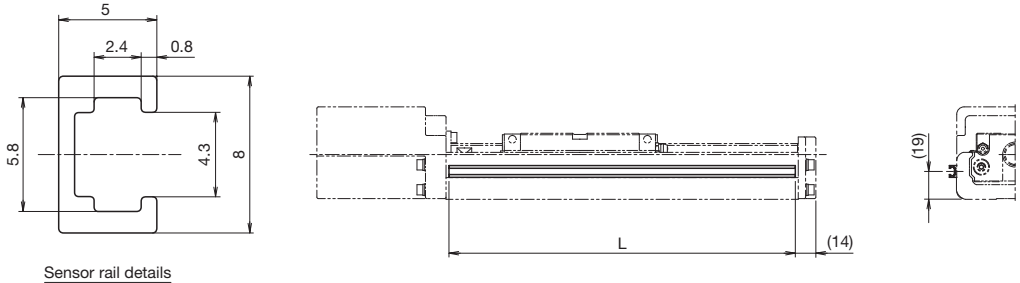


Symbol	Description	Model	Accessories
0	None	-	-
1	With sensor rail	-	Mounting screws, sensor rail (x1 or 2)
2	Photo sensor[1] (x3)	EE-SX671 (OMRON Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2), mounting plates (x3), connectors (EE-1001 x3)
6	Photo sensor[1] (x3)	EE-SX674 (OMRON Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2), mounting plates (x3), connectors (EE-1001 x3)
7	Proximity sensor N.O. contact[2] (x3)	APM-D3A1-001 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
B	Proximity sensor N.C. contact[3] (x3)	APM-D3B1-003 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
E	Proximity sensor N.O. contact[2] (x1) N.C. contact[3] (x2)	APM-D3A1-001 (Azbil Corporation) APM-D3B1-003 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
H	Proximity sensor N.O. contact[2] (x3)	GX-F12A (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
L	Proximity sensor N.C. contact[3] (x3)	GX-F12B (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
J	Proximity sensor N.O. contact[2] (x1) N.C. contact[3] (x2)	GX-F12A (Panasonic Industry Co., Ltd.) GX-F12B (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
M	Proximity sensor N.O. contact[2] (x1) (PNP output) N.C. contact[3] (x2) (PNP output)	GX-F12A-P (Panasonic Industry Co., Ltd.) GX-F12B-P (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)

[1] The photo sensors can be switched between ON when lit and ON when unlit.
[2] N.O. contact: Normally open contact point
[3] N.C. contact: Normally closed contact point
Notes: 1. If proximity sensors are close to one another, they may not function properly. If that happens, please prepare a type with a different frequency.
2. Mounting of sensors other than those in the table above is possible. Contact THK for details.

Sensor Rail Mounting Dimensions

Mounting only a sensor rail is also possible.



Sensor rail details

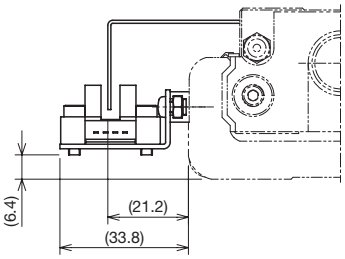
Stroke[4] (mm)	Outer rail length (mm)	L (mm)
200	340	336
300	440	436
400	540	536
500	640	636
600	740	736
700	840	836
800	940	936

[4] Stroke with 1 block (A type).

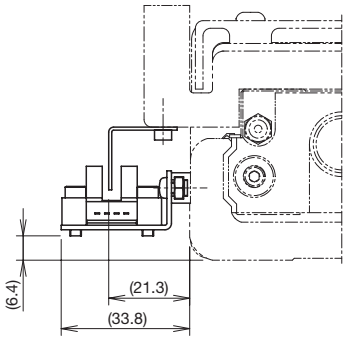
Photo Sensor Mounting Dimensions

Connector: EE-1001 (OMRON Corporation) x3 included.
To be mounted by the customer.

Without cover



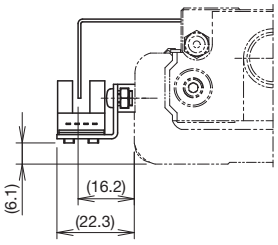
With cover



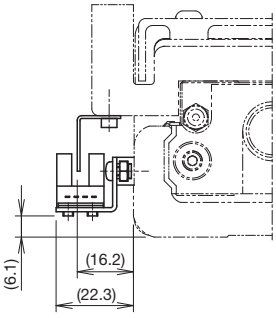
Symbol	Model	Manufacturer
2	EE-SX671	OMRON Corporation

Sensor dog width: 10 mm

Without cover



With cover

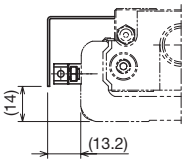


Symbol	Model	Manufacturer
6	EE-SX674	OMRON Corporation

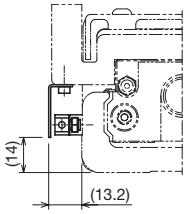
Sensor dog width: 10 mm

Proximity Sensor Mounting Dimensions

Without cover



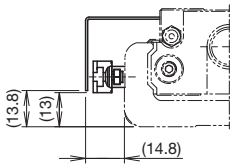
With cover



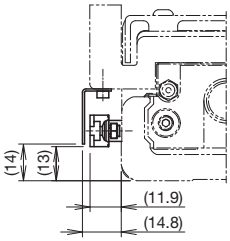
Symbol	Model	Manufacturer
7, B, E	APM-D3A1-001	Azbil Corporation
	APM-D3B1-003	

Sensor dog width: 10 mm

Without cover



With cover



Symbol	Model	Manufacturer
H, L, J	GX-F12A	Panasonic Industry Co., Ltd.
	GX-F12B	
M	GX-F12A-P	
	GX-F12B-P	

Sensor dog width: 10 mm

Options

Intermediate Flange (Direct Coupling)

Several types of intermediate flanges for mounting motors are available.
When selecting "0" or "1" for Model Number Coding ⑥ With/without motor, specify an intermediate flange that matches the motor used.

Compatibility Table: Motors Used, Intermediate Flanges, and Couplings

Motor type	Manufacturer	Series		Motor model	Motor rated output (W)	Flange size	Housing A/ Intermediate flange	Compatible coupling models	
								MIKI PULLEY CO., LTD.	Nabeya Bi-tech Kaisha (NBK)
AC servo motor	YASKAWA Electric Corporation	Σ-V		SGMJV-02	200	60×60	A0	SFC-030DA2-10B-14B	XGT2-27C-10-14
				SGMAV-02					
				SGMJV-04	400			SFC-035DA2-10B-14B	XGT2-30C-10-14
				SGMAV-04					
				SGMJV-06	600				XGT2-34C-10-14
		Σ-7		SGM7J-02	200	60×60	A0	SFC-030DA2-10B-14B	XGT2-27C-10-14
				SGM7A-02					
				SGM7J-04	400			SFC-035DA2-10B-14B	XGT2-30C-10-14
				SGM7A-04					
				SGM7J-06	600				XGT2-34C-10-14
		Σ-X		SGMXJ-02	200	60×60	A0	SFC–030DA2–10B–14B	XGT2–27C–10–14
				SGMXA-02					
				SGMXJ-04	400			SFC–035DA2–10B–14B	XGT2–30C–10–14
				SGMXA-04					
				SGMXJ-06	600				XGT2–34C–10–14
				SGMXA-06					
	Mitsubishi Electric Corporation	MELSERVO	J4	HG-KR23	200	60×60	A0	SFC-030DA2-10B-14B	XGT2-27C-10-14
				HG-MR23					
				HG-KR43	400			SFC-035DA2-10B-14B	XGT2-30C-10-14
				HG-MR43					
			J5	HK-KT23W	200	60×60	A0	SFC–030DA2–10B–14B	XGT2–27C–10–14
				HK-KT43W	400			SFC–035DA2–10B–14B	XGT2–30C–10–14
			JN	HF-KN23	200	60×60	A0	SFC-030DA2-10B-14B	XGT2-27C-10-14
				HF-KN43	400			SFC-035DA2-10B-14B	XGT2-30C-10-14
	TAMAGAWA SEIKI CO., LTD.	TBL-iII		TS4607	200	60×60	A0	SFC-030DA2-10B-14B	XGT2-27C-10-14
				TS4609	400			SFC-035DA2-10B-14B	XGT2-30C-10-14
		TBL-iIV		TSM3202	200	60×60	A0	SFC-030DA2-10B-14B	XGT2-27C-10-14
				TSM3204	400			SFC-035DA2-10B-14B	XGT2-30C-10-14
	Panasonic Corporation	MINAS	A5	MSMD02	200	60×60	AY	SFC-030DA2-10B-11B	XGT2-30C-10-11
				MSME02					
				MSMD04	400			SFC-035DA2-10B-14B	XGT2-30C-10-14
				MSME04					
			A6	MSMF02	200	60×60	AY	SFC-030DA2-10B-11B	XGT2-30C-10-11
				MHMF02					
				MSMF04	400			SFC-035DA2-10B-14B	XGT2-30C-10-14
				MHMF04					
	KEYENCE CORPORATION	SV		SV-M020	200	60×60	A0	SFC-030DA2-10B-14B	XGT2-27C-10-14
				SV-M040	400			SFC-035DA2-10B-14B	XGT2-30C-10-14
		SV2		SV2-M020	200	60×60	A0	SFC-030DA2-10B-14B	XGT2-27C-10-14
				SV2-M040	400			SFC-035DA2-10B-14B	XGT2-30C-10-14
	SANYO DENKI CO., LTD.	SANMOTION R		R2□A06020	200	60×60	A0	SFC-030DA2-10B-14B	XGT2-27C-10-14
				R2AA06040	400			SFC-035DA2-10B-14B	XGT2-30C-10-14
	OMRON Corporation	OMNUC G5		R88M-K20030	200	60×60	AY	SFC-030DA2-10B-11B	XGT2-30C-10-11
				R88M-K40030	400			SFC-035DA2-10B-14B	XGT2-30C-10-14
		1S		R88M-1M20030	200	60×60	AY	SFC-030DA2-10B-11B	XGT2-30C-10-11
				R88M-1M40030	400			SFC-035DA2-10B-14B	XGT2-30C-10-14

Motor type	Manufacturer	Series		Motor model	Flange size	Housing A/ Intermediate flange	Compatible coupling models	
							MIKI PULLEY CO., LTD.	Nabeya Bi-tech Kaisha (NBK)
Stepper motor	ORIENTAL MOTOR CO., LTD.	α step		AZ6*, AR6*	60×60	AU	SFC-025DA2-10B-10B-L46	XGL2-25C-10-10
		5-phase	CRK[1]	CRK56* (CRK569PM*)	60×60	AU	SFC-025DA2-8B-10B-L46 (SFC-025DA2-10B-10B-L46)	XGL2-25C-8-10 (XGL2-25C-10-10)
			RK II	RKS56*	60×60	AU	SFC-025DA2-10B-10B-L46	XGL2-25C-10-10
			PKP[1]	PKP56* (PKP569FM*)	60×60	AU	SFC-025DA2-8B-10B-L46 (SFC-025DA2-10B-10B-L46)	XGL2-25C-8-10 (XGL2-25C-10-10)
	KEYENCE CORPORATION	2-phase		QS-M60	60×60	AU	SFC-025DA2-8B-10B-L46	XGL2-25C-8-10
	SANYO DENKI CO., LTD.	PB		PBDM60*, PBA**60*	60×60	AU	SFC-025DA2-10B-10B-L46	XGL2-25C-10-10
		5-phase		FAM56*/FDM56*/ FA512M60/FB512M60	60×60	AU	SFC-025DA2-10B-10B-L46	XGL2-25C-10-10
		2-phase		DB16H78*	60×60	AU	SFC-025DA2-8B-10B-L46	XGL2-25C-8-10

[1] Items in parentheses have different motor shaft diameters and require a coupling to be specified.

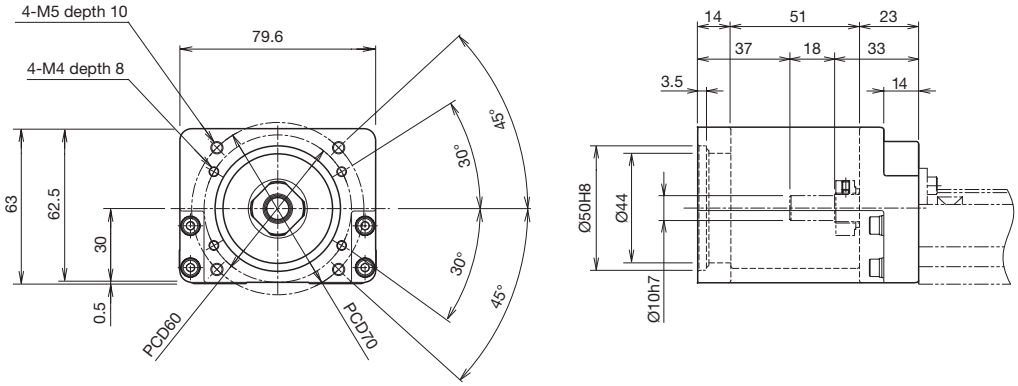
Notes: 1. The table shows only a portion of the model numbers for motors. For details regarding model numbers, please see the catalog for each respective motor manufacturer.
2. If the maximum torque for motors exceeds the permissible input torque (A/B → p. 85, C/D → p. 91), please consider a safety measure to limit the torque.
3. When installing a motor other than the motor model numbers listed above, contact THK.

KR**
●◇

Actuator model
●: Housing A
◇: Intermediate flange

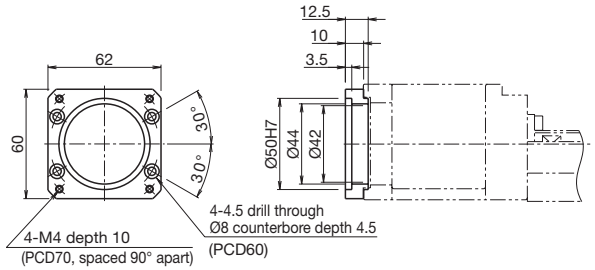
Housing A

KR45H
A0

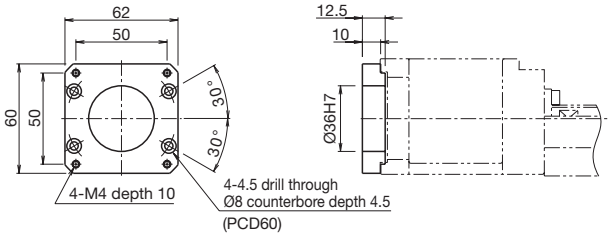


Intermediate Flange

KR45H
AY



KR45H
AU



Options

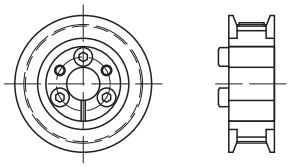
Intermediate Flange (Motor Wrap)

Several types of intermediate flanges for mounting motors are available.
When selecting "R1," "R2," "R3," "R4," "R5," or "R6" for Model Number Coding ⑥ With/without motor, specify an intermediate flange that matches the motor used.

Symbol Coding

Motor wrap symbol ①	Intermediate flange ②		Motor shaft diameter (mm) ③	Motor shaft securing method ④
W	V	-	14	M
W	Refer to the Compatibility Table: Motors Used and Motor Wrap Symbols below.		Specify a motor shaft diameter. (Refer to the Compatibility Table: Motors Used and Motor Wrap Symbols below.)	M: Friction tightening tool

Motor Shaft Securing Method



Friction tightening tool

Compatibility Table: Motors Used and Motor Wrap Symbols

Motor type	Manufacturer	Series		Motor model	Motor rated output (W)	Flange size	Housing A/Intermediate flange
AC servo motor	YASKAWA Electric Corporation	Σ-V		SGMJV-02	200	60×60	WV-14M
				SGMAV-02			
				SGMJV-04	400		
				SGMAV-04			
				SGMJV-06	600		
		Σ-7		SGM7J-02	200	60×60	WV-14M
				SGM7A-02			
				SGM7J-04	400		
				SGM7A-04			
				SGM7J–06	600		
		Σ-X		SGMXJ-02	200	60×60	WV–14M
				SGMXA-02			
				SGMXJ-04	400		
				SGMXA-04			
				SGMXJ-06	600		
				SGMXA-06			
	Mitsubishi Electric Corporation	MELSERVO	J4	HG-KR23	200	60×60	WV-14M
				HG-MR23			
				HG-KR43	400		
				HG-MR43			
			J5	HK-KT23W	200	60×60	WV–14M
				HK-KT43W	400		
			JN	HF-KN23	200	60×60	WV-14M
				HF-KN43	400		
	TAMAGAWA SEIKI CO., LTD.	TBL-iII		TS4607	200	60×60	WV-14M
				TS4609	400		
		TBL-iIV		TSM3202	200	60×60	WV-14M
				TSM3204	400		
	Panasonic Corporation	MINAS	A5	MSMD02	200	60×60	WY-11M
				MSME02			
				MSMD04	400		WY-14M
				MSME04			
			A6	MSMF02	200	60×60	WY-11M
				MHMF02			
				MSMF04	400		WY-14M
				MHMF04			
	KEYENCE CORPORATION	SV		SV-M020	200	60×60	WV-14M
				SV-M040	400		
		SV2		SV2-M020	200	60×60	WV-14M
				SV2-M040	400		
	SANYO DENKI CO., LTD.	SANMOTION R		R2□A06020	200	60×60	WV-14M
				R2AA06040	400		
	OMRON Corporation	OMNUC G5		R88M-K20030	200	60×60	WY-11M
				R88M-K40030	400		WY-14M
		1S		R88M-1M20030	200	60×60	WY-11M
				R88M-1M40030	400		WY-14M

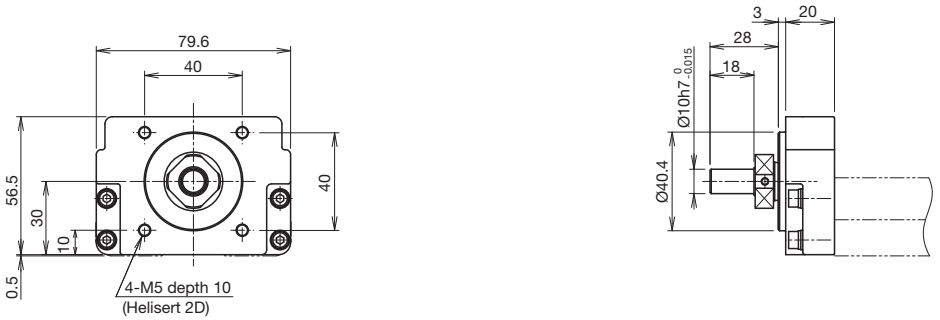
Notes: 1. The table shows only a portion of the model numbers for motors. For details regarding model numbers, please see the catalog for each respective motor manufacturer.
2. If the maximum torque for motors exceeds the permissible input torque (A/B → p. 85, C/D → p. 91), please consider a safety measure to limit the torque.
3. When installing a motor other than the motor model numbers listed above, contact THK.

Motor Wrap Housing A

KR**
●◇

Actuator model
●: Housing A
◇: Intermediate flange

KR45H
60



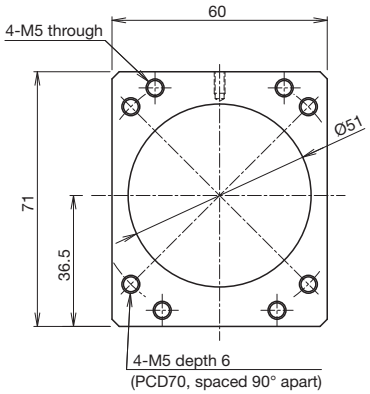
Motor Wrap Specification (Intermediate Flange)

KR**
W□

Actuator model
□: Intermediate flange

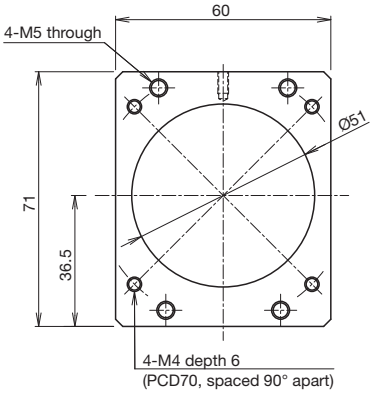
KR45H
WV

Thickness: 6 mm



KR45H
WY

Thickness: 6 mm



KR46 A/B

Direct motor coupling | Motor wrap | Width 86 mm | Height 46 mm | Max. stroke 790 mm

Model Number Coding

Model ①	Ball screw lead ②	Block type ③	QZ specification ④		Stroke ⑤		Accuracy grade ⑥	With/without motor ⑦		Cover ⑧	Sensors ⑨	Housing A/ Intermediate flange ⑩
KR46	10	A	QZA	-	0175	-	P	0	-	1	2	A0
KR46	05: 5 mm	A: x1	No symbol: Without QZ		0080: 80 mm		No symbol: Normal grade	With direct coupling		0: Without cover	0	With direct coupling
	10: 10 mm	B: x2	QZ		to		H: High accuracy grade	0: Direct coupling (without motor)		1: With cover	1	A0
	20: 20 mm		QZA		0790: 790 mm		P: Precision grade	1: Direct coupling (THK will purchase and mount the motor you specify.)		2: With bellows	2	10
			QZB					With motor wrap			6	30
			QZAD					R1: Non-standard side wrap (without motor)			7	40
								R2: Standard side wrap (without motor)			B	60
								R3: Bottom side wrap (without motor)			E	With motor wrap
								R4: Non-standard side wrap (THK will purchase and mount the motor you specify.)			H	WV-14M
								R5: Standard side wrap (THK will purchase and mount the motor you specify.)			L	WY-11M
								R6: Bottom side wrap (THK will purchase and mount the motor you specify.)			J	WY-14M
											M	With direct coupling → p. 121 With motor wrap → p. 123

Check the stroke for type with QZ when selecting anything other than "No symbol." → p. 125 to p. 130

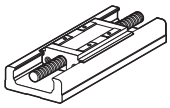
When selecting 2: With bellows for ⑧ Cover, specify the stroke with bellows. → p. 165 to p. 166

When selecting "0": A coupling is not provided. Indicate when placing an order if a coupling is required.

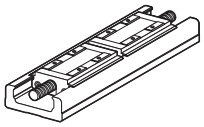
When selecting "1," "R4," "R5," or "R6": The specified motor will be installed. Indicate the motor cable direction separately. Select ⑩ Intermediate flange to match the specified motor.

Sensor details → p. 119

③ Block Type

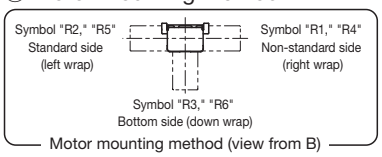


A: 1 block (A type)

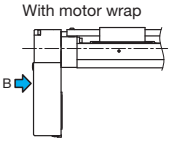


B: 2 blocks (B type)

⑦ Motor Mounting Method



Motor mounting method (view from B)



Selection Information

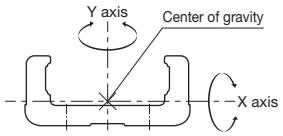
Basic Specifications

LM Guide	Basic dynamic load rating C (N)		27,400		
	Basic static load rating C_0 (N)		45,500		
	Radial clearance (mm)	Normal grade/High accuracy grade (H)	-0.006 to +0.003		
		Precision grade (P)	-0.016 to -0.006		
	Geometric moment of inertia	I_X[1] (mm^4)	2.4×10^5		
		I_Y[2] (mm^4)	1.5×10^6		
		Mass (kg/m)	12.6		
Ball screw	Ball screw lead (mm)		5	10	20
	Basic dynamic load rating Ca (N)	Normal grade/High accuracy grade (H)	5,500	3,140	3,040
		Precision grade (P)	4,100	2,940	3,430
	Basic static load rating C_0a (N)	Normal grade/High accuracy grade (H)	13,900	6,760	7,150
		Precision grade (P)	6,960	3,720	5,290
	Screw shaft diameter (mm)		Ø16	Ø15	
	Thread minor diameter (mm)		Ø13.4	Ø12.4	
	Ball center-to-center diameter (mm)		Ø16.75	Ø15.75	
	Permissible rotational speed[3] (min^{-1})	Normal grade/High accuracy grade (H)	2,980	3,170	
		Precision grade (P)	4,170	4,440	
Bearing unit (fixed side)	Axial direction	Basic dynamic load rating Ca (N)	6,660		
		Static permissible load P_0a (N)	3,240		
Permissible input torque (N·m)		Direct coupling	2.8	2.5	
		Motor wrap	2.8	4.5	
Static permissible moment[4, 5] (N·m)			M_A: 547 (2,940), M_B: 547 (2,940), M_C: 1,400 (2,800)		
Service life[6] (km)			5,000	10,000	
Standard grease/Grease nipple used			THK AFB-LF Grease/A-M6F		

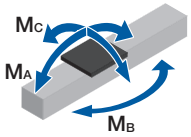
[1] I_X is the geometric moment of inertia about the X axis.
[2] I_Y is the geometric moment of inertia about the Y axis.
[3] The permissible rotational speed may decrease as the stroke becomes longer.
[4] The value in parentheses is with 2 blocks (B type) attached.
[5] See p. 168 for the values if "1" or "2" is selected for item ⑧ in the Model Number Coding.
[6] Calculated under the following conditions.
Stroke: 490 mm (A type), 380 mm (B type) / Speed: 240 mm/s (for 5 mm lead), 500 mm/s (for 10 mm lead), 1,000 mm/s (for 20 mm lead) / Load mass: Maximum load capacity (p. 9) / Acceleration/deceleration: As when set to maximum load capacity (p. 9) / Center of gravity: Center of the table's upper surface.

Notes: 1. LM Guide load rating is the load rating per block.
2. KR4610 precision grade (P-grade) ball screws have integrated spacer balls with a 1:1 ratio.
3. KR4620 precision grade (P-grade) ball screws have integrated spacer balls with a 2:1 ratio.

Geometric Moment of Inertia



Static Permissible Moment



Accuracy

Accuracy grade	Item	Stroke[7] 190	290	390	490	590	690	790
Normal grade (no symbol)	Positioning repeatability (mm)	±0.01						
	Positioning accuracy (mm)	Not specified						
	Running parallelism (vertical direction) (mm)	Not specified						
	Backlash (mm)	0.02						
	Starting torque (N·cm)	10						

Accuracy grade	Item	Stroke[7] 190	290	390	490	590	690	790
High accuracy grade (H)	Positioning repeatability (mm)	±0.005						
	Positioning accuracy (mm)	0.1				0.12	0.15	
	Running parallelism (vertical direction) (mm)	0.035				0.04	0.05	
	Backlash (mm)	0.02						
	Starting torque (N·cm)	10						

Accuracy grade	Item	Stroke[7] 190	290	390	490	590	690	790
Precision grade (P)	Positioning repeatability (mm)	±0.003					±0.005	
	Positioning accuracy (mm)	0.025				0.03	0.035	
	Running parallelism (vertical direction) (mm)	0.015				0.02	0.025	
	Backlash (mm)	0.003						
	Starting torque (N·cm)	15				17		

[7] Stroke with 1 block (A type, without QZ).

Notes: 4. Precision evaluation in accordance with THK standards.
5. Measured using a motor for inspection. With motor wrap specifications, measurements are not made in the completed motor wrap state.
6. The starting torque represents the value when containing THK AFB-LF Grease.
7. The starting torque may exceed standards if using vacuum grease, clean room grease, or other high-viscosity greases, so care should be taken when selecting a motor.
8. Contact THK for accuracy higher than the standard stroke.

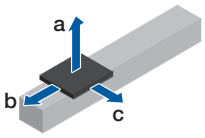
Motor Selection Information

Stroke[1] (mm)	Outer rail length (mm)	LM Guide				Ball screw		Motor mounting part	
		Moving part mass (kg)			Sliding resistance value[2] (N)	Lead (mm)	Shaft length (mm)	Direct coupling	Motor wrap
		Block mass	Sub-table mass	Total mass				Shaft end diameter (mm)	Timing pulley (sum of two) Inertial moment x 10^{-4} (kg·m^2)
190 to 790	340 to 940	A type: 1 B type: 2	A type: 0.4 B type: 0.8	A type: 1.4 B type: 2.8	5	5, 10, 20	403 to 1,003	Ø8h7	0.86

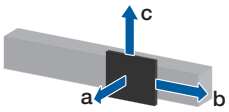
[1] Stroke with 1 block (A type, without QZ).
[2] Value with 1 block (A type, without QZ). This value is the sum of the rolling resistance value and seal resistance value.
Note: Refer to p. 121 for applicable couplings.

Permissible Overhang Length (200 W)[1]

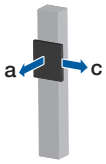
Horizontal



Wall-Mounted



Vertical



Estimated motor capacity 200 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	A type	5	19	190	60	60
			38.5	70	30	30
			77	20	10	10
		10	19	190	60	60
			38.5	70	30	30
			77	20	10	10
		20	6	690	210	210
			12.5	310	100	100
			25.5	130	50	50
	B type	5	27	740	230	230
			54	350	110	110
			108.5	150	50	50
		10	27	860	230	90
			54	860	110	40
			108.5	150	50	20
		20	5	860	860	520
			10.5	860	600	250
			21	860	300	120
Motor wrap	A type	5	19	190	60	60
			38.5	70	30	30
			77	20	10	10
		10	17.5	210	70	70
			35	80	30	30
			70.5	20	10	10
		20	3.5	860	370	370
			7	590	180	180
			14.5	260	90	90
	B type	5	27	740	230	90
			54	350	110	40
			108.5	150	50	20
		10	20.5	860	300	120
			41.5	860	150	60
			83	210	70	30
		20	3	860	860	860
			6.5	860	860	400
			13	860	480	200

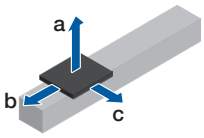
Estimated motor capacity 200 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	A type	5	19	30	130	450
			38.5	0	60	220
			77	0	30	110
		10	15.5	40	160	550
			31	0	80	270
			62	0	40	130
		20	6	180	430	860
			12.5	60	200	690
			25.5	10	90	340
	B type	5	27	60	260	860
			54	10	130	440
			108.5	0	60	220
		10	27	60	260	860
			54	10	130	440
			108.5	0	60	220
		20	5	490	860	860
			10.5	210	680	860
			21	80	340	860
Motor wrap	A type	5	19	30	130	450
			38.5	0	60	220
			77	0	30	110
		10	15.5	40	160	550
			31	0	80	270
			62	0	40	130
		20	3.5	340	740	860
			7	150	370	860
			14.5	50	170	590
	B type	5	27	60	260	860
			54	10	130	440
			108.5	0	60	220
		10	20.5	90	350	860
			41.5	20	170	570
			83	0	80	280
		20	3	840	860	860
			6.5	360	860	860
			13	160	550	860

Estimated motor capacity 200 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	c (mm)
Direct coupling	A type	5	10	60	200
			20	10	100
			40	0	50
		10	4.5	180	440
			9	70	220
			18	20	110
		20	2	470	860
			4	210	500
			8	90	250
	B type	5	10	440	550
			20	200	270
			40	80	130
		10	5.5	840	860
			11	400	500
			22.5	170	240
		20	2	860	860
			4	860	860
			8.5	530	650
Motor wrap	A type	5	4.5	180	440
			9	70	220
			18	20	110
		10	4.5	180	440
			9	70	220
			18	20	110
		20	1.5	630	860
			3.5	250	570
			7	100	280
	B type	5	4	860	860
			8	570	690
			16.5	250	330
		10	4	860	860
			8	570	690
			16.5	250	330
		20	1.5	860	860
			3	860	860
			6	770	860

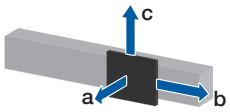
[1] This is the value with the service life of the LM Guide limited to 5,000 km (for leads of 5 mm) or 10,000 km (for leads of 10 mm and 20 mm). The calculation conditions are as follows. Stroke: 490 mm (A type), 380 mm (B type) / Acceleration/deceleration: 0.3 G / Speed: 240 mm/s (for 5 mm lead), 500 mm/s (for 10 mm lead), 1,000 mm/s (for 20 mm lead) / Overhang direction: Loaded only in a single direction. Dimensions a, b, and c are from the center of the table's upper surface.

Permissible Overhang Length (400 W)[1]

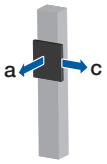
Horizontal



Wall-Mounted



Vertical



Estimated motor capacity 400 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	A type	5	24	140	50	50
			48	50	20	20
			96	0	10	10
		10	24	140	50	50
			48	50	20	20
			96	0	10	10
		20	12	320	100	100
			24	140	50	50
			48	50	20	20
	B type	5	34	580	180	70
			68	270	90	30
			136	110	40	10
		10	31.5	630	200	80
			63.5	290	90	40
			127.5	120	40	20
		20	11.5	860	540	220
			23.5	850	260	110
			47.5	400	130	50
Motor wrap	A type	5	24	140	50	50
			48	50	20	20
			96	0	10	10
		10	24	140	50	50
			48	50	20	20
			96	0	10	10
		20	10.5	380	120	120
			21.5	160	60	60
			43	60	30	30
	B type	5	34	580	180	70
			68	270	90	30
			136	110	40	10
		10	31.5	630	200	80
			63.5	290	90	40
			127.5	120	40	20
		20	10	860	630	260
			20.5	860	300	120
			41.5	470	150	60

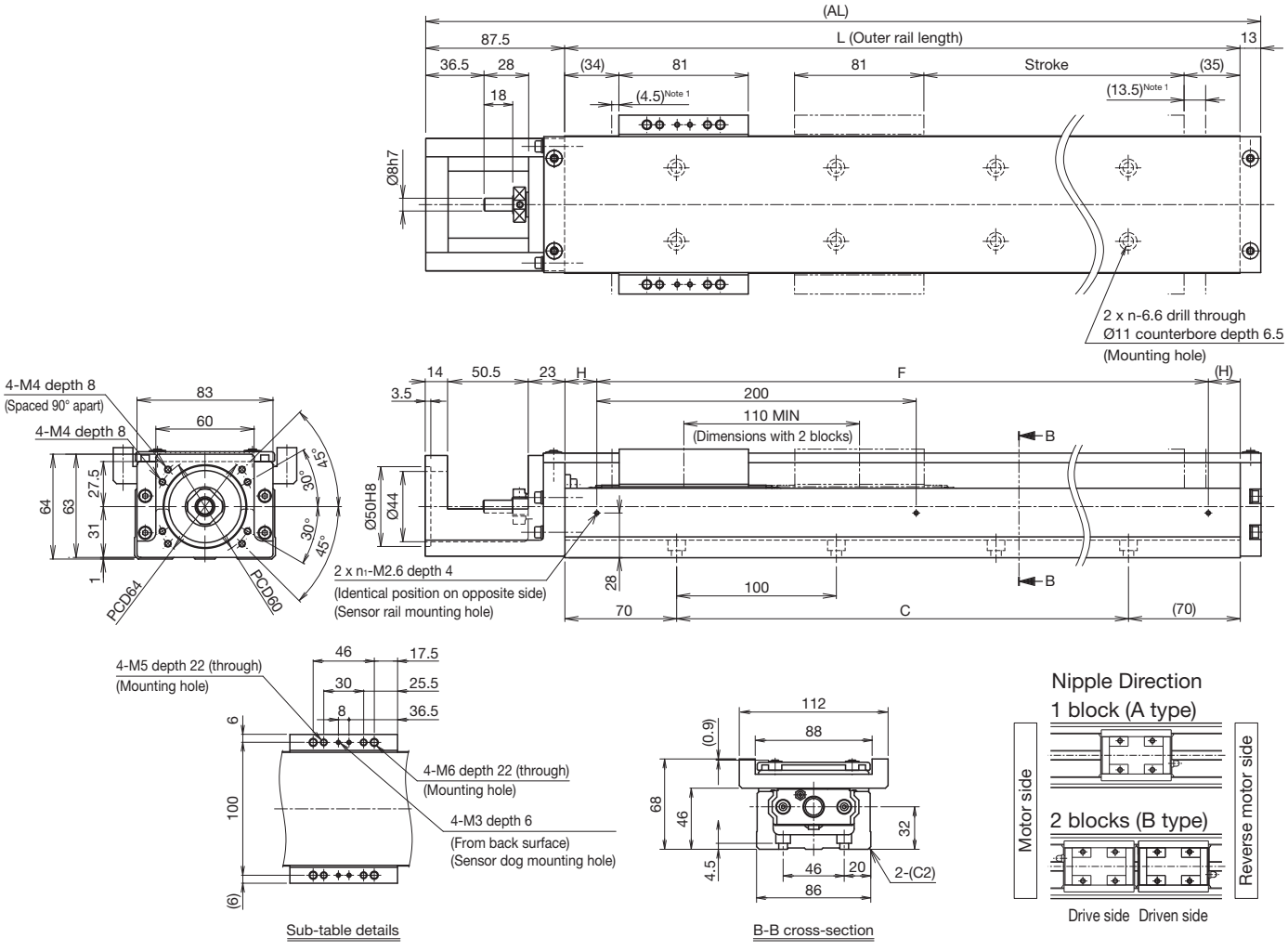
Estimated motor capacity 400 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	A type	5	19	30	130	860
			38.5	0	60	220
			77	0	30	110
		10	15.5	40	160	550
			31	0	80	270
			62	0	40	130
		20	9	110	280	860
			18	30	140	480
			36.5	0	60	230
	B type	5	27	60	260	860
			54	10	130	440
			108.5	0	60	220
		10	27	60	260	860
			54	10	130	440
			108.5	0	60	220
		20	11.5	190	620	860
			23.5	70	300	860
			47.5	10	150	500
Motor wrap	A type	5	19	30	130	450
			38.5	0	60	220
			77	0	30	110
		10	15.5	40	160	550
			31	0	80	270
			62	0	40	130
		20	9	110	280	860
			18	30	140	480
			36.5	0	60	230
	B type	5	27	60	260	860
			54	10	130	440
			108.5	0	60	220
		10	27	60	260	860
			54	10	130	440
			108.5	0	60	220
		20	10	220	720	860
			20.5	90	350	860
			41.5	20	170	570

Estimated motor capacity 400 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	c (mm)
Direct coupling	A type	5	10	60	200
			20	10	100
			40	0	50
		10	5.5	140	360
			11.5	50	170
			23	0	80
		20	4.5	180	440
			9	70	220
			18	20	110
	B type	5	10	440	550
			20	200	270
			40	80	130
		10	5.5	840	860
			11	400	500
			22.5	170	240
		20	4.5	860	860
			9	500	610
			18	230	300
Motor wrap	A type	5	4.5	180	440
			9	70	220
			18	20	110
		10	4.5	180	440
			9	70	220
			18	20	110
		20	4.5	180	440
			9	70	220
			18	20	110
	B type	5	4	860	860
			8	570	690
			16.5	250	330
		10	4	860	860
			8	570	690
			16.5	250	330
		20	4	860	860
			8	570	690
			16	260	340

[1] This is the value with the service life of the LM Guide limited to 5,000 km (for leads of 5 mm) or 10,000 km (for leads of 10 mm and 20 mm). The calculation conditions are as follows. Stroke: 490 mm (A type), 380 mm (B type) / Acceleration/deceleration: 0.3 G / Speed: 240 mm/s (for 5 mm lead), 500 mm/s (for 10 mm lead), 1,000 mm/s (for 20 mm lead) / Overhang direction: Loaded only in a single direction. Dimensions a, b, and c are from the center of the table's upper surface.

With Cover
Direct Motor Coupling

Dimensions



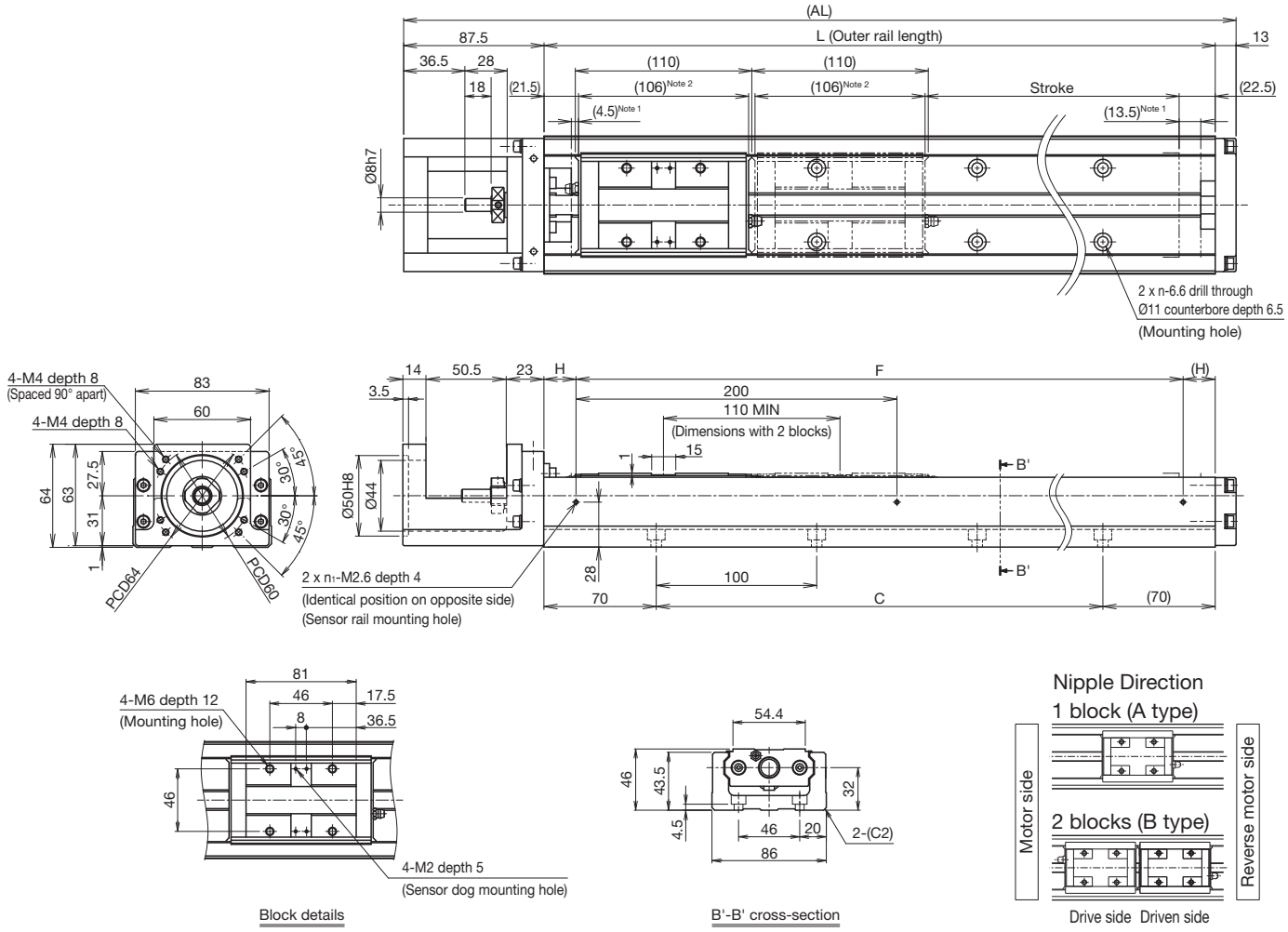
[1] Dimensions from the mechanical stopper to the stroke start position.

Stroke (mm) (Stroke between mechanical stoppers)	A type		190 (208)	290 (308)	390 (408)	490 (508)	590 (608)	690 (708)	790 (808)
	B type[2]		80 (98)	180 (198)	280 (298)	380 (398)	480 (498)	580 (598)	680 (698)
Maximum speed[3] (mm/s)	Ball screw lead: 5 mm	Normal grade/high accuracy grade	240						230
		Precision grade	340					300	230
	Ball screw lead: 10 mm	Normal grade/high accuracy grade	520						430
		Precision grade	740					550	430
	Ball screw lead: 20 mm	Normal grade/high accuracy grade	1,050						850
		Precision grade	1,480				1,440	1,090	850
Dimensions (mm)	AL		440.5	540.5	640.5	740.5	840.5	940.5	1,040.5
	L		340	440	540	640	740	840	940
	C		200	300	400	500	600	700	800
	F		200	400	400	600	600	800	800
	H		70	20	70	20	70	20	70
No. of mounting holes	n		3	4	5	6	7	8	9
	n_1		2	3	3	4	4	5	5
Mass[4] (kg)			7.5	9	10.5	12	13.5	14.9	16.4

[2] The value with 2 blocks (B type, without QZ) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 blocks (B type) has 1.4 kg added.

Without Cover
Direct Motor Coupling

Dimensions



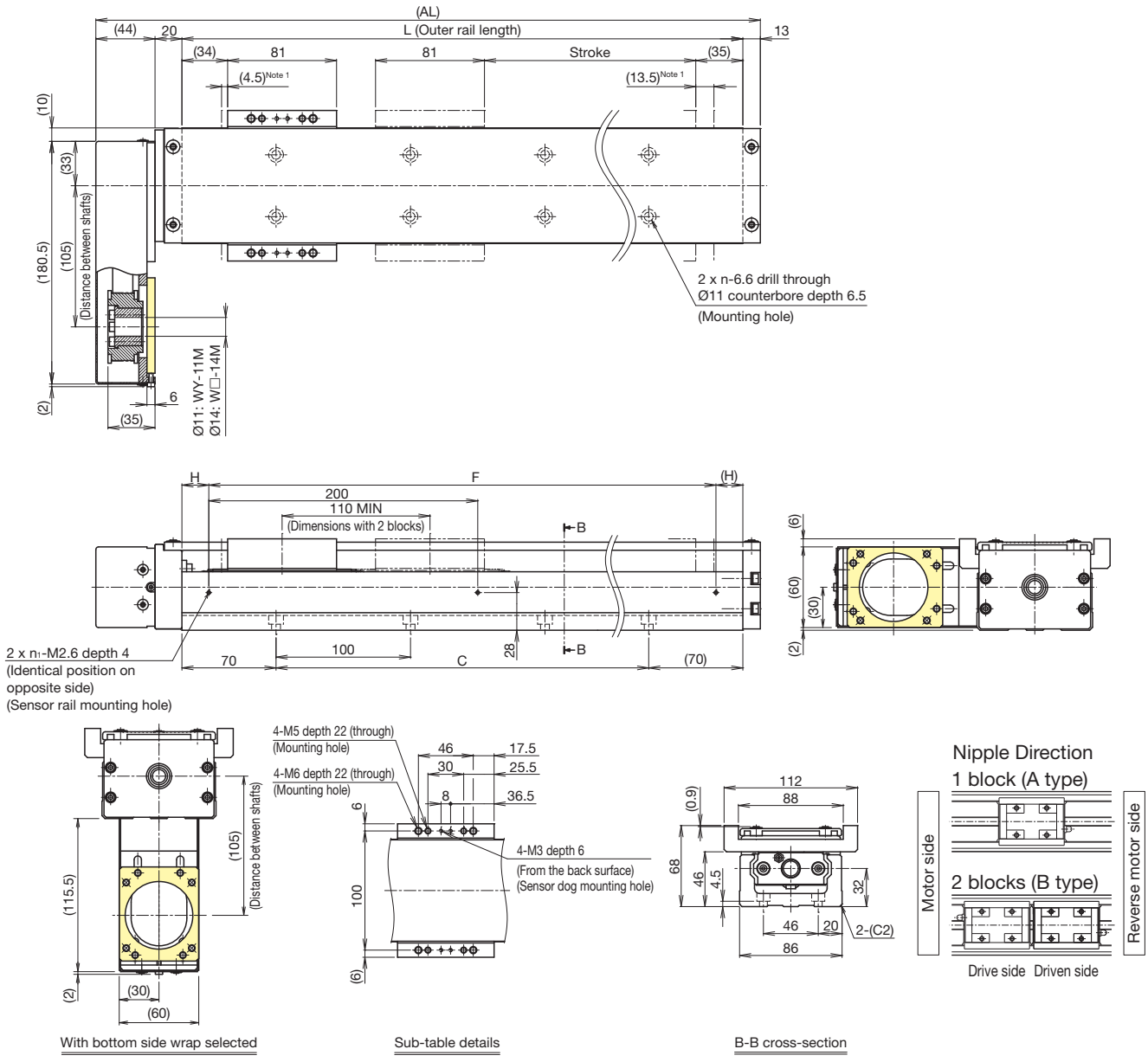
[1] Dimensions from the mechanical stopper to the stroke start position.
[2] Shows the block length when calculating the enabled stroke range.
216 mm (2 blocks total) for KR46 with 2 blocks (B type, without QZ).

Stroke (mm) (Stroke between mechanical stoppers)	A type		190 (208)	290 (308)	390 (408)	490 (508)	590 (608)	690 (708)	790 (808)
	B type[3]		80 (98)	180 (198)	280 (298)	380 (398)	480 (498)	580 (598)	680 (698)
Maximum speed[4] (mm/s)	Ball screw lead: 5 mm	Normal grade/high accuracy grade	240						230
		Precision grade	340					300	230
	Ball screw lead: 10 mm	Normal grade/high accuracy grade	520						430
		Precision grade	740					550	430
	Ball screw lead: 20 mm	Normal grade/high accuracy grade	1,050						850
		Precision grade	1,480				1,440	1,090	850
Dimensions (mm)	AL		440.5	540.5	640.5	740.5	840.5	940.5	1,040.5
	L		340	440	540	640	740	840	940
	C		200	300	400	500	600	700	800
	F		200	400	400	600	600	800	800
	H		70	20	70	20	70	20	70
No. of mounting holes	n		3	4	5	6	7	8	9
	n_1		2	3	3	4	4	5	5
Mass[5] (kg)			6.6	8	9.4	10.8	12.2	13.6	15

[3] The value with 2 blocks (B type, without QZ) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 blocks (B type) has 1 kg added.

With Cover
Motor Wrap

Dimensions



With bottom side wrap selected

Sub-table details

B-B cross-section

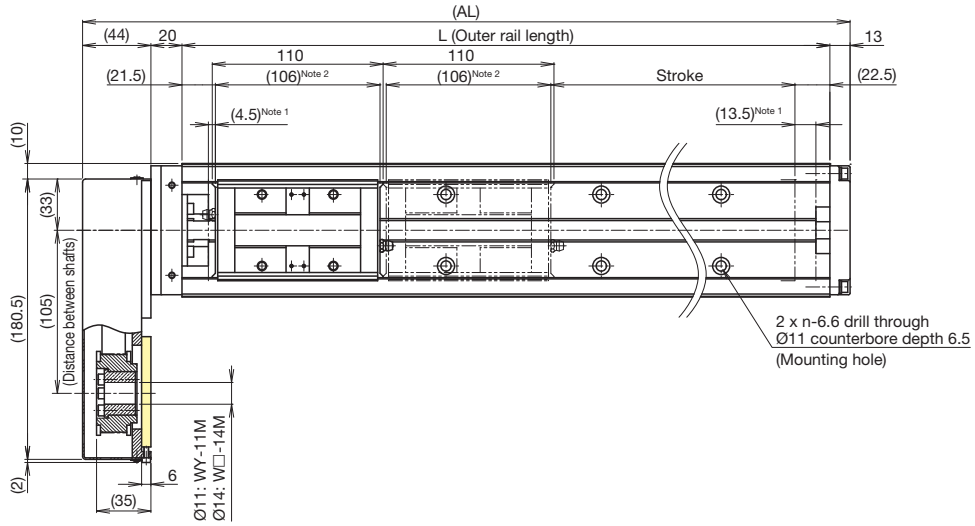
[1] Dimensions from the mechanical stopper to the stroke start position.

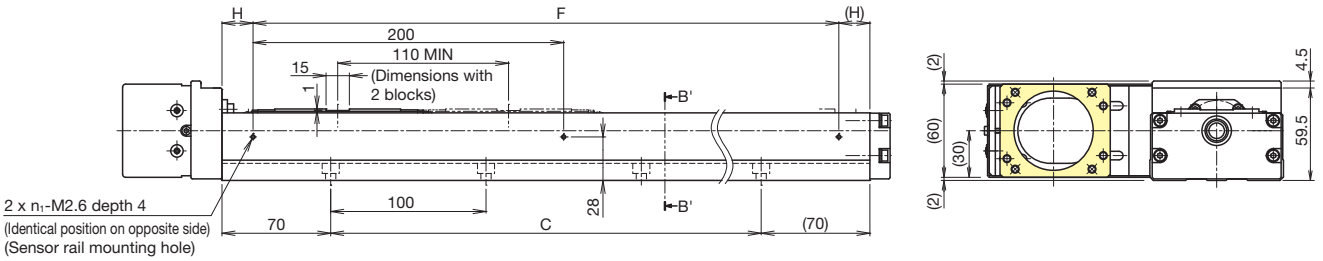
Stroke (mm) (Stroke between mechanical stoppers)		A type	190 (208)	290 (308)	390 (408)	490 (508)	590 (608)	690 (708)	790 (808)
		B type[2]	80 (98)	180 (198)	280 (298)	380 (398)	480 (498)	580 (598)	680 (698)
Maximum speed[3] (mm/s)	Ball screw lead: 5 mm	Normal grade/high accuracy grade	240						230
		Precision grade	340					300	230
	Ball screw lead: 10 mm	Normal grade/high accuracy grade	520						430
		Precision grade	740					550	430
	Ball screw lead: 20 mm	Normal grade/high accuracy grade	1,050						850
		Precision grade	1,480				1,440	1,090	850
Dimensions (mm)	AL		417	517	617	717	817	917	1,017
	L		340	440	540	640	740	840	940
	C		200	300	400	500	600	700	800
	F		200	400	400	600	600	800	800
	H		70	20	70	20	70	20	70
No. of mounting holes	n		3	4	5	6	7	8	9
	n_1		2	3	3	4	4	5	5
Mass[4] (kg)			8.6	10	11.5	13	14.5	16	17.4

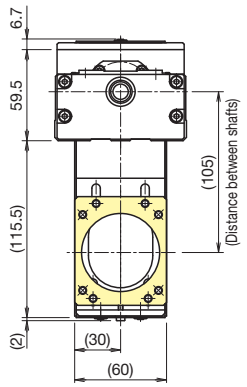
[2] The value with 2 blocks (B type, without QZ) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 blocks (B type) has 1.4 kg added.

Without Cover
Motor Wrap

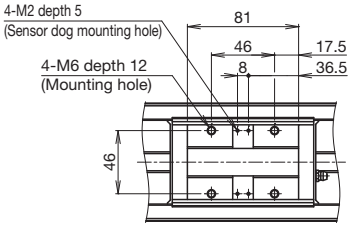
Dimensions



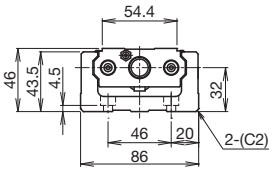




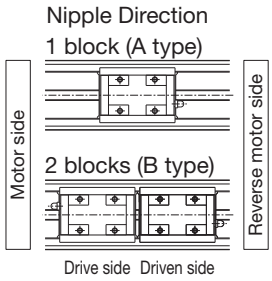
With bottom side wrap selected



Block details



B'-B' cross-section



[1] Dimensions from the mechanical stopper to the stroke start position.
[2] Shows the block length when calculating the enabled stroke range.
216 mm (2 blocks total) for KR46 with 2 blocks (B type, without QZ).

Stroke (mm) (Stroke between mechanical stoppers)	A type		190 (208)	290 (308)	390 (408)	490 (508)	590 (608)	690 (708)	790 (808)
	B type[3]		80 (98)	180 (198)	280 (298)	380 (398)	480 (498)	580 (598)	680 (698)
Maximum speed[4] (mm/s)	Ball screw lead: 5 mm	Normal grade/high accuracy grade	240						230
		Precision grade	340					300	230
	Ball screw lead: 10 mm	Normal grade/high accuracy grade	520						430
		Precision grade	740					550	430
	Ball screw lead: 20 mm	Normal grade/high accuracy grade	1,050						850
		Precision grade	1,480				1,440	1,090	850
Dimensions (mm)	AL		417	517	617	717	817	917	1,017
	L		340	440	540	640	740	840	940
	C		200	300	400	500	600	700	800
	F		200	400	400	600	600	800	800
	H		70	20	70	20	70	20	70
No. of mounting holes	n		3	4	5	6	7	8	9
	n_1		2	3	3	4	4	5	5
Mass[5] (kg)			7.6	9	10.4	11.8	13.2	14.6	16

[3] The value with 2 blocks (B type, without QZ) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 blocks (B type) has 1 kg added.

KR46 C/D

Direct motor coupling | Motor wrap | Width 86 mm | Height 46 mm | Max. stroke 820 mm

Model Number Coding

Model ①	Ball screw lead ②	Block type ③	QZ specification ④		Stroke ⑤		Accuracy grade ⑥	With/without motor ⑦		Cover ⑧	Sensors ⑨	Housing A/ Intermediate flange ⑩
KR46	10	C	QZA	-	0205	-	P	0	-	1	2	A0
KR46	05: 5 mm	C: x1	No symbol: Without QZ		0150: 150 mm		No symbol: Normal grade	With direct coupling		0: Without cover	0	With direct coupling
	10: 10 mm	D: x2	QZ		to		H: High accuracy grade	0: Direct coupling (without motor)		1: With cover	1	A0
	20: 20 mm		QZA		0820: 820 mm		P: Precision grade	1: Direct coupling (THK will purchase and mount the motor you specify.)		2: With bellows	2	10
			QZB					With motor wrap			6	30
			QZAD					R1: Non-standard side wrap (without motor)			7	40
								R2: Standard side wrap (without motor)			B	60
								R3: Bottom side wrap (without motor)			E	With motor wrap
								R4: Non-standard side wrap (THK will purchase and mount the motor you specify.)			H	WV-14M
								R5: Standard side wrap (THK will purchase and mount the motor you specify.)			L	WY-11M
								R6: Bottom side wrap (THK will purchase and mount the motor you specify.)			J	WY-14M
											M	With direct coupling → p. 121 With motor wrap → p. 123

Check the stroke for type with QZ when selecting anything other than "No symbol." → p. 125 to p. 130

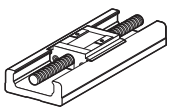
When selecting 2: With bellows for ⑧ Cover, specify the stroke with bellows. → p. 167 to p. 168

When selecting "0": A coupling is not provided. Indicate when placing an order if a coupling is required.

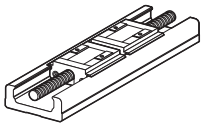
When selecting "1," "R4," "R5," or "R6": The specified motor will be installed. Indicate the motor cable direction separately. Select ⑩ Intermediate flange to match the specified motor.

Sensor details → p. 119

③ Block Type

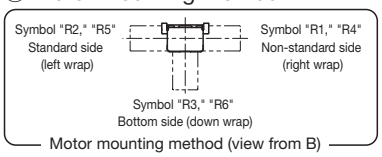


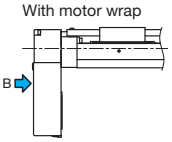
C: 1 short block (C type)



D: 2 short blocks (D type)

⑦ Motor Mounting Method





Selection Information

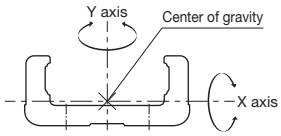
Basic Specifications

LM Guide	Basic dynamic load rating C (N)		14,000		
	Basic static load rating C_0 (N)		22,700		
	Radial clearance (mm)	Normal grade/High accuracy grade (H)	-0.006 to +0.003		
		Precision grade (P)	-0.016 to -0.006		
	Geometric moment of inertia	I_X[1] (mm^4)	2.4×10^5		
		I_Y[2] (mm^4)	1.5×10^6		
		Mass (kg/m)	12.6		
Ball screw	Ball screw lead (mm)		5	10	20
	Basic dynamic load rating Ca (N)	Normal grade/High accuracy grade (H)	5,500	3,140	3,040
		Precision grade (P)	4,100	2,940	3,430
	Basic static load rating C_0a (N)	Normal grade/High accuracy grade (H)	13,900	6,760	7,150
		Precision grade (P)	6,960	3,720	5,290
	Screw shaft diameter (mm)		Ø16	Ø15	
	Thread minor diameter (mm)		Ø13.4	Ø12.4	
	Ball center-to-center diameter (mm)		Ø16.75	Ø15.75	
	Permissible rotational speed[3] (min^{-1})	Normal grade/High accuracy grade (H)	2,980	3,170	
		Precision grade (P)	4,170	4,440	
Bearing unit (fixed side)	Axial direction	Basic dynamic load rating Ca (N)	6,660		
		Static permissible load P_0a (N)	3,240		
Permissible input torque (N·m)		Direct coupling	2.8	2.5	
		Motor wrap	2.8	4.5	
Static permissible moment[4, 5] (N·m)			M_A: 149 (1,010), M_B: 149 (1,010), M_C: 700 (1,400)		
Service life[6] (km)			5,000	10,000	
Standard grease/Grease nipple used			THK AFB-LF Grease/A-M6F		

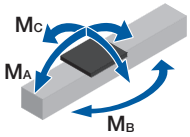
[1] I_X is the geometric moment of inertia about the X axis.
[2] I_Y is the geometric moment of inertia about the Y axis.
[3] The permissible rotational speed may decrease as the stroke becomes longer.
[4] The value in parentheses is with 2 short blocks (D type) attached.
[5] See p. 168 for the values if "1" or "2" is selected for item ⑧ in the Model Number Coding.
[6] Calculated under the following conditions.
Stroke: 520 mm (C type), 450 mm (D type) / Speed: 240 mm/s (for 5 mm lead), 500 mm/s (for 10 mm lead), 1,000 mm/s (for 20 mm lead) / Load mass: Maximum load capacity (p. 9) / Acceleration/deceleration: As when set to maximum load capacity (p. 9) / Center of gravity: Center of the table's upper surface.

Notes: 1. LM Guide load rating is the load rating per short block.
2. KR4610 precision grade (P-grade) ball screws have integrated spacer balls with a 1:1 ratio.
3. KR4620 precision grade (P-grade) ball screws have integrated spacer balls with a 2:1 ratio.

Geometric Moment of Inertia



Static Permissible Moment



Accuracy

Accuracy grade	Item	Stroke[7] 220	320	420	520	620	720	820
Normal grade (no symbol)	Positioning repeatability (mm)	±0.01						
	Positioning accuracy (mm)	Not specified						
	Running parallelism (vertical direction) (mm)	Not specified						
	Backlash (mm)	0.02						
	Starting torque (N·cm)	10						

Accuracy grade	Item	Stroke[7] 220	320	420	520	620	720	820
High accuracy grade (H)	Positioning repeatability (mm)	±0.005						
	Positioning accuracy (mm)	0.1				0.12	0.15	
	Running parallelism (vertical direction) (mm)	0.035				0.04	0.05	
	Backlash (mm)	0.02						
	Starting torque (N·cm)	10						

Accuracy grade	Item	Stroke[7] 220	320	420	520	620	720	820
Precision grade (P)	Positioning repeatability (mm)	±0.003					±0.005	
	Positioning accuracy (mm)	0.025				0.03	0.035	
	Running parallelism (vertical direction) (mm)	0.015				0.02	0.025	
	Backlash (mm)	0.003						
	Starting torque (N·cm)	15			17			

[7] Stroke with 1 short block (C type, without QZ).

Notes: 4. Precision evaluation in accordance with THK standards.
5. Measured using a motor for inspection. With motor wrap specifications, measurements are not made in the completed motor wrap state.
6. The starting torque represents the value when containing THK AFB-LF Grease.
7. The starting torque may exceed standards if using vacuum grease, clean room grease, or other high-viscosity greases, so care should be taken when selecting a motor.
8. Contact THK for accuracy higher than the standard stroke.

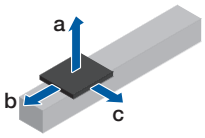
Motor Selection Information

Stroke[1] (mm)	Outer rail length (mm)	LM Guide				Ball screw		Motor mounting part	
		Moving part mass (kg)			Sliding resistance value[2] (N)	Lead (mm)	Shaft length (mm)	Direct coupling	Motor wrap
		Block mass	Sub-table mass	Total mass				Shaft end diameter (mm)	Timing pulley (sum of two) Inertial moment x 10^{-4} (kg·m^2)
220 to 820	340 to 940	C type: 0.6 D type: 1.2	C type: 0.2 D type: 0.4	C type: 0.8 D type: 1.6	4.5	5, 10, 20	405 to 1,005	Ø8h7	0.86

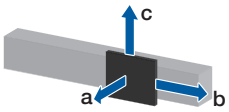
[1] Stroke with 1 short block (C type).
[2] Value with 1 short block (C type). This value is the sum of the rolling resistance value and seal resistance value.
Note: Refer to p. 121 for applicable couplings.

Permissible Overhang Length (200 W)[1]

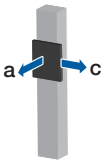
Horizontal



Wall-Mounted



Vertical



Estimated motor capacity 200 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	C type	5	17	80	30	30
			34.5	20	10	10
			69.5	0	0	0
		10	10.5	150	50	60
			21.5	50	20	30
			43.5	0	10	10
		20	4	450	140	160
			8.5	190	60	70
			17	80	30	30
	D type	5	24.5	240	80	50
			49	100	40	20
			98.5	30	20	10
		10	19.5	310	100	60
			39.5	130	50	30
			79	50	20	10
		20	6	860	340	210
			12	540	170	100
			24	250	80	50
Motor wrap	C type	5	17	80	30	30
			34.5	20	10	10
			69.5	0	0	0
		10	10.5	150	50	60
			21.5	50	20	30
			43.5	0	10	10
		20	4	450	140	160
			8	210	70	80
			16	80	30	40
	D type	5	24.5	240	80	50
			49	100	40	20
			98.5	30	20	10
		10	19.5	310	100	60
			39.5	130	50	30
			79	50	20	10
		20	4	860	520	320
			8	830	260	160
			16.5	380	120	70

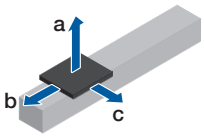
Estimated motor capacity 200 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	C type	5	11	20	80	290
			22.5	0	40	140
			45.5	0	20	70
		10	7.5	50	160	430
			15	0	80	210
			30	0	20	100
		20	3.5	150	430	860
			7.5	50	200	430
			15	0	40	200
	D type	5	19.5	30	140	490
			39.5	0	70	240
			79	0	30	120
		10	17	40	170	570
			34	0	80	280
			68	0	40	140
		20	6	180	480	860
			12	70	240	810
			24	10	120	400
Motor wrap	C type	5	11	20	80	290
			22.5	0	40	140
			45.5	0	20	70
		10	7.5	50	160	430
			15	0	80	210
			30	0	20	100
		20	3.5	150	740	860
			7.5	50	370	430
			15	0	170	200
	D type	5	19.5	30	140	490
			39.5	0	70	240
			79	0	30	120
		10	17	40	170	570
			34	0	80	280
			68	0	40	140
		20	4	290	720	860
			8	120	360	860
			16.5	40	170	580

Estimated motor capacity 200 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	c (mm)
Direct coupling	C type	5	3	110	250
			6.5	30	110
			13.5	0	50
		10	2.5	140	300
			5.5	40	130
			11	0	50
		20	1	410	540
			2.5	140	250
			5.5	40	100
	D type	5	10	120	220
			20.5	40	100
			41	0	50
		10	4.5	310	490
			9	140	240
			18	50	120
		20	2	760	860
			4	360	560
			8	160	280
Motor wrap	C type	5	3	110	250
			6.5	30	110
			13.5	0	50
		10	2.5	140	300
			5.5	40	130
			11	0	50
		20	1	410	540
			2.5	140	250
			5.5	40	100
	D type	5	4	360	560
			8.5	150	260
			17.5	50	120
		10	4	360	560
			8.5	150	260
			17.5	50	120
		20	1.5	860	860
			3.5	420	640
			7.5	170	290

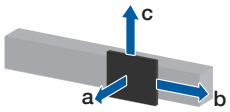
[1] This is the value with the service life of the LM Guide limited to 5,000 km (for leads of 5 mm) or 10,000 km (for leads of 10 mm and 20 mm). The calculation conditions are as follows. Stroke: 520 mm (C type), 450 mm (D type) / Acceleration/deceleration: 0.3 G / Speed: 240 mm/s (for 5 mm lead), 500 mm/s (for 10 mm lead), 1,000 mm/s (for 20 mm lead) / Overhang direction: Loaded only in a single direction. Dimensions a, b, and c are from the center of the table's upper surface.

Permissible Overhang Length (400 W)[1]

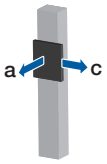
Horizontal



Wall-Mounted



Vertical



Estimated motor capacity 400 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	C type	5	17	80	30	30
			34.5	20	10	10
			69.5	0	0	0
		10	10.5	150	50	60
			21.5	50	20	30
			43.5	0	10	10
		20	4	450	140	160
			8.5	190	60	70
			17	80	30	30
	D type	5	24.5	240	80	50
			49	100	40	20
			98.5	30	20	10
		10	24.5	240	80	50
			49	100	40	20
			98.5	30	20	10
		20	12.5	510	160	100
			25.5	230	80	50
			51.5	90	40	20
Motor wrap	C type	5	17	80	30	30
			34.5	20	10	10
			69.5	0	0	0
		10	10.5	150	50	60
			21.5	50	20	30
			43.5	0	10	10
		20	4	450	140	160
			8.5	190	60	70
			17	80	30	30
	D type	5	24.5	240	80	50
			49	100	40	20
			98.5	30	20	10
		10	24.5	240	80	50
			49	100	40	20
			98.5	30	20	10
		20	11.5	560	180	110
			23	260	90	50
			46.5	110	40	20

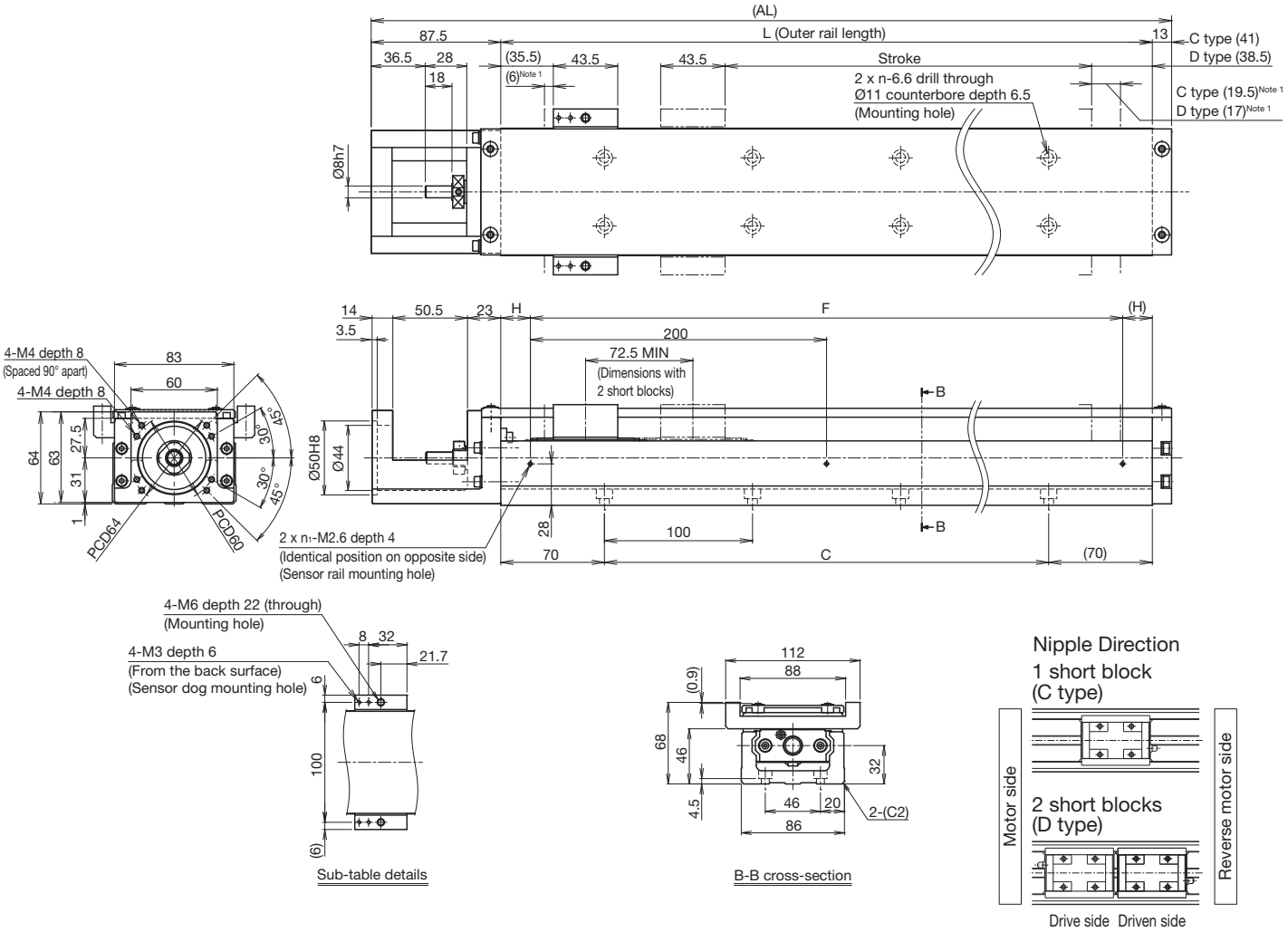
Estimated motor capacity 400 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	C type	5	11	20	80	290
			22.5	0	40	140
			45.5	0	20	70
		10	7.5	50	130	430
			15	0	50	210
			30	0	20	100
		20	3.5	150	210	860
			7.5	50	100	430
			15	0	40	200
	D type	5	19.5	30	140	490
			39.5	0	70	240
			79	0	30	120
		10	17	40	170	570
			34	0	80	280
			68	0	40	140
		20	12	70	240	810
			24	10	120	400
			48	0	60	200
Motor wrap	C type	5	11	20	80	290
			22.5	0	40	140
			45.5	0	20	70
		10	7.5	50	160	430
			15	0	80	210
			30	0	20	100
		20	3.5	150	740	860
			7.5	50	370	430
			15	0	170	200
	D type	5	19.5	30	140	490
			39.5	0	70	240
			79	0	30	120
		10	17	40	170	570
			34	0	80	280
			68	0	40	140
		20	11.5	70	250	840
			23	20	120	420
			46.5	0	60	200

Estimated motor capacity 400 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	c (mm)
Direct coupling	C type	5	3	110	250
			6.5	30	110
			13.5	0	50
		10	2.5	140	300
			5.5	40	130
			11	0	50
		20	2	190	360
			4	70	160
			8	20	60
	D type	5	10	120	220
			20.5	40	100
			41	0	50
		10	5.5	250	400
			11.5	100	190
			23.5	30	90
		20	4.5	310	490
			9	140	240
			18	50	120
Motor wrap	C type	5	3	110	250
			6.5	30	110
			13.5	0	50
		10	2.5	140	300
			5.5	40	130
			11	0	50
		20	2	190	360
			4	70	160
			8	20	60
	D type	5	4	360	560
			8.5	150	260
			17.5	50	120
		10	4	360	560
			8.5	150	260
			17.5	50	120
		20	4	360	560
			8.5	150	260
			17.5	50	120

[1] This is the value with the service life of the LM Guide limited to 5,000 km (for leads of 5 mm) or 10,000 km (for leads of 10 mm and 20 mm). The calculation conditions are as follows.
Stroke: 520 mm (C type), 450 mm (D type) / Acceleration/deceleration: 0.3 G / Speed: 240 mm/s (for 5 mm lead), 500 mm/s (for 10 mm lead), 1,000 mm/s (for 20 mm lead) / Overhang direction: Loaded only in a single direction. Dimensions a, b, and c are from the center of the table's upper surface.

With Cover
Direct Motor Coupling

Dimensions



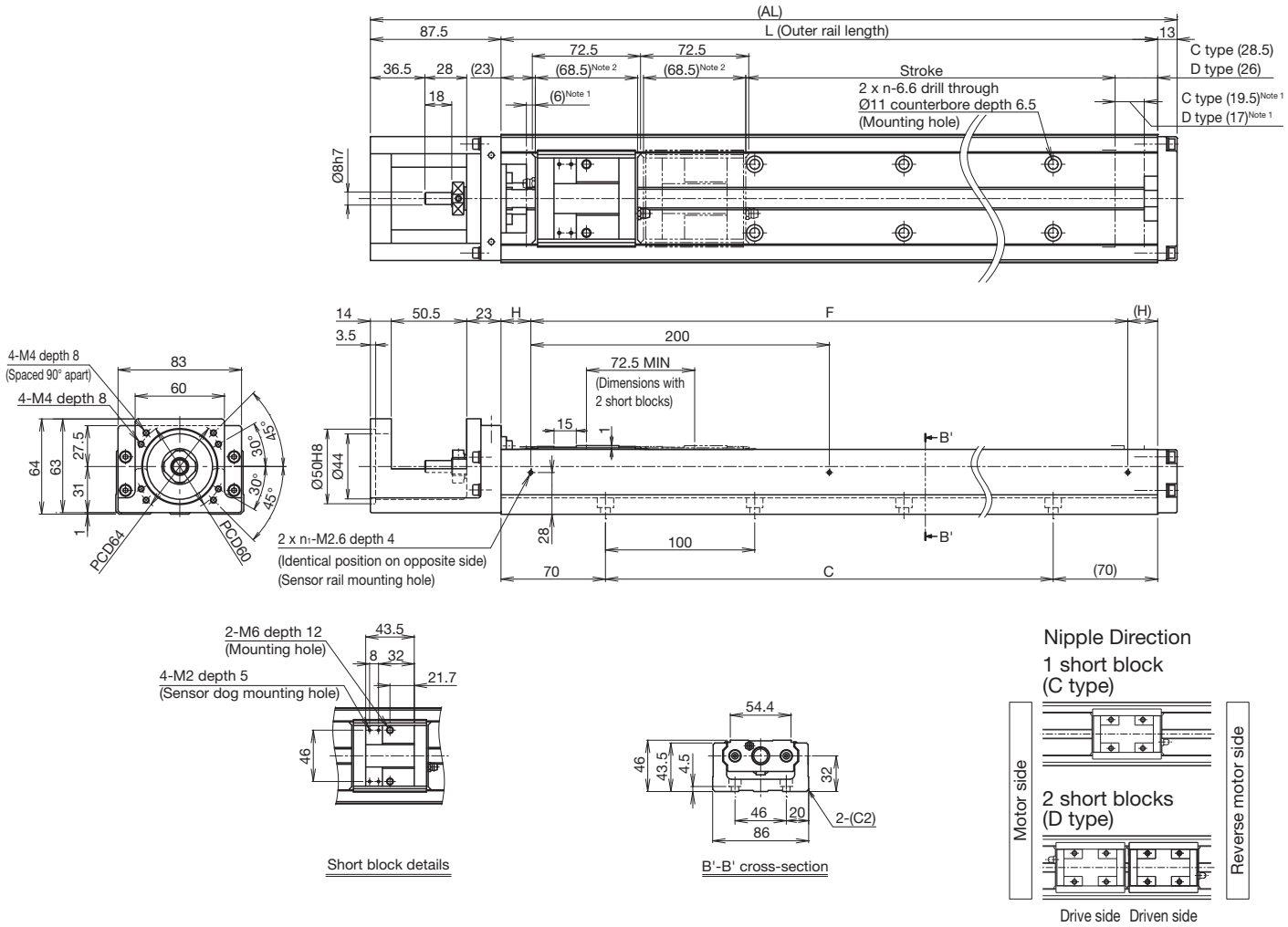
[1] Dimensions from the mechanical stopper to the stroke start position.

Stroke (mm) (Stroke between mechanical stoppers)	C type		220 (245.5)	320 (345.5)	420 (445.5)	520 (545.5)	620 (645.5)	720 (745.5)	820 (845.5)
	D type[2]		150 (173)	250 (273)	350 (373)	450 (473)	550 (573)	650 (673)	750 (773)
Maximum speed[3] (mm/s)	Ball screw lead: 5 mm	Normal grade/high accuracy grade	240						210
		Precision grade	340					260	210
	Ball screw lead: 10 mm	Normal grade/high accuracy grade	520					490	390
		Precision grade	740				650	490	390
	Ball screw lead: 20 mm	Normal grade/high accuracy grade	1,050					990	780
		Precision grade	1,480				1,300	990	780
Dimensions (mm)	AL		440.5	540.5	640.5	740.5	840.5	940.5	1,040.5
	L		340	440	540	640	740	840	940
	C		200	300	400	500	600	700	800
	F		200	400	400	600	600	800	800
	H		70	20	70	20	70	20	70
No. of mounting holes	n		3	4	5	6	7	8	9
	n_1		2	3	3	4	4	5	5
Mass[4] (kg)			6.9	8.4	9.9	11.4	12.9	14.3	15.8

[2] The value with 2 short blocks (D type, without QZ) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 short blocks (D type) has 0.8 kg added.

Without Cover
Direct Motor Coupling

Dimensions



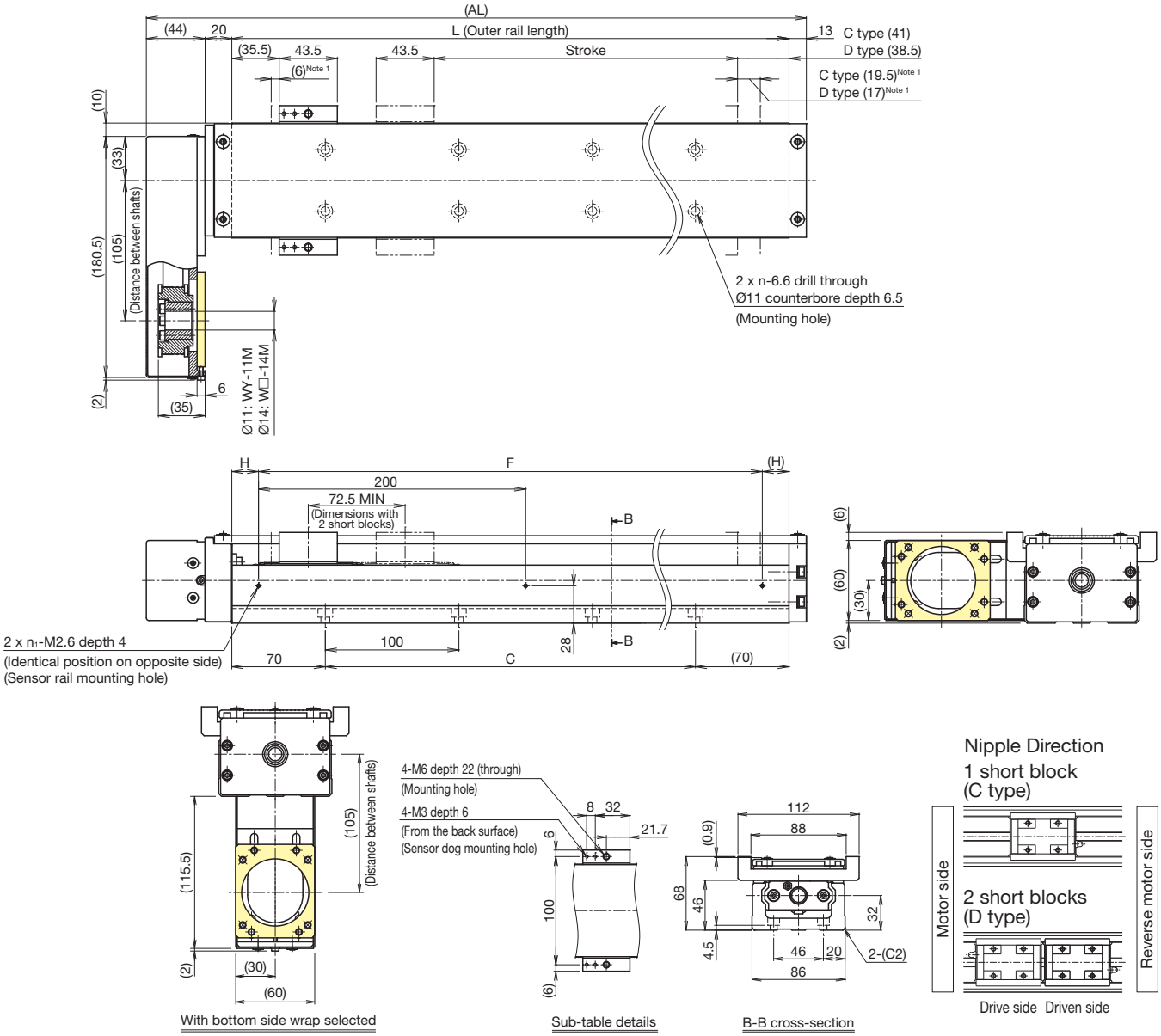
[1] Dimensions from the mechanical stopper to the stroke start position.
[2] Shows the short block length when calculating the enabled stroke range.
141 mm (2 blocks total) for KR46 with 2 short blocks (D type, without QZ).

Stroke (mm) (Stroke between mechanical stoppers)	C type		220 (245.5)	320 (345.5)	420 (445.5)	520 (545.5)	620 (645.5)	720 (745.5)	820 (845.5)
	D type[3]		150 (173)	250 (273)	350 (373)	450 (473)	550 (573)	650 (673)	750 (773)
Maximum speed[4] (mm/s)	Ball screw lead: 5 mm	Normal grade/high accuracy grade	240						210
		Precision grade	340					260	210
	Ball screw lead: 10 mm	Normal grade/high accuracy grade	520					490	390
		Precision grade	740				650	490	390
	Ball screw lead: 20 mm	Normal grade/high accuracy grade	1,050					990	780
		Precision grade	1,480				1,300	990	780
Dimensions (mm)	AL		440.5	540.5	640.5	740.5	840.5	940.5	1,040.5
	L		340	440	540	640	740	840	940
	C		200	300	400	500	600	700	800
	F		200	400	400	600	600	800	800
	H		70	20	70	20	70	20	70
No. of mounting holes	n		3	4	5	6	7	8	9
	n_1		2	3	3	4	4	5	5
Mass[5] (kg)			6.2	7.6	9	10.4	11.8	13.2	14.6

[3] The value with 2 short blocks (D type, without QZ) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 short blocks (D type) has 0.6 kg added.

With Cover
Motor Wrap

Dimensions



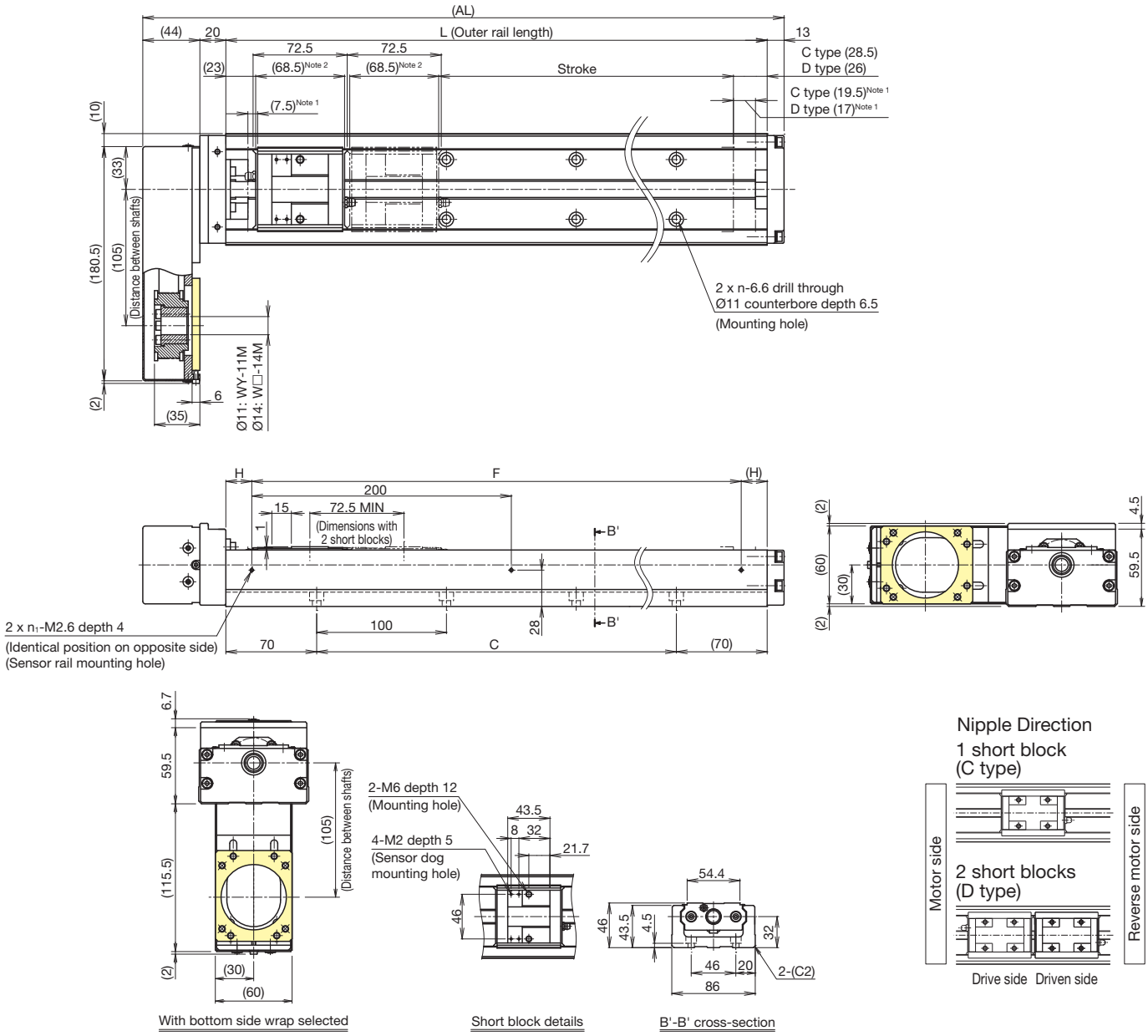
[1] Dimensions from the mechanical stopper to the stroke start position.

Stroke (mm) (Stroke between mechanical stoppers)	C type		220 (245.5)	320 (345.5)	420 (445.5)	520 (545.5)	620 (645.5)	720 (745.5)	820 (845.5)
	D type[2]		150 (173)	250 (273)	350 (373)	450 (473)	550 (573)	650 (673)	750 (773)
Maximum speed[3] (mm/s)	Ball screw lead: 5 mm	Normal grade/high accuracy grade	240						210
		Precision grade	340					260	210
	Ball screw lead: 10 mm	Normal grade/high accuracy grade	520					490	390
		Precision grade	740				650	490	390
	Ball screw lead: 20 mm	Normal grade/high accuracy grade	1,050					990	780
		Precision grade	1,480				1,300	990	780
Dimensions (mm)	AL		417	517	617	717	817	917	1,017
	L		340	440	540	640	740	840	940
	C		200	300	400	500	600	700	800
	F		200	400	400	600	600	800	800
	H		70	20	70	20	70	20	70
No. of mounting holes	n		3	4	5	6	7	8	9
	n_1		2	3	3	4	4	5	5
Mass[4] (kg)			8	9.4	10.9	12.4	13.9	15.4	16.8

[2] The value with 2 short blocks (D type, without QZ) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 short blocks (D type) has 0.8 kg added.

Without Cover
Motor Wrap

Dimensions



With bottom side wrap selected

Short block details

B'-B' cross-section

[1] Dimensions from the mechanical stopper to the stroke start position.
[2] Shows the short block length when calculating the enabled stroke range.
141 mm (2 blocks total) for KR46 with 2 short blocks (D type, without QZ).

Stroke (mm) (Stroke between mechanical stoppers)	C type		220 (245.5)	320 (345.5)	420 (445.5)	520 (545.5)	620 (645.5)	720 (745.5)	820 (845.5)
	D type[3]		150 (173)	250 (273)	350 (373)	450 (473)	550 (573)	650 (673)	750 (773)
Maximum speed[4] (mm/s)	Ball screw lead: 5 mm	Normal grade/high accuracy grade	240						210
		Precision grade	340					260	210
	Ball screw lead: 10 mm	Normal grade/high accuracy grade	520					490	390
		Precision grade	740				650	490	390
	Ball screw lead: 20 mm	Normal grade/high accuracy grade	1,050					990	780
		Precision grade	1,480				1,300	990	780
Dimensions (mm)	AL		417	517	617	717	817	917	1,017
	L		340	440	540	640	740	840	940
	C		200	300	400	500	600	700	800
	F		200	400	400	600	600	800	800
	H		70	20	70	20	70	20	70
No. of mounting holes	n		3	4	5	6	7	8	9
	n1		2	3	3	4	4	5	5
Mass[5] (kg)			7.2	8.6	10	11.4	12.8	14.2	15.6

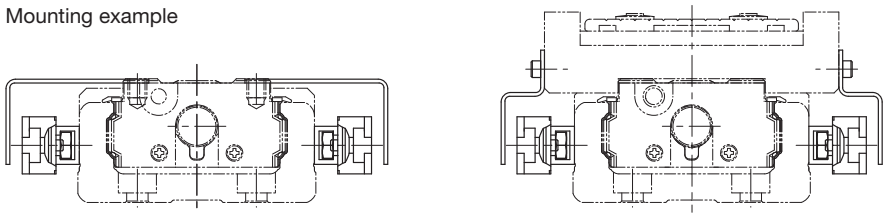
[3] The value with 2 short blocks (D type, without QZ) attached.
[4] The maximum speed is restricted by the actuator's permissible speed.
[5] The mass with 2 short blocks (D type) has 0.6 kg added.

Options

Sensors

Optional photo sensors and proximity sensors are available. Sensor-equipped models also feature a dedicated sensor rail and sensor dog.
Sensors, sensor rails, and sensor dogs can be mounted on both sides when the stroke is less than 70 mm.

Mounting example

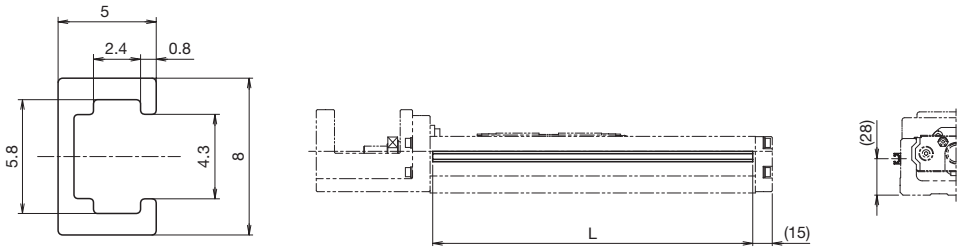


Symbol	Description	Model	Accessories
0	None	-	-
1	With sensor rail	-	Mounting screws, sensor rail (x1 or 2)
2	Photo sensor[1] (x3)	EE-SX671 (OMRON Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2), mounting plates (x3), connectors (EE-1001 x3)
6	Photo sensor[1] (x3)	EE-SX674 (OMRON Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2), mounting plates (x3), connectors (EE-1001 x3)
7	Proximity sensor N.O. contact[2] (x3)	APM-D3A1-001 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
B	Proximity sensor N.C. contact[3] (x3)	APM-D3B1-003 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
E	Proximity sensor N.O. contact[2] (x1) N.C. contact[3] (x2)	APM-D3A1-001 (Azbil Corporation) APM-D3B1-003 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
H	Proximity sensor N.O. contact[2] (x3)	GX-F12A (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
L	Proximity sensor N.C. contact[3] (x3)	GX-F12B (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
J	Proximity sensor N.O. contact[2] (x1) N.C. contact[3] (x2)	GX-F12A (Panasonic Industry Co., Ltd.) GX-F12B (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
M	Proximity sensor N.O. contact[2] (x1) (PNP output) N.C. contact[3] (x2) (PNP output)	GX-F12A-P (Panasonic Industry Co., Ltd.) GX-F12B-P (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)

[1] The photo sensors can be switched between ON when lit and ON when unlit.
[2] N.O. contact: Normally open contact point
[3] N.C. contact: Normally closed contact point
Notes: 1. If proximity sensors are close to one another, they may not function properly. If that happens, please prepare a type with a different frequency.
2. Mounting of sensors other than those in the table above is possible. Contact THK for details.

Sensor Rail Mounting Dimensions

Mounting only a sensor rail is also possible.



Sensor rail details

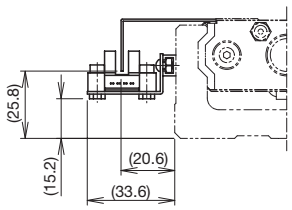
Stroke[4] (mm)	Outer rail length (mm)	L (mm)
190	340	336
290	440	436
390	540	536
490	640	636
590	740	736
690	840	836
790	940	936

[4] Stroke with 1 block (A type).

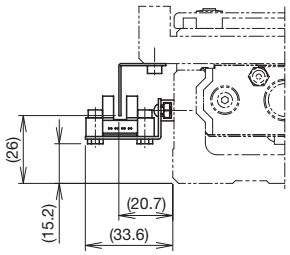
Photo Sensor Mounting Dimensions

Connector: EE-1001 (OMRON Corporation) x3 included.
To be mounted by the customer.

Without cover



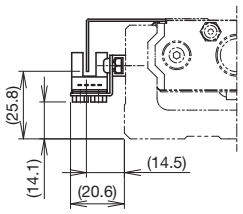
With cover



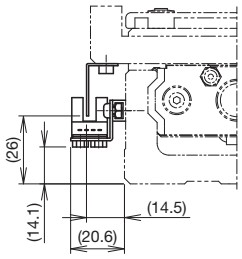
Symbol	Model	Manufacturer
2	EE-SX671	OMRON Corporation

Sensor dog width: 15 mm

Without cover



With cover

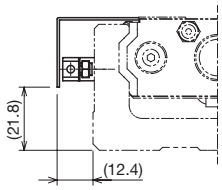


Symbol	Model	Manufacturer
6	EE-SX674	OMRON Corporation

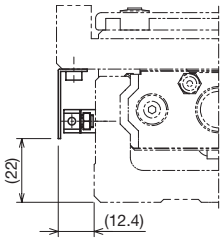
Sensor dog width: 15 mm

Proximity Sensor Mounting Dimensions

Without cover



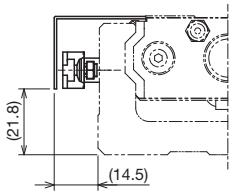
With cover



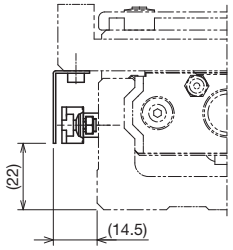
Symbol	Model	Manufacturer
7, B, E	APM-D3A1-001	Azbil Corporation
	APM-D3B1-003	

Sensor dog width: 15 mm

Without cover



With cover



Symbol	Model	Manufacturer
H, L, J	GX-F12A	Panasonic Industry Co., Ltd.
	GX-F12B	
M	GX-F12A-P	
	GX-F12B-P	

Sensor dog width: 15 mm

Options

Intermediate Flange (Direct Coupling)

Several types of intermediate flanges for mounting motors are available.
When selecting "0" or "1" for Model Number Coding ⑦ With/without motor, specify an intermediate flange that matches the motor used.

Compatibility Table: Motors Used, Intermediate Flanges, and Couplings

Motor type	Manufacturer	Series		Motor model	Motor rated output (W)	Flange size	Housing A/ Intermediate flange	Compatible coupling models	
								MIKI PULLEY CO., LTD.	Nabeya Bi-tech Kaisha (NBK)
AC servo motor	YASKAWA Electric Corporation	Σ-V		SGMJV-02	200	60×60	40	SFC-030DA2-8B-14B	XGT2-27C-8-14
				SGMAV-02					
				SGMJV-04	400			SFC-035DA2-8B-14B	XGT2-30C-8-14
				SGMAV-04					
				SGMJV–06	600				XGT2–34C–8–14
		Σ-7		SGM7J-02	200	60×60	40	SFC-030DA2-8B-14B	XGT2-27C-8-14
				SGM7A-02					
				SGM7J-04	400			SFC-035DA2-8B-14B	XGT2-30C-8-14
				SGM7A-04					
				SGM7J–06	600				XGT2–34C–8–14
		Σ-X		SGMXJ-02	200	60×60	40	SFC–030DA2–8B–14B	XGT2–27C–8–14
				SGMXA-02					
				SGMXJ-04	400			SFC–035DA2–8B–14B	XGT2–30C–8–14
				SGMXA-04					
				SGMXJ-06	600				XGT2–34C–8–14
				SGMXA-06					
	Mitsubishi Electric Corporation	MELSERVO	J4	HG-KR23	200	60×60	40	SFC-030DA2-8B-14B	XGT2-27C-8-14
				HG-MR23					
				HG-KR43	400			SFC-035DA2-8B-14B	XGT2-30C-8-14
				HG-MR43					
			J5	HK-KT23W	200	60×60	40	SFC–030DA2–8B–14B	XGT2–27C-8-14
				HK-KT43W	400			SFC–035DA2–8B–14B	XGT2–30C-8-14
			JN	HF-KN23	200	60×60	40	SFC-030DA2-8B-14B	XGT2-27C-8-14
				HF-KN43	400			SFC-035DA2-8B-14B	XGT2-30C-8-14
	TAMAGAWA SEIKI CO., LTD.	TBL-iII		TS4607	200	60×60	40	SFC-030DA2-8B-14B	XGT2-27C-8-14
				TS4609	400			SFC-035DA2-8B-14B	XGT2-30C-8-14
		TBL-iIV		TSM3202	200	60×60	40	SFC-030DA2-8B-14B	XGT2-27C-8-14
				TSM3204	400			SFC-035DA2-8B-14B	XGT2-30C-8-14
	Panasonic Corporation	MINAS	A5	MSMD02	200	60×60	30	SFC-030DA2-8B-11B	XGT2-25C-8-11
				MSME02					
				MSMD04	400			SFC-035DA2-8B-14B	XGT2-30C-8-14
				MSME04					
			A6	MSMF02	200	60×60	30	SFC-030DA2-8B-11B	XGT2-25C-8-11
				MHMF02					
				MSMF04	400			SFC-035DA2-8B-14B	XGT2-30C-8-14
				MHMF04					
	KEYENCE CORPORATION	SV		SV-M020	200	60×60	40	SFC-030DA2-8B-14B	XGT2-27C-8-14
				SV-M040	400			SFC-035DA2-8B-14B	XGT2-30C-8-14
		SV2		SV2-M020	200	60×60	40	SFC-030DA2-8B-14B	XGT2-27C-8-14
				SV2-M040	400			SFC-035DA2-8B-14B	XGT2-30C-8-14
	SANYO DENKI CO., LTD.	SANMOTION R		R2□A06020	200	60×60	40	SFC-030DA2-8B-14B	XGT2-27C-8-14
				R2AA06040	400			SFC-035DA2-8B-14B	XGT2-30C-8-14
	OMRON Corporation	OMNUC G5		R88M-K20030	200	60×60	30	SFC-030DA2-8B-11B	XGT2-25C-8-11
				R88M-K40030	400			SFC-035DA2-8B-14B	XGT2-30C-8-14
		1S		R88M-1M20030	200	60×60	30	SFC-030DA2-8B-11B	XGT2-25C-8-11
				R88M-1M40030	400			SFC-035DA2-8B-14B	XGT2-30C-8-14

Motor type	Manufacturer	Series		Motor model	Flange size	Housing A/ Intermediate flange	Compatible coupling models	
							MIKI PULLEY CO., LTD.	Nabeya Bi-tech Kaisha (NBK)
Stepper motor	ORIENTAL MOTOR CO., LTD.	α step		AZ6*, AR6*	60×60	10	SFC–025DA2–8B–10B–L46	XGT2-25C-8-10
		5-phase	CRK[1]	CRK56* (CRK569PM*)	60×60	10	SFC–025DA2–8B–8B–L46 (SFC–025DA2–8B–10B–L46)	XGT2-25C-8-8 (XGT2-25C-8-10)
			RK II	RKS56*	60×60	10	SFC-025DA2-10B-10B-L46	XGT2-25C-10-10
			PKP[1]	PKP56* (PKP569FM*)	60×60	10	SFC–025DA2–8B–8B–L46 (SFC–025DA2–8B–10B–L46)	XGT2-25C-8-8 (XGT2-25C-8-10)
	KEYENCE CORPORATION	2-phase		QS-M60	60×60	10	SFC–025DA2–8B–8B–L46	XGT2-25C-8-8
	SANYO DENKI CO., LTD.	PB		PBDM60*, PBA**60*	60×60	10	SFC–025DA2–8B–10B–L46	XGT2-25C-8-10
		5-phase		FAM56*/FDM56*/ FA512M60/FB512M60	60×60	10	SFC–025DA2–8B–10B–L46	XGT2-25C-8-10
		2-phase		DB16H78*	60×60	10	SFC–025DA2–8B–8B–L46	XGT2-25C-8-8

[1] Items in parentheses have different motor shaft diameters and require a coupling to be specified.

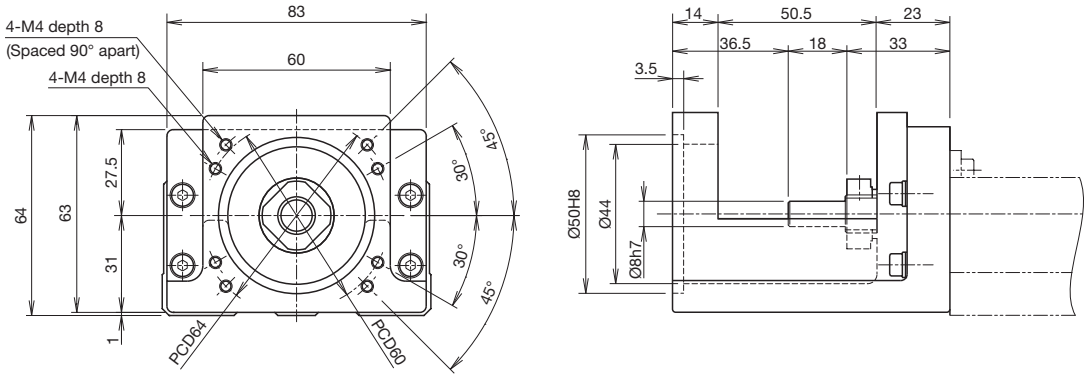
Notes: 1. The table shows only a portion of the model numbers for motors. For details regarding model numbers, please see the catalog for each respective motor manufacturer.
2. If the maximum torque for motors exceeds the permissible input torque (A/B → p. 103, C/D → p. 111), please consider a safety measure to limit the torque.
3. When installing a motor other than the motor model numbers listed above, contact THK.

Housing A

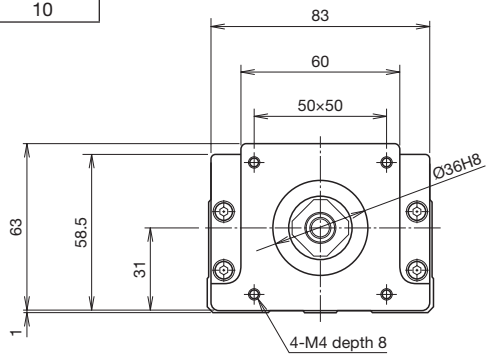
KR**
●◇

Actuator model
●: Housing A
◇: Intermediate flange

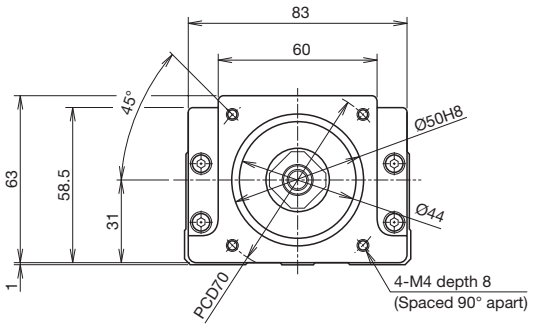
KR46
A0



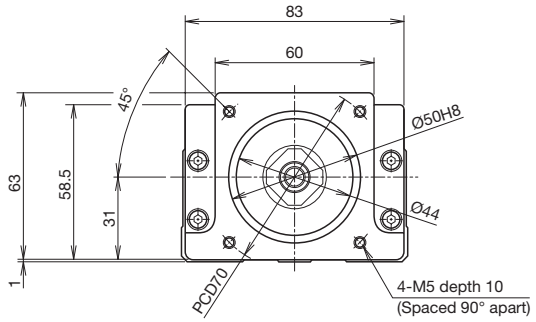
KR46
10



KR46
30



KR46
40



Options

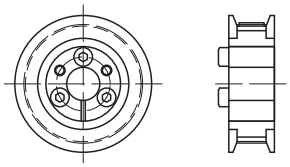
Intermediate Flange (Motor Wrap)

Several types of intermediate flanges for mounting motors are available.
When selecting "R1," "R2," "R3," "R4," "R5," or "R6" for Model Number Coding ⑦ With/without motor, specify an intermediate flange that matches the motor used.

Symbol Coding

Motor wrap symbol ①	Intermediate flange ②		Motor shaft diameter (mm) ③	Motor shaft securing method ④
W	V	-	14	M
W	Refer to the Compatibility Table: Motors Used and Motor Wrap Symbols below.		Specify a motor shaft diameter. (Refer to the Compatibility Table: Motors Used and Motor Wrap Symbols below.)	M: Friction tightening tool

Motor Shaft Securing Method



Friction tightening tool

Compatibility Table: Motors Used and Motor Wrap Symbols

Motor type	Manufacturer	Series		Motor model	Motor rated output (W)	Flange size	Housing A/Intermediate flange
AC servo motor	YASKAWA Electric Corporation	Σ-V		SGMJV-02	200	60×60	WV-14M
				SGMAV-02			
				SGMJV-04	400		
				SGMAV-04			
				SGMJV–06	600		
		Σ-7		SGM7J-02	200	60×60	WV-14M
				SGM7A-02			
				SGM7J-04	400		
				SGM7A-04			
				SGM7J–06	600		
		Σ–X		SGMXJ-02	200	60×60	WV–14M
				SGMXA-02			
				SGMXJ-04	400		
				SGMXA-04			
				SGMXJ-06	600		
				SGMXA-06			
	Mitsubishi Electric Corporation	MELSERVO	J4	HG-KR23	200	60×60	WV-14M
				HG-MR23			
				HG-KR43	400		
				HG-MR43			
			J5	HK-KT23W	200	60×60	WV–14M
				HK-KT43W	400		
			JN	HF-KN23	200	60×60	WV-14M
				HF-KN43	400		
	TAMAGAWA SEIKI CO., LTD.	TBL-iII		TS4607	200	60×60	WV-14M
				TS4609	400		
		TBL-iIV		TSM3202	200	60×60	WV-14M
				TSM3204	400		
	Panasonic Corporation	MINAS	A5	MSMD02	200	60×60	WY-11M
				MSME02			
				MSMD04	400		WY-14M
				MSME04			
			A6	MSMF02	200	60×60	WY-11M
				MHMF02			
				MSMF04	400		WY-14M
				MHMF04			
	KEYENCE CORPORATION	SV		SV-M020	200	60×60	WV-14M
				SV-M040	400		
		SV2		SV2-M020	200	60×60	WV-14M
				SV2-M040	400		
	SANYO DENKI CO., LTD.	SANMOTION R		R2□A06020	200	60×60	WV-14M
				R2AA06040	400		
	OMRON Corporation	OMNUC G5		R88M-K20030	200	60×60	WY-11M
				R88M-K40030	400		WY-14M
		1S		R88M-1M20030	200	60×60	WY-11M
				R88M-1M40030	400		WY-14M

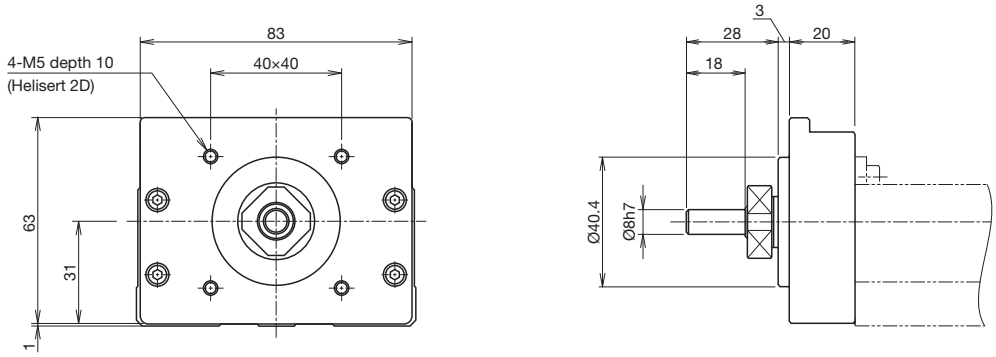
Notes: 1. The table shows only a portion of the model numbers for motors. For details regarding model numbers, please see the catalog for each respective motor manufacturer.
2. If the maximum torque for motors exceeds the permissible input torque (A/B → p. 103, C/D → p. 111), please consider a safety measure to limit the torque.
3. When installing a motor other than the motor model numbers listed above, contact THK.

Motor Wrap Housing A

KR**
●◇

Actuator model
●: Housing A
◇: Intermediate flange

KR46
60



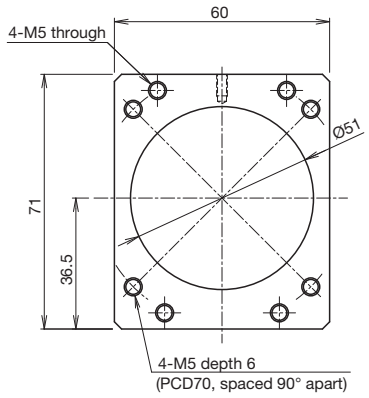
Motor Wrap Specification (Intermediate Flange)

KR**
W□

Actuator model
□: Intermediate flange

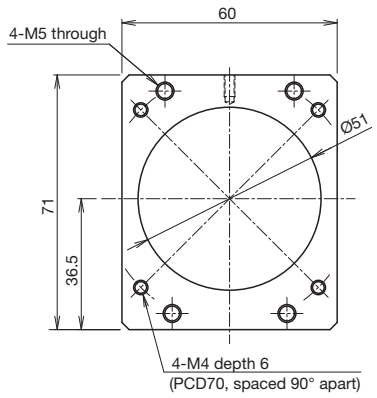
KR46
WV

Thickness: 6 mm



KR46
WY

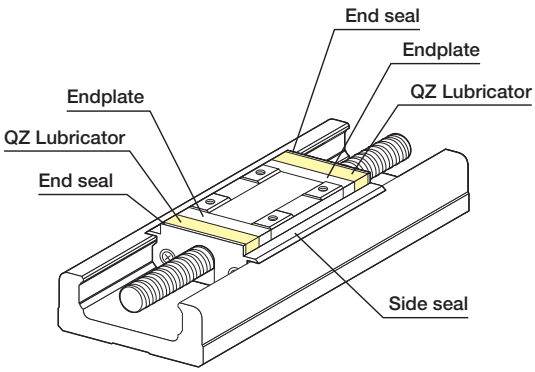
Thickness: 6 mm



Options

QZ Lubricator

The QZ Lubricator for KR feeds the right amount of lubricant to the outer rail and ball screw shaft raceways. This allows an oil film to be constantly formed between the balls and the raceway, and it significantly extends the lubrication maintenance interval.



Appearance

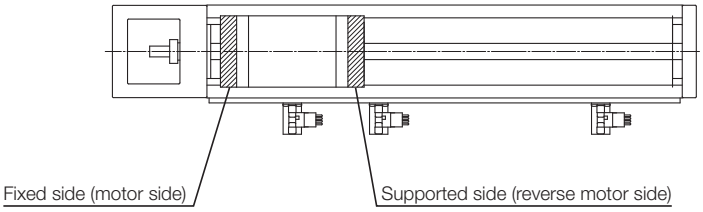
Features

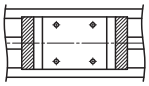
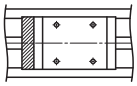
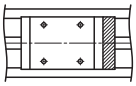
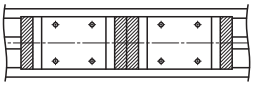
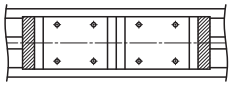
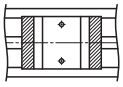
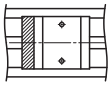
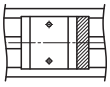
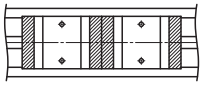
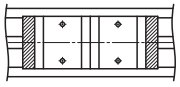
- Since it compensates for oil loss, the lubrication maintenance interval can be significantly extended.
- It is an eco-friendly lubrication system that does not contaminate the surrounding area, as it feeds the right amount of lubricant to the ball raceway.

QZ Configuration

Symbol	Block type	Description
QZ	A/B/C/D	QZ all-block double-sided specification
QZA	A/C	QZ fixed side specification
QZB	A/C	QZ supported side specification
QZAD	B/D	QZ fixed side (drive side block) + QZ supported side (driven side block) specification

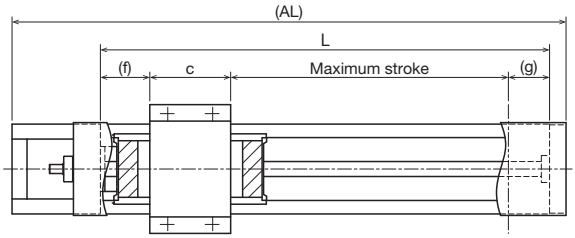
Note: QZ specification types do not have a grease nipple mounted. Contact THK if a grease nipple is required.



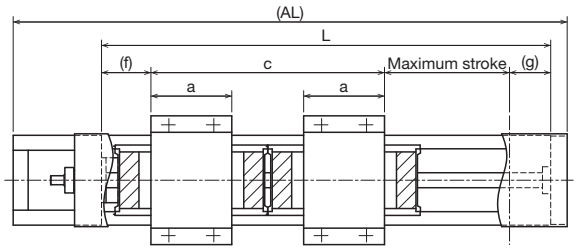
Block type \ QZ configuration	QZ	QZA	QZB	QZAD
A type (1 block)	 Fixed side / Supported side	 Fixed side / Supported side	 Fixed side / Supported side	-
B type (2 blocks)	 Fixed side / Supported side	-	-	 Fixed side / Supported side
C type (1 short block)	 Fixed side / Supported side	 Fixed side / Supported side	 Fixed side / Supported side	-
D type (2 short blocks)	 Fixed side / Supported side	-	-	 Fixed side / Supported side

Dimensions with QZ Lubricator

QZ (With Cover)
Block Type: A/B/C/D



Block Type A/C



Block Type B/D

Unit: mm

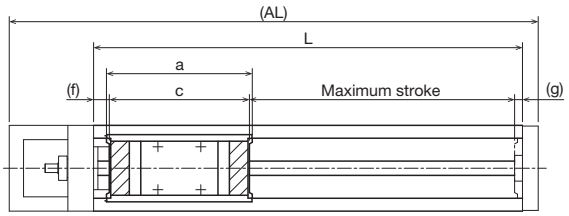
Block type	Overall length AL	Outer rail length L	Stroke[1]	Maximum stroke[1]	a	c	f	g
A	440.5	340	160	178	-	81	44.5	36.5
	540.5	440	260	278				
	640.5	540	360	378				
	740.5	640	460	478				
	840.5	740	560	578				
	940.5	840	660	678				
	1,040.5	940	760	778				
B	540.5	440	120	138	81	221	44.5	36.5
	640.5	540	220	238				
	740.5	640	320	338				
	840.5	740	420	438				
	940.5	840	520	538				
	1,040.5	940	620	638				
C	440.5	340	190	215.5	-	43.5	44.5	36.5
	540.5	440	290	315.5				
	640.5	540	390	415.5				
	740.5	640	490	515.5				
	840.5	740	590	615.5				
	940.5	840	690	715.5				
	1,040.5	940	790	815.5				
D	440.5	340	90	113	43.5	146	44.5	36.5
	540.5	440	190	213				
	640.5	540	290	313				
	740.5	640	390	413				
	840.5	740	490	513				
	940.5	840	590	613				
	1,040.5	940	690	713				

[1] The value for B/D block types is with 2 blocks attached.

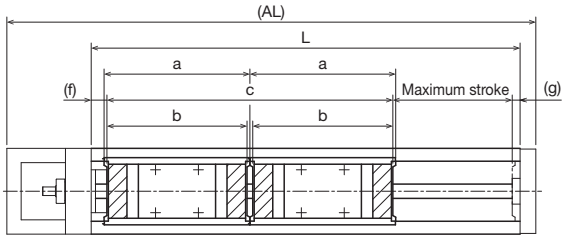
Options

Dimensions with QZ Lubricator

QZ (Without Cover)
Block Type: A/B/C/D



Block Type A/C



Block Type B/D

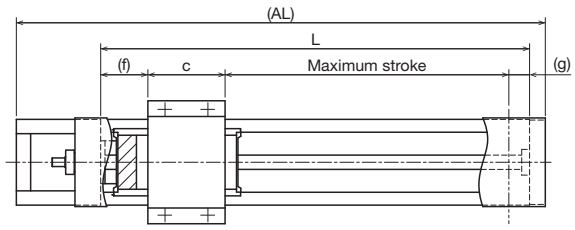
Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke[1]	Maximum stroke[1]	a	b	c	f	g
A	440.5	340	160	178	140	-	136	17	9
	540.5	440	260	278					
	640.5	540	360	378					
	740.5	640	460	478					
	840.5	740	560	578					
	940.5	840	660	678					
	1,040.5	940	760	778					
B	540.5	440	120	138	140	136	276	17	9
	640.5	540	220	238					
	740.5	640	320	338					
	840.5	740	420	438					
	940.5	840	520	538					
	1,040.5	940	620	638					
C	440.5	340	190	215.5	102.5	-	98.5	17	9
	540.5	440	290	315.5					
	640.5	540	390	415.5					
	740.5	640	490	515.5					
	840.5	740	590	615.5					
	940.5	840	690	715.5					
	1,040.5	940	790	815.5					
D	440.5	340	90	113	102.5	98.5	201	17	9
	540.5	440	190	213					
	640.5	540	290	313					
	740.5	640	390	413					
	840.5	740	490	513					
	940.5	840	590	613					
	1,040.5	940	690	713					

[1] The value for B/D block types is with 2 blocks attached.

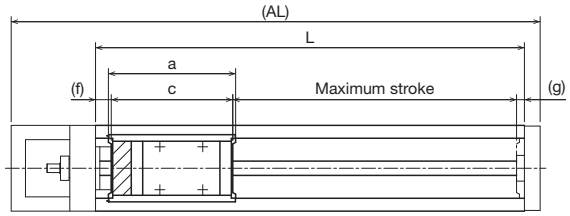
Dimensions with QZ Lubricator

QZA (With Cover)
Block Type: A/C



Block Type A/C

QZA (Without Cover)
Block Type: A/C



Block Type A/C

QZA (With Cover)

Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke	Maximum stroke	c	f	g
A	440.5	340	175	193	81	44.5	21.5
	540.5	440	275	293			
	640.5	540	375	393			
	740.5	640	475	493			
	840.5	740	575	593			
	940.5	840	675	693			
	1,040.5	940	775	793			
C	440.5	340	205	230.5	43.5	44.5	21.5
	540.5	440	305	330.5			
	640.5	540	405	430.5			
	740.5	640	505	530.5			
	840.5	740	605	630.5			
	940.5	840	705	730.5			
	1,040.5	940	805	830.5			

Note 1: B/D block types cannot be selected for QZA.

QZA (Without Cover)

Unit: mm

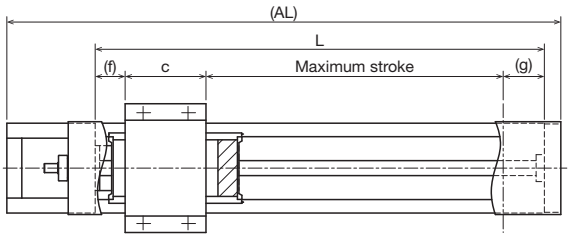
Block type	Overall length AL	Outer rail length L	Stroke	Maximum stroke	a	c	f	g
A	440.5	340	175	193	125	121	17	9
	540.5	440	275	293				
	640.5	540	375	393				
	740.5	640	475	493				
	840.5	740	575	593				
	940.5	840	675	693				
	1,040.5	940	775	793				
C	440.5	340	205	230.5	87.5	83.5	17	9
	540.5	440	305	330.5				
	640.5	540	405	430.5				
	740.5	640	505	530.5				
	840.5	740	605	630.5				
	940.5	840	705	730.5				
	1,040.5	940	805	830.5				

Note 2: B/D block types cannot be selected for QZA.

Options

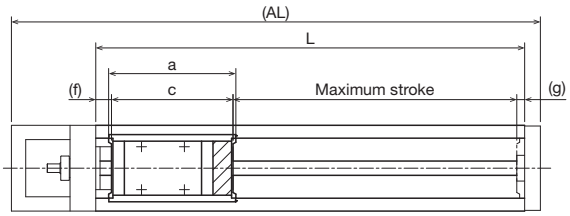
Dimensions with QZ Lubricator

QZB (With Cover)
Block Type: A/C



Block Type A/C

QZB (Without Cover)
Block Type: A/C



Block Type A/C

QZB (With Cover)

Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke	Maximum stroke	c	f	g
A	440.5	340	175	193	81	29.5	36.5
	540.5	440	275	293			
	640.5	540	375	393			
	740.5	640	475	493			
	840.5	740	575	593			
	940.5	840	675	693			
	1,040.5	940	775	793			
C	440.5	340	205	230.5	43.5	29.5	36.5
	540.5	440	305	330.5			
	640.5	540	405	430.5			
	740.5	640	505	530.5			
	840.5	740	605	630.5			
	940.5	840	705	730.5			
	1,040.5	940	805	830.5			

Note 1: B/D block types cannot be selected for QZB.

QZB (Without Cover)

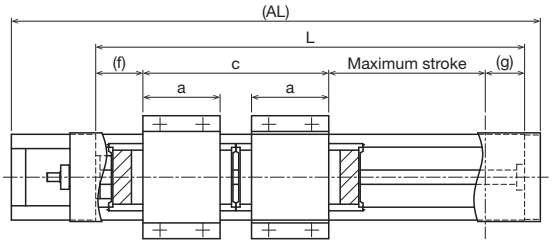
Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke	Maximum stroke	a	c	f	g
A	440.5	340	175	193	125	121	17	9
	540.5	440	275	293				
	640.5	540	375	393				
	740.5	640	475	493				
	840.5	740	575	593				
	940.5	840	675	693				
	1,040.5	940	775	793				
C	440.5	340	205	230.5	87.5	83.5	17	9
	540.5	440	305	330.5				
	640.5	540	405	430.5				
	740.5	640	505	530.5				
	840.5	740	605	630.5				
	940.5	840	705	730.5				
	1,040.5	940	805	830.5				

Note 2: B/D block types cannot be selected for QZB.

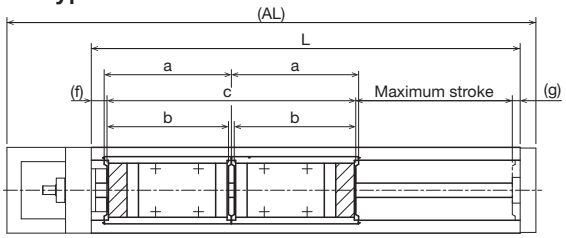
Dimensions with QZ Lubricator

QZAD (With Cover)
Block Type: B/D



Block Type B/D

QZAD (Without Cover)
Block Type: B/D



Block Type B/D

QZAD (With Cover)

Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke[1]	Maximum stroke[1]	a	c	f	g
B	540.5	440	150	168	81	191	44.5	36.5
	640.5	540	250	268				
	740.5	640	350	368				
	840.5	740	450	468				
	940.5	840	550	568				
	1,040.5	940	650	668				
D	440.5	340	120	143	43.5	116	44.5	36.5
	540.5	440	220	243				
	640.5	540	320	343				
	740.5	640	420	443				
	840.5	740	520	543				
	940.5	840	620	643				
	1,040.5	940	720	743				

[1] The value for B/D block types is with 2 blocks attached.
Note 1: A/C block types cannot be selected for QZAD.

QZAD (Without Cover)

Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke[2]	Maximum stroke[2]	a	b	c	f	g
B	540.5	440	150	168	125	121	246	17	9
	640.5	540	250	268					
	740.5	640	350	368					
	840.5	740	450	468					
	940.5	840	550	568					
	1,040.5	940	650	668					
D	440.5	340	120	143	87.5	83.5	171	17	9
	540.5	440	220	243					
	640.5	540	320	343					
	740.5	640	420	443					
	840.5	740	520	543					
	940.5	840	620	643					
	1,040.5	940	720	743					

[2] The value for B/D block types is with 2 blocks attached.
Note 2: A/C block types cannot be selected for QZAD.

KR55 A/B

Direct motor coupling | Motor wrap | Width 100 mm | Height 55 mm | Max. stroke 1,200 mm

Model Number Coding

Model ①	Ball screw lead ②	Block type ③	QZ specification ④	Stroke ⑤	Accuracy grade ⑥	With/without motor ⑦	Cover ⑧	Sensors ⑨	Housing A/ Intermediate flange ⑩
KR55	20	A	QZA	0785	P	0	1	2	A0
KR55	20: 20 mm	A: x1	No symbol: Without QZ	0680: 680 mm	No symbol: Normal grade	With direct coupling	0: Without cover	0	With direct coupling
		B: x2	QZ	to	H: High accuracy grade	0: Direct coupling (without motor)	1: With cover	1	A0
			QZA	1200: 1,200 mm	P: Precision grade	1: Direct coupling (THK will purchase and mount the motor you specify.)	2: With bellows	2	AZ
			QZB			With motor wrap		6	A5
			QZAD			R1: Non-standard side wrap (without motor)		7	A6
						R2: Standard side wrap (without motor)		B	20
						R3: Bottom side wrap (without motor)		E	With motor wrap
						R4: Non-standard side wrap (THK will purchase and mount the motor you specify.)		H	WV-14M
						R5: Standard side wrap (THK will purchase and mount the motor you specify.)		L	WZ-16M
						R6: Bottom side wrap (THK will purchase and mount the motor you specify.)		J	WZ-19M
								M	W5-19M

Check the stroke for type with QZ when selecting anything other than "No symbol." → p. 145 to p. 148

When selecting 2: With bellows for ⑧ Cover, specify the stroke with bellows. → p. 165 to p. 166

When selecting "0": A coupling is not provided. Indicate when placing an order if a coupling is required.

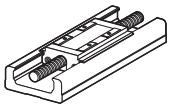
When selecting "1," "R4," "R5," or "R6": The specified motor will be installed. Indicate the motor cable direction separately. Select ⑩ Intermediate flange to match the specified motor.

Sensor details → p. 139

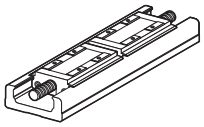
With direct coupling → p. 141

With motor wrap → p. 143

③ Block Type

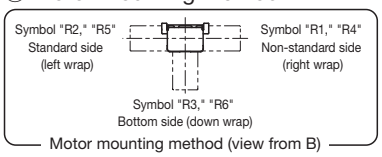


A: 1 block (A type)



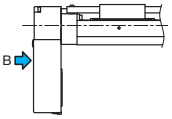
B: 2 blocks (B type)

⑦ Motor Mounting Method



Motor mounting method (view from B)

With motor wrap



Selection Information

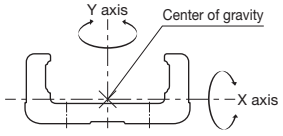
Basic Specifications

LM Guide	Basic dynamic load rating C (N)		38,100
	Basic static load rating C_0 (N)		61,900
	Radial clearance (mm)	Normal grade/High accuracy grade (H)	-0.007 to +0.004
		Precision grade (P)	-0.019 to -0.007
	Geometric moment of inertia	I_X[1] (mm^4)	2.2×10^5
		I_Y[2] (mm^4)	2.3×10^6
		Mass (kg/m)	15
Ball screw	Ball screw lead (mm)		20
	Basic dynamic load rating Ca (N)	Normal grade/High accuracy grade (H)	3,620
		Precision grade (P)	3,980
	Basic static load rating C_0a (N)	Normal grade/High accuracy grade (H)	9,290
		Precision grade (P)	6,850
	Screw shaft diameter (mm)		Ø20
	Thread minor diameter (mm)		Ø17.5
	Ball center-to-center diameter (mm)		Ø20.75
	Permissible rotational speed[3] (min^{-1})	Normal grade/High accuracy grade (H)	2,400
		Precision grade (P)	3,360
Bearing unit (fixed side)	Axial direction	Basic dynamic load rating Ca (N)	7,600
		Static permissible load P_0a (N)	3,990
Permissible input torque (N·m)		Direct coupling	8.5
		Motor wrap[4]	6.8 (6.4)
Static permissible moment[5, 6] (N·m)			M_A: 870 (4,890), M_B: 870 (4,890), M_C: 2,280 (4,570)
Service life[7] (km)			10,000
Standard grease/Grease nipple used			THK AFB-LF Grease/A-M6F

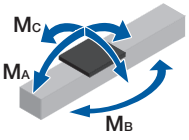
[1] I_X is the geometric moment of inertia about the X axis.
[2] I_Y is the geometric moment of inertia about the Y axis.
[3] The permissible rotational speed may decrease as the stroke becomes longer.
[4] The values in parentheses are for precision grade.
[5] The value in parentheses is with 2 blocks (B type) attached.
[6] See p. 168 for the values if "1" or "2" is selected for item ⑧ in the Model Number Coding.
[7] Calculated under the following conditions.
Stroke: 1,000 mm (A type), 880 mm (B type) / Speed: 800 mm/s (for 20 mm lead) / Load mass: Maximum load capacity (p. 9) / Acceleration/deceleration: As when set to maximum load capacity (p. 9) / Center of gravity: Center of the table's upper surface.

Notes: 1. LM Guide load rating is the load rating per block.
2. Precision grade (P-grade) ball screws have integrated spacer balls with a 2:1 ratio.

Geometric Moment of Inertia



Static Permissible Moment



Accuracy

Accuracy grade	Item	Stroke[8] 800	900	1,000	1,100	1,200
Normal grade (no symbol)	Positioning repeatability (mm)	±0.01				
	Positioning accuracy (mm)	Not specified				
	Running parallelism (vertical direction) (mm)	Not specified				
	Backlash (mm)	0.05				
	Starting torque (N·cm)	12				

Accuracy grade	Item	Stroke[8] 800	900	1,000	1,100	1,200
High accuracy grade (H)	Positioning repeatability (mm)	±0.005				
	Positioning accuracy (mm)	0.18		0.25		
	Running parallelism (vertical direction) (mm)	0.05				
	Backlash (mm)	0.05				
	Starting torque (N·cm)	12				

Accuracy grade	Item	Stroke[8] 800	900	1,000
Precision grade (P)	Positioning repeatability (mm)	±0.005		
	Positioning accuracy (mm)	0.035		0.04
	Running parallelism (vertical direction) (mm)	0.025		0.03
	Backlash (mm)	0.003		
	Starting torque (N·cm)	17		20

[8] Stroke with 1 block (A type, without QZ).

Notes: 3. Precision evaluation in accordance with THK standards.
4. Measured using a motor for inspection. With motor wrap specifications, measurements are not made in the completed motor wrap state.
5. The starting torque represents the value when containing THK AFB-LF Grease.
6. The starting torque may exceed standards if using vacuum grease, clean room grease, or other high-viscosity greases, so care should be taken when selecting a motor.
7. Contact THK for accuracy higher than the standard stroke.

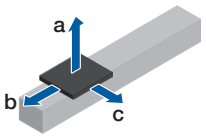
Motor Selection Information

Stroke[1] (mm)	Outer rail length (mm)	LM Guide				Ball screw		Motor mounting part	
		Moving part mass (kg)			Sliding resistance value[2] (N)	Lead (mm)	Shaft length (mm)	Direct coupling	Motor wrap
		Block mass	Sub-table mass	Total mass				Shaft end diameter (mm)	Timing pulley (sum of two) Inertial moment x 10^{-4} (kg·m²)
800 to 1,200	980 to 1,380	A type: 1.8 B type: 3.6	A type: 1.9 B type: 3.8	A type: 3.7 B type: 7.4	8.8	20	1,054 to 1,454	Ø12h7	1.432

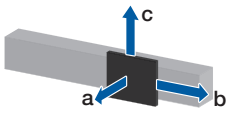
[1] Stroke with 1 block (A type, without QZ).
[2] Value with 1 block (A type, without QZ). This value is the sum of the rolling resistance value and seal resistance value.
Note: Refer to p. 141 for applicable couplings.

Permissible Overhang Length[3]

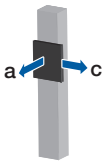
Horizontal



Wall-Mounted



Vertical



Estimated motor capacity 400 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	A type	20	11	1,000	560	580
			22	930	270	290
			44	440	130	140
	B type	20	10	1,000	1,000	1,000
			20	1,000	1,000	640
			40.5	1,000	810	310
Motor wrap	A type	20	6.5	1,000	960	990
			13	1,000	470	490
			26	780	230	240
	B type	20	7	1,000	1,000	1,000
			14.5	1,000	1,000	890
			29.5	1,000	1,000	430

Estimated motor capacity 400 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	A type	20	11	530	490	1,000
			22	240	240	810
			44	90	110	400
	B type	20	10	1,000	1,000	1,000
			20	590	1,000	1,000
			40.5	260	520	1,000
Motor wrap	A type	20	6.5	940	830	1,000
			13	440	410	1,000
			26	190	200	690
	B type	20	7	1,000	1,000	1,000
			14.5	830	1,000	1,000
			29.5	380	710	1,000

Estimated motor capacity 400 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	c (mm)
Direct coupling	A type	20	4	1,000	1,000
			8.5	530	480
			17	240	240
	B type	20	4	1,000	1,000
			8.5	1,000	1,000
			17	1,000	950
Motor wrap	A type	20	2.5	1,000	1,000
			5.5	850	750
			11.5	380	360
	B type	20	2.5	1,000	1,000
			5.5	1,000	1,000
			11.5	1,000	1,000

Estimated motor capacity 750 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	A type	20	21	970	290	300
			42	460	130	150
			84	200	60	70
	B type	20	23.5	1,000	1,000	550
			47	1,000	700	270
			94.5	1,000	340	130
Motor wrap	A type	20	18.5	1,000	330	340
			37	530	160	170
			74	240	70	80
	B type	20	20.5	1,000	1,000	630
			41.5	1,000	790	310
			83.5	1,000	390	150

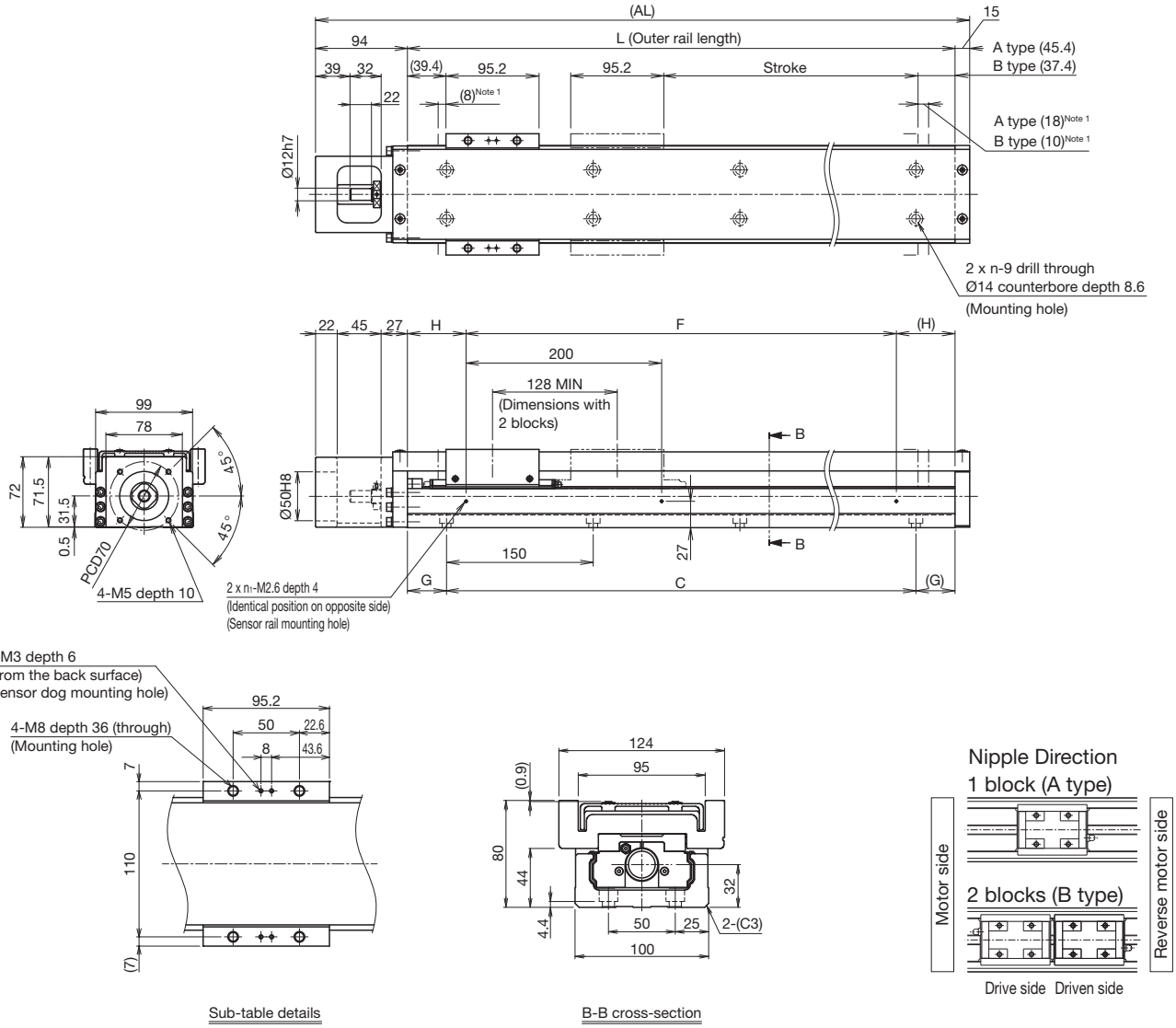
Estimated motor capacity 750 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	A type	20	18.5	290	290	970
			37.5	110	130	480
			75	30	50	240
	B type	20	23.5	490	900	1,000
			47	220	450	1,000
			94.5	80	220	740
Motor wrap	A type	20	18.5	290	290	970
			37	120	140	480
			74	30	50	240
	B type	20	20.5	570	1,000	1,000
			41.5	250	510	1,000
			83.5	100	250	840

Estimated motor capacity 750 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	c (mm)
Direct coupling	A type	20	8	570	520
			16	260	260
			32.5	100	120
	B type	20	7	1,000	1,000
			14.5	1,000	1,000
			29	820	560
Motor wrap	A type	20	8	570	520
			16	260	260
			32.5	100	120
	B type	20	7	1,000	1,000
			14.5	1,000	1,000
			29	820	560

[3] This is the value with the service life of the LM Guide limited to 10,000 km. The calculation conditions are as follows.
Stroke: 1,000 mm (A type), 880 mm (B type) / Acceleration/deceleration: 0.3 G / Speed: 800 mm/s (for 20 mm lead) / Overhang direction: Loaded only in a single direction. Dimensions a, b, and c are from the center of the table's upper surface.

Without Cover
Direct Motor Coupling

Dimensions



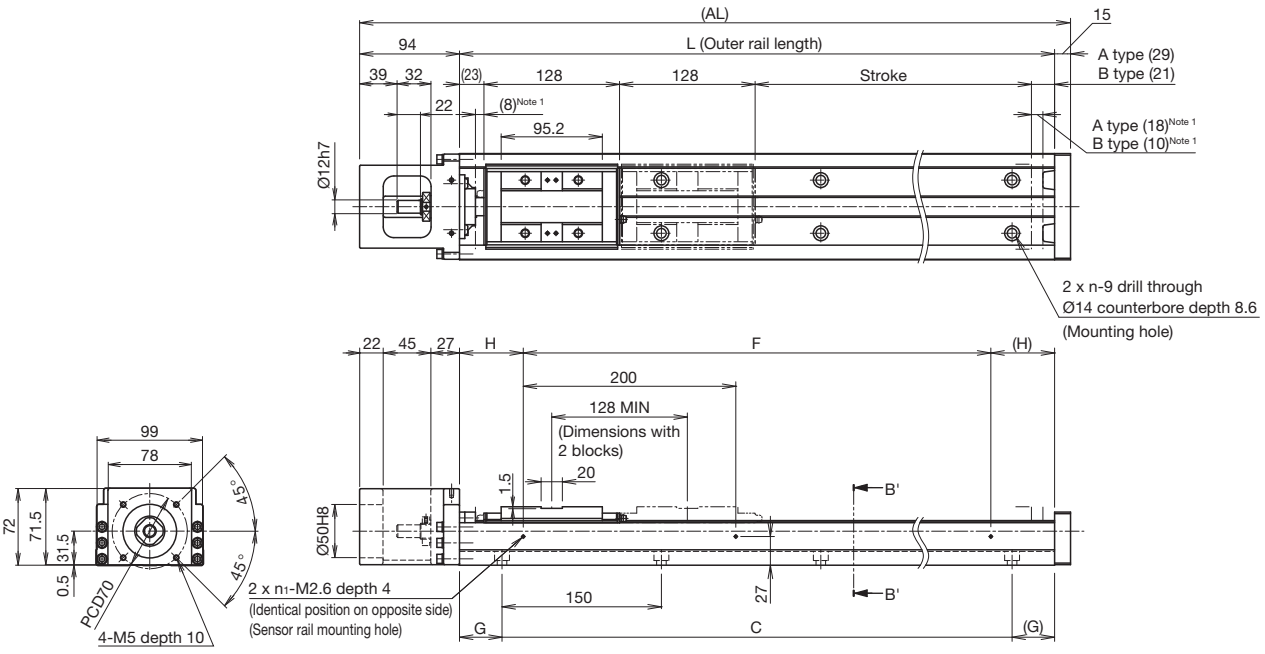
[1] Dimensions from the mechanical stopper to the stroke start position.

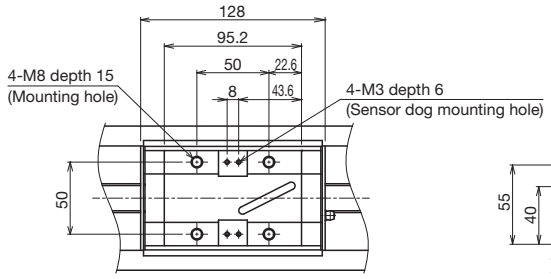
Stroke (mm) (Stroke between mechanical stoppers)	A type		800 (826)	900 (926)	1,000 (1,026)	1,100 (1,126)	1,200 (1,226)
	B type[2]		680 (698)	780 (798)	880 (898)	980 (998)	1,080 (1,098)
Maximum speed[3] (mm/s)	Ball screw lead: 20 mm	Normal grade/high accuracy grade	800		740	620	530
		Precision grade	1,120	900	740	-	-
Dimensions (mm)	AL		1,089	1,189	1,289	1,389	1,489
	L		980	1,080	1,180	1,280	1,380
	C		900	1,050	1,050	1,200	1,350
	G		40	15	65	40	15
	F		800	1,000	1,000	1,200	1,200
	H		90	40	90	40	90
No. of mounting holes	n		7	8	8	9	10
	n_1		5	6	6	7	7
Mass[4] (kg)			24.1	25.9	27.7	29.6	31.4

[2] The value with 2 blocks (B type, without QZ) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 blocks (B type) has 3.7 kg added.

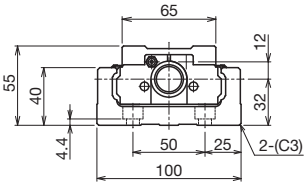
Without Cover
Direct Motor Coupling

Dimensions

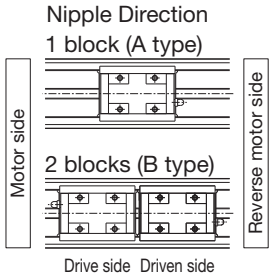




Block details



B'-B' cross-section



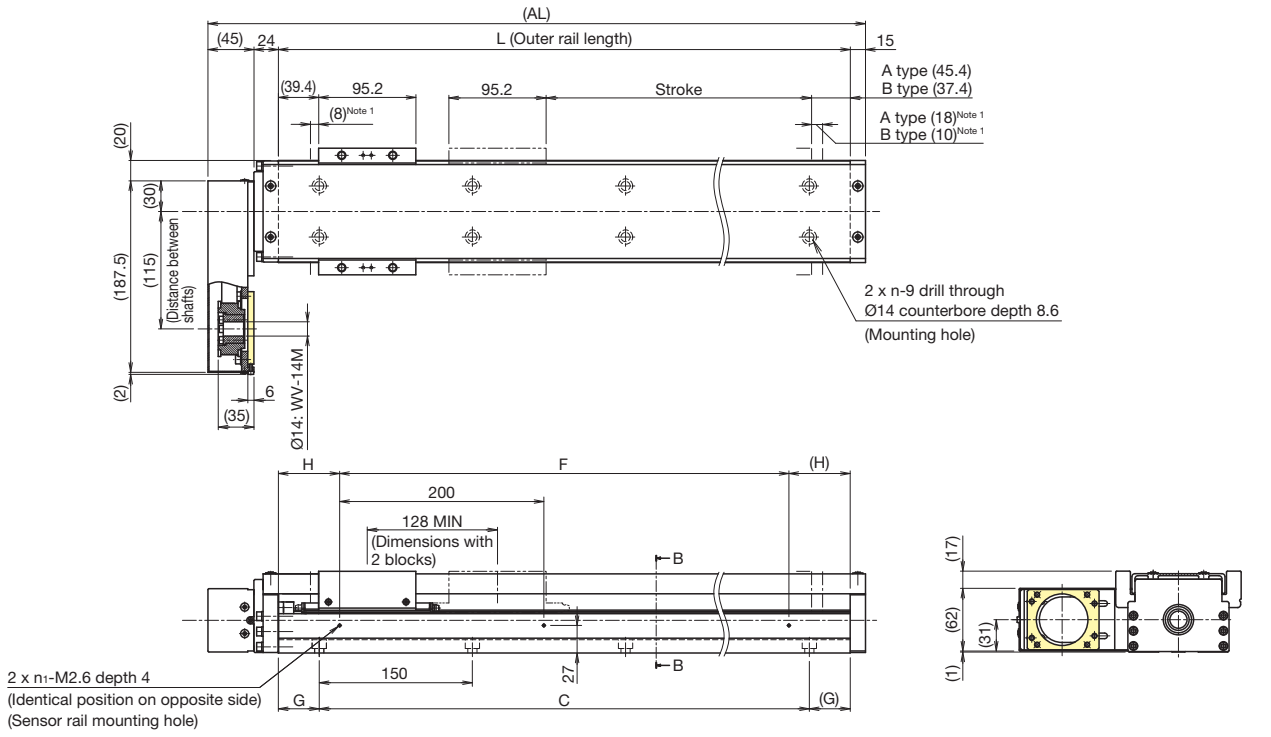
[1] Dimensions from the mechanical stopper to the stroke start position.

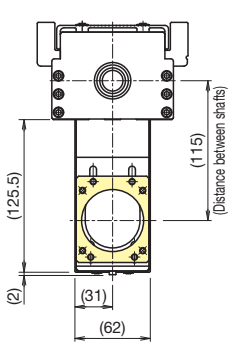
Stroke (mm) (Stroke between mechanical stoppers)	A type		800 (826)	900 (926)	1,000 (1,026)	1,100 (1,126)	1,200 (1,226)
	B type[2]		680 (698)	780 (798)	880 (898)	980 (998)	1,080 (1,098)
Maximum speed[3] (mm/s)	Ball screw lead: 20 mm	Normal grade/high accuracy grade	800		740	620	530
		Precision grade	1,120	900	740	-	-
Dimensions (mm)	AL		1,089	1,189	1,289	1,389	1,489
	L		980	1,080	1,180	1,280	1,380
	C		900	1,050	1,050	1,200	1,350
	G		40	15	65	40	15
	F		800	1,000	1,000	1,200	1,200
	H		90	40	90	40	90
No. of mounting holes	n		7	8	8	9	10
	n_1		5	6	6	7	7
Mass[4] (kg)			20.2	21.9	23.6	25.4	27.1

[2] The value with 2 blocks (B type, without QZ) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 blocks (B type) has 1.8 kg added.

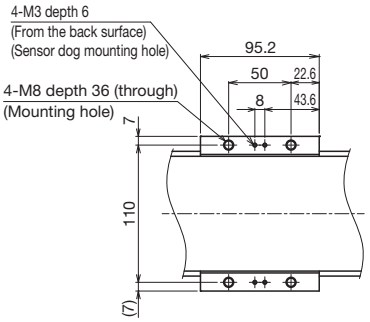
With Cover Motor Flange Size 60×60
Motor Wrap

Dimensions

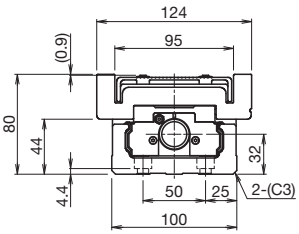




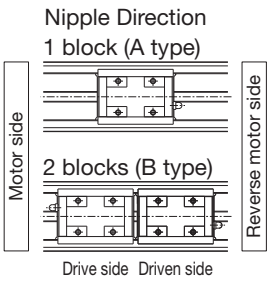
With bottom side wrap selected



Sub-table details



B-B cross-section



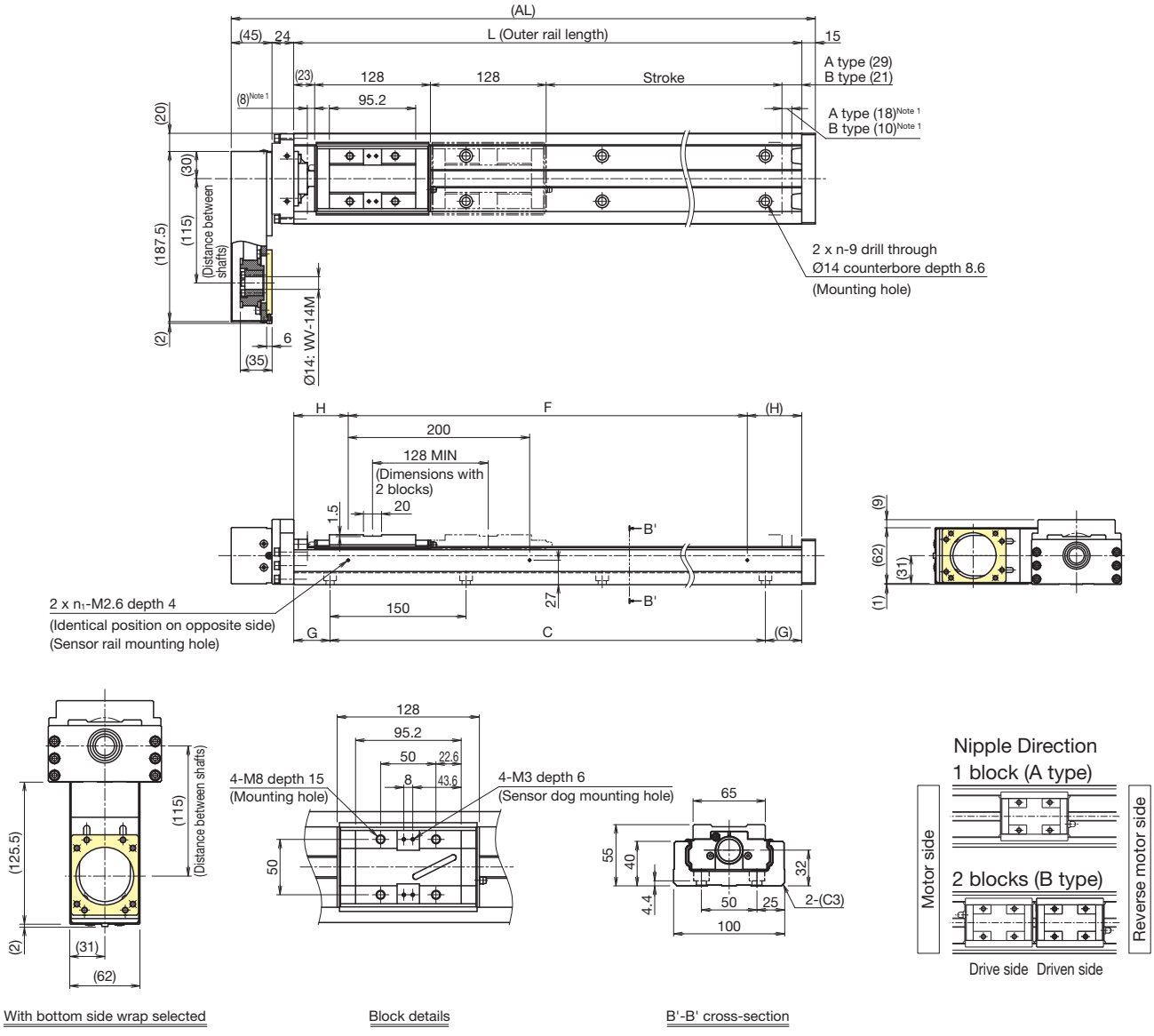
[1] Dimensions from the mechanical stopper to the stroke start position.

Stroke (mm) (Stroke between mechanical stoppers)							
	A type		800 (826)	900 (926)	1,000 (1,026)	1,100 (1,126)	1,200 (1,226)
	B type[2]		680 (698)	780 (798)	880 (898)	980 (998)	1,080 (1,098)
Maximum speed[3] (mm/s)	Ball screw lead: 20 mm	Normal grade/high accuracy grade	800		740	620	530
		Precision grade	1,120	900	740	-	-
Dimensions (mm)	AL		1,064	1,164	1,264	1,364	1,464
	L		980	1,080	1,180	1,280	1,380
	C		900	1,050	1,050	1,200	1,350
	G		40	15	65	40	15
	F		800	1,000	1,000	1,200	1,200
	H		90	40	90	40	90
No. of mounting holes	n		7	8	8	9	10
	n_1		5	6	6	7	7
Mass[4] (kg)			25	26.8	28.6	30.5	32.3

[2] The value with 2 blocks (B type, without QZ) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 blocks (B type) has 3.7 kg added.

Without Cover Motor Flange Size 60×60
Motor Wrap

Dimensions



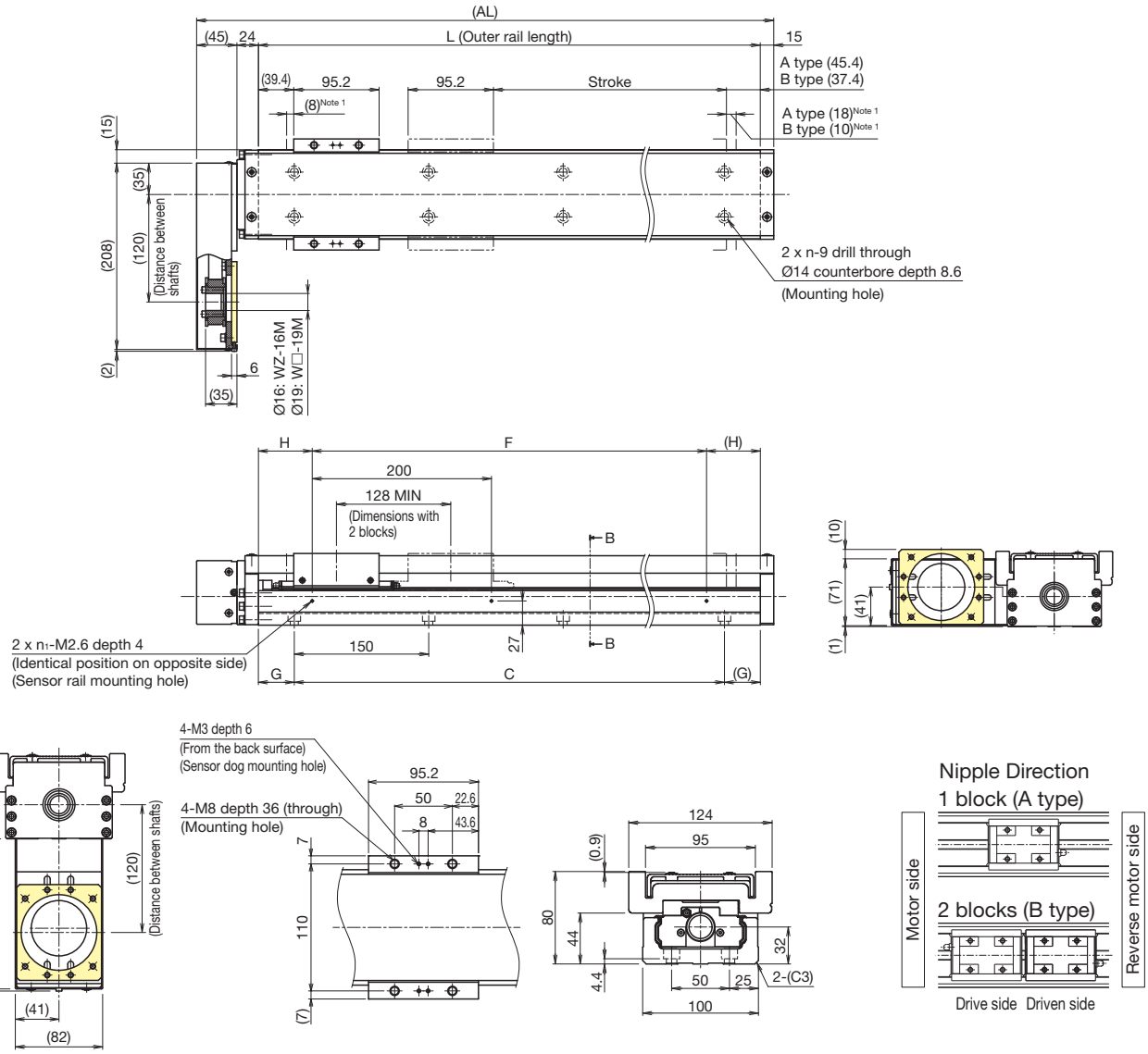
[1] Dimensions from the mechanical stopper to the stroke start position.

Stroke (mm) (Stroke between mechanical stoppers)	A type		800 (826)	900 (926)	1,000 (1,026)	1,100 (1,126)	1,200 (1,226)
	B type[2]		680 (698)	780 (798)	880 (898)	980 (998)	1,080 (1,098)
Maximum speed[3] (mm/s)	Ball screw lead: 20 mm	Normal grade/high accuracy grade	800		740	620	530
		Precision grade	1,120	900	740	-	-
Dimensions (mm)	AL		1,064	1,164	1,264	1,364	1,464
	L		980	1,080	1,180	1,280	1,380
	C		900	1,050	1,050	1,200	1,350
	G		40	15	65	40	15
	F		800	1,000	1,000	1,200	1,200
	H		90	40	90	40	90
No. of mounting holes	n		7	8	8	9	10
	n_1		5	6	6	7	7
Mass[4] (kg)			21.1	22.8	24.5	26.3	28

[2] The value with 2 blocks (B type, without QZ) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 blocks (B type) has 1.8 kg added.

With Cover Motor Flange Size 80×80
Motor Wrap

Dimensions



With bottom side wrap selected

Sub-table details

B-B cross-section

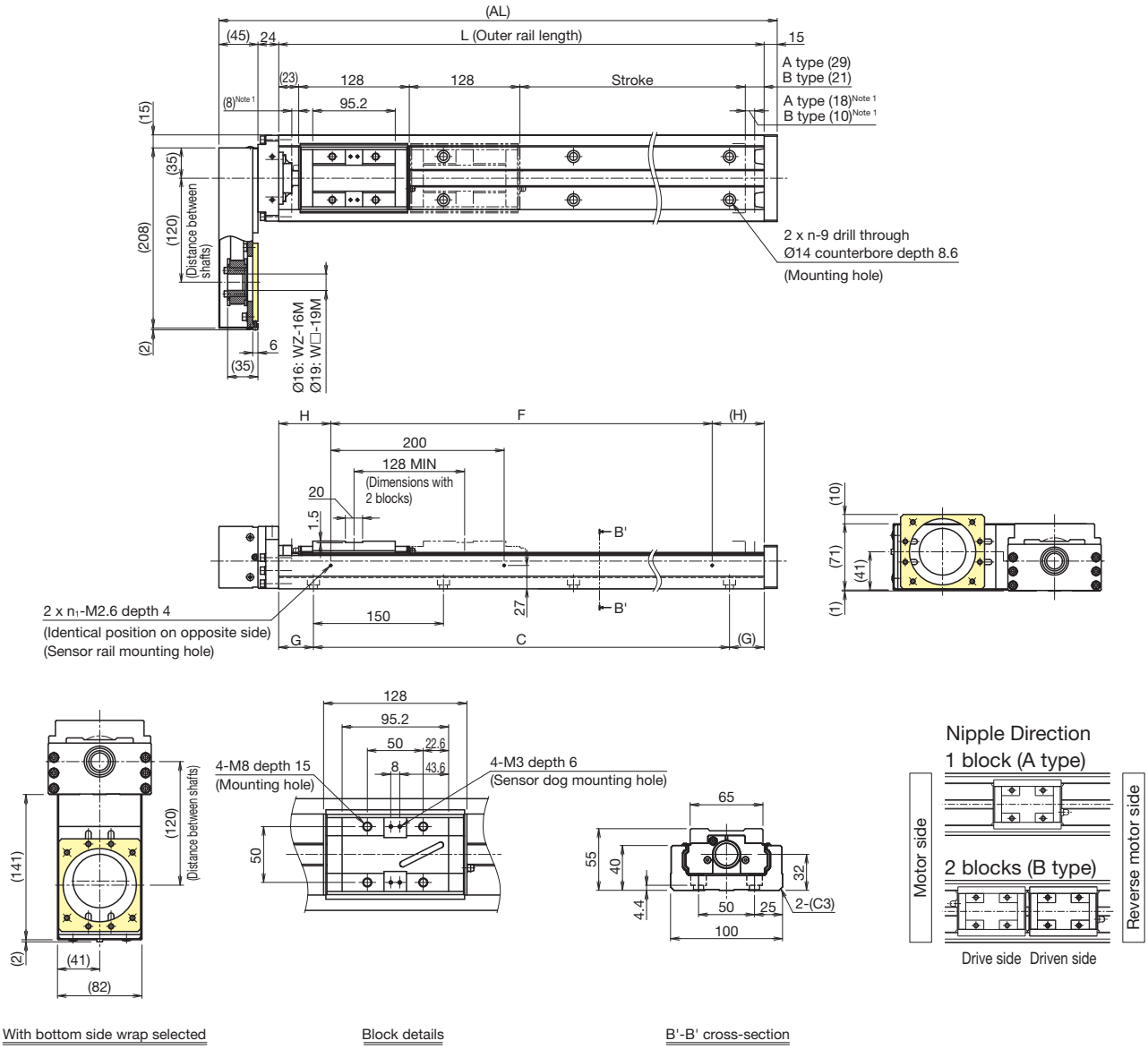
[1] Dimensions from the mechanical stopper to the stroke start position.

Stroke (mm) (Stroke between mechanical stoppers)							
	A type		800 (826)	900 (926)	1,000 (1,026)	1,100 (1,126)	1,200 (1,226)
	B type[2]		680 (698)	780 (798)	880 (898)	980 (998)	1,080 (1,098)
Maximum speed[3] (mm/s)	Ball screw lead: 20 mm	Normal grade/high accuracy grade	800		740	620	530
		Precision grade	1,120	900	740	-	-
Dimensions (mm)	AL		1,064	1,164	1,264	1,364	1,464
	L		980	1,080	1,180	1,280	1,380
	C		900	1,050	1,050	1,200	1,350
	G		40	15	65	40	15
	F		800	1,000	1,000	1,200	1,200
	H		90	40	90	40	90
No. of mounting holes	n		7	8	8	9	10
	n_1		5	6	6	7	7
Mass[4] (kg)			25	26.8	28.6	30.5	32.3

[2] The value with 2 blocks (B type, without QZ) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 blocks (B type) has 3.7 kg added.

Without Cover Motor Flange Size 80×80
Motor Wrap

Dimensions



With bottom side wrap selected

Block details

B'-B' cross-section

[1] Dimensions from the mechanical stopper to the stroke start position.

Stroke (mm) (Stroke between mechanical stoppers)	A type		800 (826)	900 (926)	1,000 (1,026)	1,100 (1,126)	1,200 (1,226)
	B type[2]		680 (698)	780 (798)	880 (898)	980 (998)	1,080 (1,098)
Maximum speed[3] (mm/s)	Ball screw lead: 20 mm	Normal grade/high accuracy grade	800		740	620	530
		Precision grade	1,120	900	740	-	-
Dimensions (mm)	AL		1,064	1,164	1,264	1,364	1,464
	L		980	1,080	1,180	1,280	1,380
	C		900	1,050	1,050	1,200	1,350
	G		40	15	65	40	15
	F		800	1,000	1,000	1,200	1,200
	H		90	40	90	40	90
No. of mounting holes	n		7	8	8	9	10
	n_1		5	6	6	7	7
Mass[4] (kg)			21.1	22.8	24.5	26.3	28

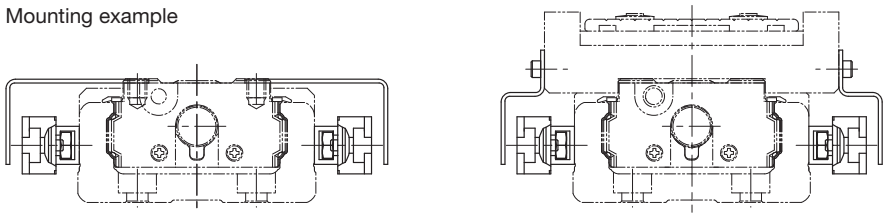
[2] The value with 2 blocks (B type, without QZ) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 blocks (B type) has 1.8 kg added.

Options

Sensors

Optional photo sensors and proximity sensors are available. Sensor-equipped models also feature a dedicated sensor rail and sensor dog.
Sensors, sensor rails, and sensor dogs can be mounted on both sides when the stroke is less than 70 mm.

Mounting example

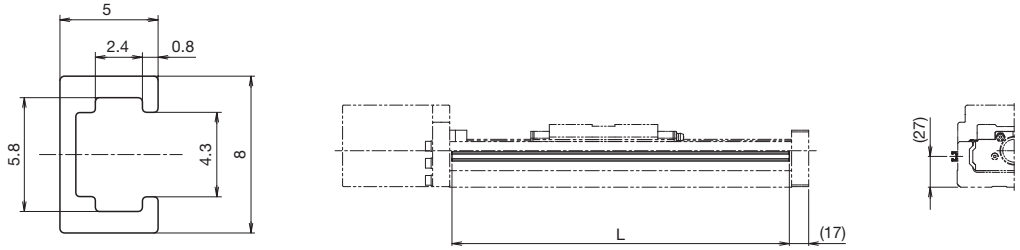


Symbol	Description	Model	Accessories
0	None	-	-
1	With sensor rail	-	Mounting screws, sensor rail (x1 or 2)
2	Photo sensor[1] (x3)	EE-SX671 (OMRON Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2), mounting plates (x3), connectors (EE-1001 x3)
6	Photo sensor[1] (x3)	EE-SX674 (OMRON Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2), mounting plates (x3), connectors (EE-1001 x3)
7	Proximity sensor N.O. contact[2] (x3)	APM-D3A1-001 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
B	Proximity sensor N.C. contact[3] (x3)	APM-D3B1-003 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
E	Proximity sensor N.O. contact[2] (x1) N.C. contact[3] (x2)	APM-D3A1-001 (Azbil Corporation) APM-D3B1-003 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
H	Proximity sensor N.O. contact[2] (x3)	GX-F12A (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
L	Proximity sensor N.C. contact[3] (x3)	GX-F12B (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
J	Proximity sensor N.O. contact[2] (x1) N.C. contact[3] (x2)	GX-F12A (Panasonic Industry Co., Ltd.) GX-F12B (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
M	Proximity sensor N.O. contact[2] (x1) (PNP output) N.C. contact[3] (x2) (PNP output)	GX-F12A-P (Panasonic Industry Co., Ltd.) GX-F12B-P (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)

[1] The photo sensors can be switched between ON when lit and ON when unlit.
[2] N.O. contact: Normally open contact point
[3] N.C. contact: Normally closed contact point
Notes: 1. If proximity sensors are close to one another, they may not function properly. If that happens, please prepare a type with a different frequency.
2. Mounting of sensors other than those in the table above is possible. Contact THK for details.

Sensor Rail Mounting Dimensions

Mounting only a sensor rail is also possible.



Sensor rail details

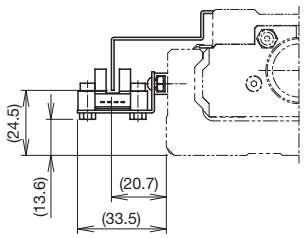
Stroke[4] (mm)	Outer rail length (mm)	L (mm)
800	980	976
900	1,080	1,076
1,000	1,180	1,176
1,100	1,280	1,276
1,200	1,380	1,376

[4] Stroke with 1 block (A type).

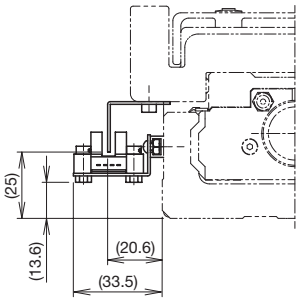
Photo Sensor Mounting Dimensions

Connector: EE-1001 (OMRON Corporation) x3 included.
To be mounted by the customer.

Without cover



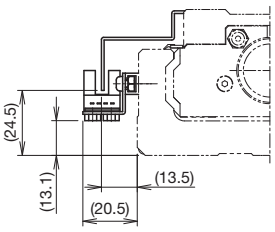
With cover



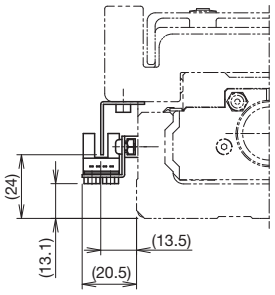
Symbol	Model	Manufacturer
2	EE-SX671	OMRON Corporation

Sensor dog width: 20 mm

Without cover



With cover

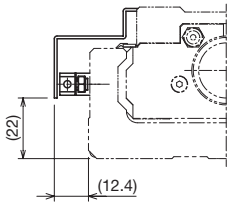


Symbol	Model	Manufacturer
6	EE-SX674	OMRON Corporation

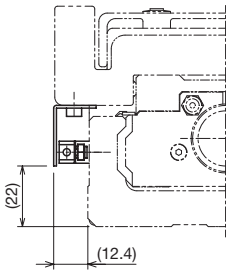
Sensor dog width: 20 mm

Proximity Sensor Mounting Dimensions

Without cover



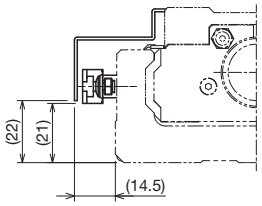
With cover



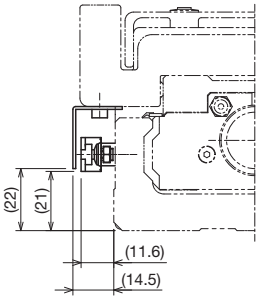
Symbol	Model	Manufacturer
7, B, E	APM-D3A1-001	Azbil Corporation
	APM-D3B1-003	

Sensor dog width: 20 mm

Without cover



With cover



Symbol	Model	Manufacturer
H, L, J	GX-F12A	Panasonic Industry Co., Ltd.
	GX-F12B	
M	GX-F12A-P	
	GX-F12B-P	

Sensor dog width: 20 mm

Options

Intermediate Flange (Direct Coupling)

Several types of intermediate flanges for mounting motors are available.
When selecting "0" or "1" for Model Number Coding ⑦ With/without motor, specify an intermediate flange that matches the motor used.

Compatibility Table: Motors Used, Intermediate Flanges, and Couplings

Motor type	Manufacturer	Series		Motor model	Motor rated output (W)	Flange size	Housing A/ Intermediate flange	Compatible coupling models	
								MIKI PULLEY CO., LTD.	Nabeya Bi-tech Kaisha (NBK)
AC servo motor	YASKAWA Electric Corporation	Σ-V		SGMJV-02	200	60×60	A0	SFC-030DA2-12B-14B	XGT2-27C-12-14
				SGMAV-02					
				SGMJV-04	400		A0	SFC-035DA2-12B-14B	XGT2-30C-12-14
				SGMAV-04					
				SGMJV-06	600		A0	SFC-035DA2-12B-14B	XGT2-34C-12-14
				SGMJV-08	750	80×80	AZ	SFC-040DA2-12B-19B	XGT2-39C-12-19
				SGMAV-08					
		Σ-7		SGM7J-02	200	60×60	A0	SFC-030DA2-12B-14B	XGT2-27C-12-14
				SGM7A-02					
				SGM7J-04	400		A0	SFC-035DA2-12B-14B	XGT2-30C-12-14
				SGM7A-04					
				SGM7J-06	600		A0	SFC-035DA2-12B-14B	XGT2-34C-12-14
				SGM7J-08	750	80×80	AZ	SFC-040DA2-12B-19B	XGT2-39C-12-19
				SGM7A-08					
		Σ–X		SGMXJ-02	200	60×60	A0	SFC–030DA2–12B–14B	XGT2–27C–12–14
				SGMXA-02					
				SGMXJ-04	400		A0	SFC–035DA2–12B–14B	XGT2–30C–12–14
				SGMXA-04					
				SGMXJ-06	600		A0	SFC–035DA2–12B–14B	XGT2–34C–12–14
				SGMXA-06					
				SGMXJ-08	750	80×80	AZ	SFC–040DA2–12B–19B	XGT2–39C–12–19
				SGMXA-08					
	Mitsubishi Electric Corporation	MELSERVO	J4	HG-KR23	200	60×60	A0	SFC-030DA2-12B-14B	XGT2-27C-12-14
				HG-MR23					
				HG-KR43	400		A0	SFC-035DA2-12B-14B	XGT2-30C-12-14
				HG-MR43					
				HG-KR73	750	80×80	AZ	SFC-040DA2-12B-19B	XGT2-39C-12-19
				HG-MR73					
			J5	HK-KT23W	200	60×60	A0	SFC–030DA2–12B–14B	XGT2–27C–12–14
				HK-KT43W	400			SFC–035DA2–12B–14B	XGT2–30C–12–14
				HK-KT7M3W	750	80×80	AZ	SFC–040DA2–12B–19B	XGT2–39C–12–19
			JN	HF-KN23	200	60×60	A0	SFC-030DA2-12B-14B	XGT2-27C-12-14
				HF-KN43	400			SFC-035DA2-12B-14B	XGT2-30C-12-14
	TAMAGAWA SEIKI CO., LTD.	TBL-iII		TS4607	200	60×60	A0	SFC-030DA2-12B-14B	XGT2-27C-12-14
				TS4609	400			SFC-035DA2-12B-14B	XGT2-30C-12-14
				TS4614	750	80×80	AZ	SFC-040DA2-12B-19B	XGT2-39C-12-19
		TBL-iIV		TSM3202	200	60×60	A0	SFC-030DA2-12B-14B	XGT2-27C-12-14
				TSM3204	400			SFC-035DA2-12B-14B	XGT2-30C-12-14
				TSM3303	600	80×80	AZ	SFC-040DA2-12B-19B	XGT2-39C-12-19
				TSM3304	750				
	Panasonic Corporation	MINAS	A5	MSMD08	750	80×80	A5	SFC-040DA2-12B-19B	XGT2-39C-12-19
				MSME08					
			A6	MSMF08	750	80×80	A5	SFC-040DA2-12B-19B	XGT2-39C-12-19
				MHMF08					
	KEYENCE CORPORATION	SV		SV-M020	200	60×60	A0	SFC-030DA2-12B-14B	XGT2-27C-12-14
				SV-M040	400			SFC-035DA2-12B-14B	XGT2-30C-12-14
				SV-M075	750	80×80	AZ	SFC-040DA2-12B-19B	XGT2-39C-12-19
		SV2		SV2-M020	200	60×60	A0	SFC-030DA2-12B-14B	XGT2-27C-12-14
				SV2-M040	400			SFC-035DA2-12B-14B	XGT2-30C-12-14
				SV2-M075	750	80×80	AZ	SFC-040DA2-12B-19B	XGT2-39C-12-19
	SANYO DENKI CO., LTD.	SANMOTION R		R2□A06020	200	60×60	A0	SFC-030DA2-12B-14B	XGT2-27C-12-14
				R2AA06040	400			SFC-035DA2-12B-14B	XGT2-30C-12-14
				R2AA08075	750	80×80	AZ	SFC-040DA2-12B-16B	XGT2-39C-12-16
	OMRON Corporation	OMNUC G5		R88M-K75030	750	80×80	A5	SFC-040DA2-12B-19B	XGT2-39C-12-19
		1S		R88M-1M75030	750	80×80			

Motor type	Manufacturer	Series		Motor model	Flange size	Housing A/ Intermediate flange	Compatible coupling models	
							MIKI PULLEY CO., LTD.	Nabeya Bi-tech Kaisha (NBK)
Stepper motor	ORIENTAL MOTOR CO., LTD.	α step		AZ9*, AR9*	85×85	A6	SFC-035DA2-12B-14B	XGT2-34C-12-14
		5-phase	RK II	RKS59*	85×85	A6	SFC-035DA2-12B-14B	XGT2-34C-12-14

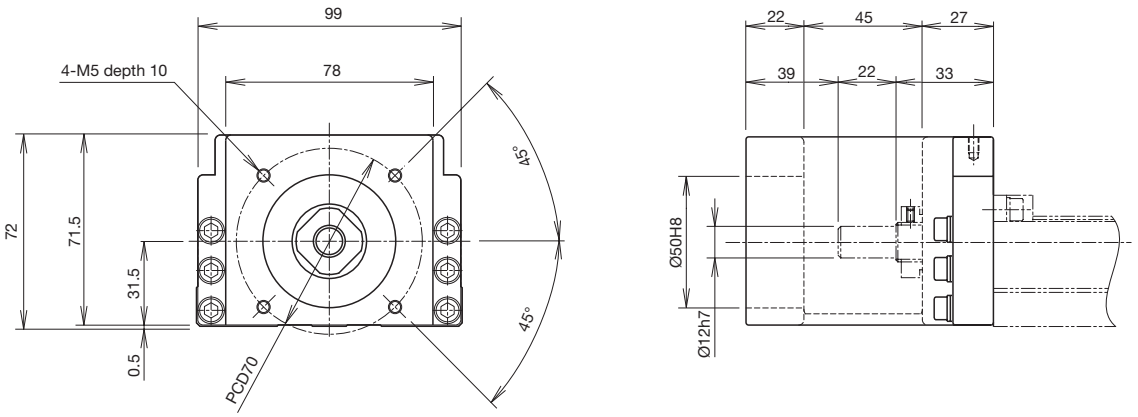
Notes: 1. The table shows only a portion of the model numbers for motors. For details regarding model numbers, please see the catalog for each respective motor manufacturer.
2. If the maximum torque for motors exceeds the permissible input torque (p. 131), please consider a safety measure to limit the torque.
3. When installing a motor other than the motor model numbers listed above, contact THK.

Housing A

KR**
●◇

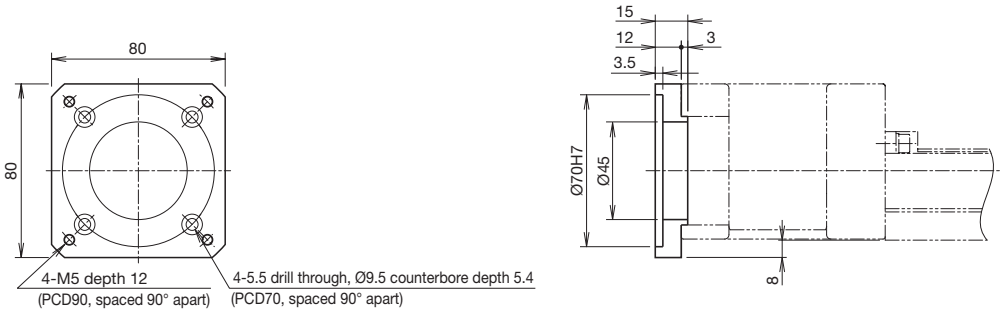
Actuator model
●: Housing A
◇: Intermediate flange

KR55
A0

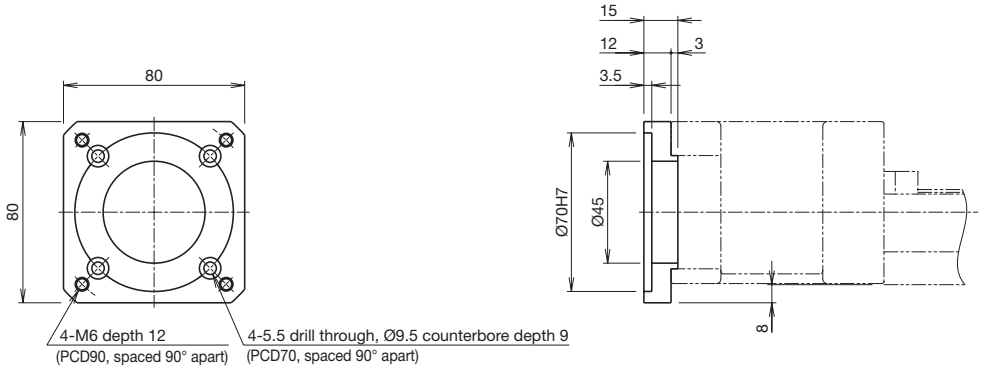


Intermediate Flange

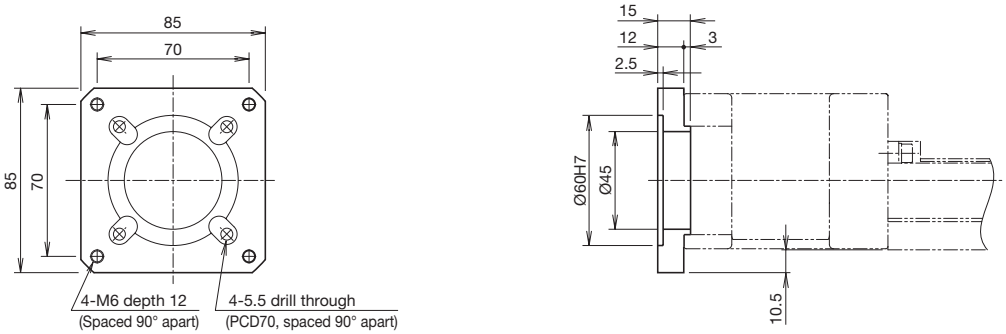
KR55
A5



KR55
AZ



KR55
A6



Options

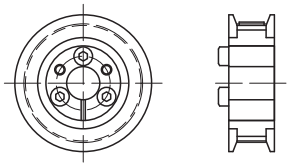
Intermediate Flange (Motor Wrap)

Several types of intermediate flanges for mounting motors are available.
When selecting "R1," "R2," "R3," "R4," "R5," or "R6" for Model Number Coding ⑦ With/without motor, specify an intermediate flange that matches the motor used.

Symbol Coding

Motor wrap symbol ①	Intermediate flange ②		Motor shaft diameter (mm) ③	Motor shaft securing method ④
W	V	-	14	M
W	Refer to the Compatibility Table: Motors Used and Motor Wrap Symbols below.		Specify a motor shaft diameter. (Refer to the Compatibility Table: Motors Used and Motor Wrap Symbols below.)	M: Friction tightening tool

Motor Shaft Securing Method



Friction tightening tool

Compatibility Table: Motors Used and Motor Wrap Symbols

Motor type	Manufacturer	Series		Motor model	Motor rated output (W)	Flange size	Housing A/Intermediate flange
AC servo motor	YASKAWA Electric Corporation	Σ-V		SGMJV-02	200	60×60	WV-14M
				SGMAV-02			
				SGMJV-04	400		
				SGMAV-04			
				SGMJV-06	600		
				SGMJV-08	750	80×80	WZ-19M
				SGMAV-08			
		Σ-7		SGM7J-02	200	60×60	WV-14M
				SGM7A-02			
				SGM7J-04	400		
				SGM7A-04			
				SGM7J-06	600		
				SGM7J-08	750	80×80	WZ-19M
				SGM7A-08			
		Σ-X		SGMXJ-02	200	60×60	WV–14M
				SGMXA-02			
				SGMXJ-04	400		
				SGMXA-04			
				SGMXJ-06	600		
				SGMXA-06			
				SGMXJ-08	750	80×80	WZ–19M
				SGM7A-08			
	Mitsubishi Electric Corporation	MELSERVO	J4	HG-KR23	200	60×60	WV-14M
				HG-MR23			
				HG-KR43	400		
				HG-MR43			
				HG-KR73	750	80×80	WZ-19M
				HG-MR73			
			J5	HK-KT23W	200	60×60	WV–14M
				HK-KT43W	400		
				HK-KT7M3W	750	80×80	WZ–19M
			JN	HF-KN23	200	60×60	WV-14M
				HF-KN43	400		
	TAMAGAWA SEIKI CO., LTD.	TBL-iII		TS4607	200	60×60	WV-14M
				TS4609	400		
				TS4614	750	80×80	WZ-19M
		TBL-iIV		TSM3202	200	60×60	WV-14M
				TSM3204	400		
				TSM3303	600	80×80	WZ-19M
				TSM3304	750		
	Panasonic Corporation	MINAS	A5	MSMD08	750	80×80	W5-19M
				MSME08			
			A6	MSMF08			
				MHMF08			
	KEYENCE CORPORATION	SV		SV-M020	200	60×60	WV-14M
				SV-M040	400		
				SV-M075	750	80×80	WZ-19M
		SV2		SV2-M020	200	60×60	WV-14M
				SV2-M040	400		
				SV2-M075	750	80×80	WZ-19M
	SANYO DENKI CO., LTD.	SANMOTION R		R2□A06020	200	60×60	WV-14M
				R2AA06040	400		
				R2AA08075	750	80×80	WZ-16M
	OMRON Corporation	OMNUC G5		R88M-K75030	750	80×80	W5-19M
		1S		R88M-1M75030			

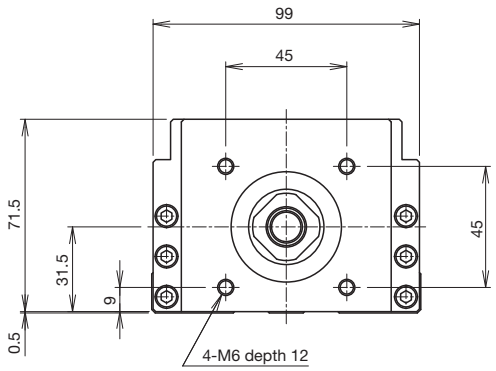
Notes: 1. The table shows only a portion of the model numbers for motors. For details regarding model numbers, please see the catalog for each respective motor manufacturer.
2. If the maximum torque for motors exceeds the permissible input torque (p. 131), please consider a safety measure to limit the torque.
3. When installing a motor other than the motor model numbers listed above, contact THK.

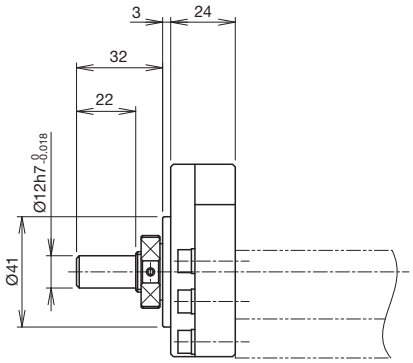
Motor Wrap Housing A

KR**
●◇

Actuator model
●: Housing A
◇: Intermediate flange

KR55
20





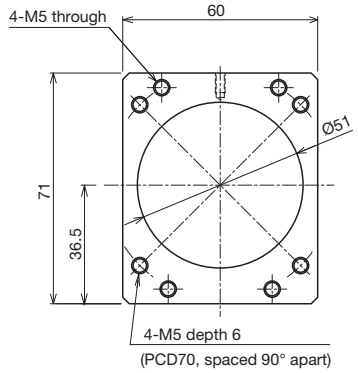
Motor Wrap Specification (Intermediate Flange)

KR**
W□

Actuator model
□: Intermediate flange

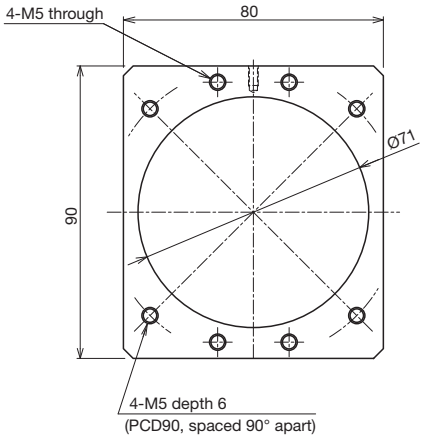
KR55
WV

Thickness: 6 mm



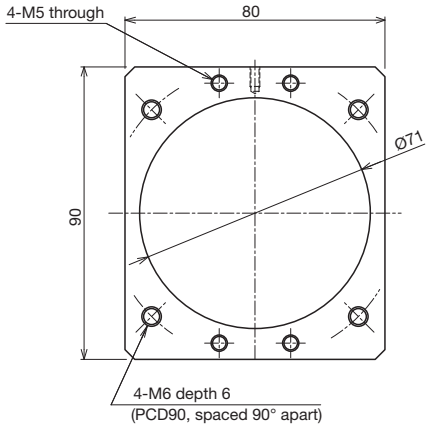
KR55
W5

Thickness: 6 mm



KR55
WZ

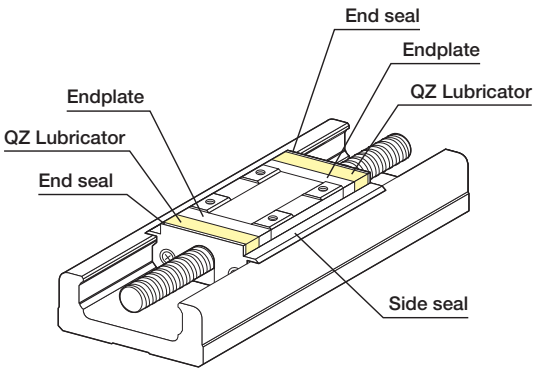
Thickness: 6 mm



Options

QZ Lubricator

The QZ Lubricator for KR feeds the right amount of lubricant to the outer rail and ball screw shaft raceways. This allows an oil film to be constantly formed between the balls and the raceway, and it significantly extends the lubrication maintenance interval.



Appearance

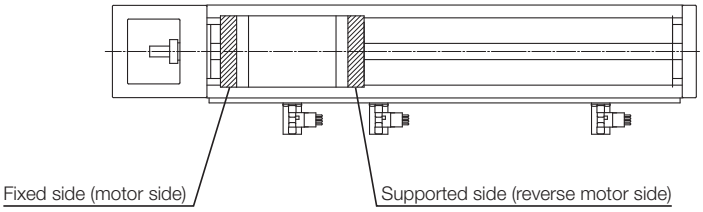
Features

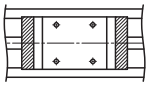
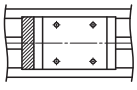
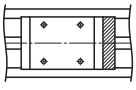
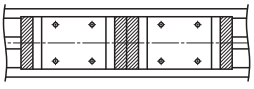
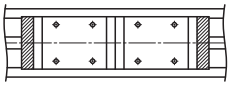
- Since it compensates for oil loss, the lubrication maintenance interval can be significantly extended.
- It is an eco-friendly lubrication system that does not contaminate the surrounding area, as it feeds the right amount of lubricant to the ball raceway.

QZ Configuration

Symbol	Block type	Description
QZ	A/B	QZ all-block double-sided specification
QZA	A	QZ fixed side specification
QZB	A	QZ supported side specification
QZAD	B	QZ fixed side (drive side block) + QZ supported side (driven side block) specification

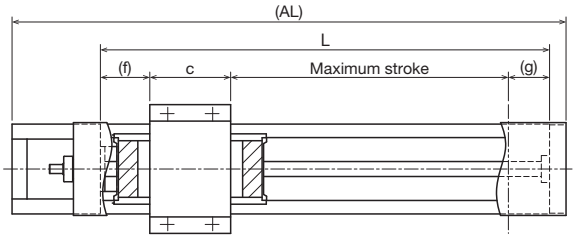
Note: QZ specification types do not have a grease nipple mounted. Contact THK if a grease nipple is required.



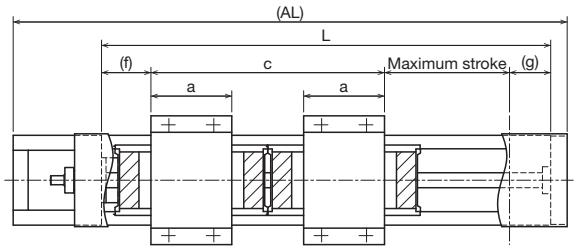
Block type \ QZ configuration	QZ	QZA	QZB	QZAD
A type (1 block)	 Fixed side / Supported side	 Fixed side / Supported side	 Fixed side / Supported side	-
B type (2 blocks)	 Fixed side / Supported side	-	-	 Fixed side / Supported side

Dimensions with QZ Lubricator

QZ (With Cover)
Block Type: A/B



Block Type A



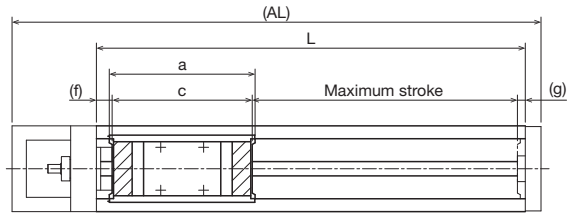
Block Type B

Unit: mm

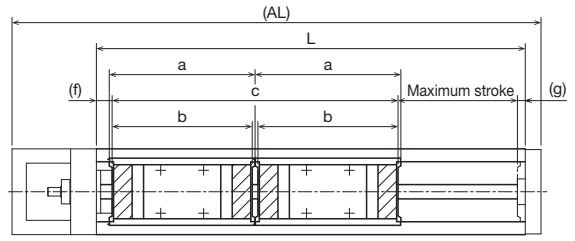
Block type	Overall length AL	Outer rail length L	Stroke[1]	Maximum stroke[1]	a	c	f	g
A	1,089	980	770	794	-	95.2	47.4	43.4
	1,189	1,080	870	894				
	1,289	1,180	970	994				
	1,389	1,280	1,070	1,094				
	1,489	1,380	1,170	1,194				
B	1,089	980	615	634	95.2	255.2	47.4	43.4
	1,189	1,080	715	734				
	1,289	1,180	815	834				
	1,389	1,280	915	934				
	1,489	1,380	1,015	1,034				

[1] The value for B block types is with 2 blocks attached.

QZ (Without Cover)
Block Type: A/B



Block Type A



Block Type B

Unit: mm

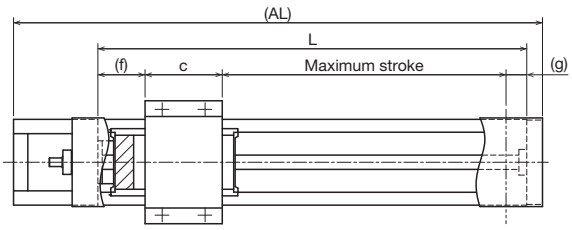
Block type	Overall length AL	Outer rail length L	Stroke[2]	Maximum stroke[2]	a	b	c	f	g
A	1,089	980	770	794	160	-	160	15	11
	1,189	1,080	870	894					
	1,289	1,180	970	994					
	1,389	1,280	1,070	1,094					
	1,489	1,380	1,170	1,194					
B	1,089	980	615	634	160	160	320	15	11
	1,189	1,080	715	734					
	1,289	1,180	815	834					
	1,389	1,280	915	934					
	1,489	1,380	1,015	1,034					

[2] The value for B block types is with 2 blocks attached.

Options

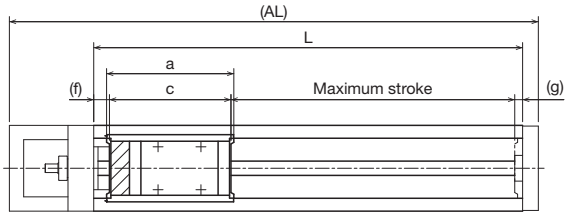
Dimensions with QZ Lubricator

QZA (With Cover)
Block Type: A



Block Type A

QZA (Without Cover)
Block Type: A



Block Type A

QZA (With Cover)

Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke	Maximum stroke	c	f	g
A	1,089	980	785	810	95.2	47.4	27.4
	1,189	1,080	885	910			
	1,289	1,180	985	1,010			
	1,389	1,280	1,085	1,110			
	1,489	1,380	1,185	1,210			

Note 1: B block types cannot be selected for QZA.

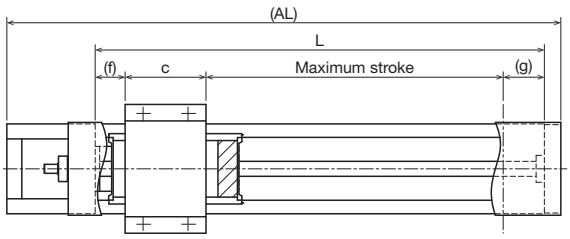
QZA (Without Cover)

Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke	Maximum stroke	a	c	f	g
A	1,089	980	785	810	144	144	15	11
	1,189	1,080	885	910				
	1,289	1,180	985	1,010				
	1,389	1,280	1,085	1,110				
	1,489	1,380	1,185	1,210				

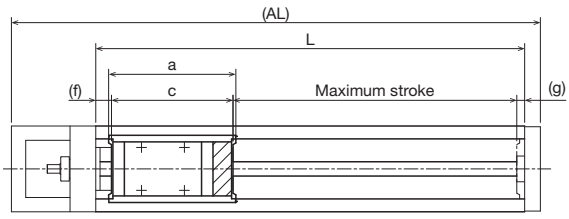
Note 2: B block types cannot be selected for QZA.

QZB (With Cover)
Block Type: A



Block Type A

QZB (Without Cover)
Block Type: A



Block Type A

QZB (With Cover)

Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke	Maximum stroke	c	f	g
A	1,089	980	785	810	95.2	31.4	43.4
	1,189	1,080	885	910			
	1,289	1,180	985	1,010			
	1,389	1,280	1,085	1,110			
	1,489	1,380	1,185	1,210			

Note 3: B block types cannot be selected for QZB.

QZB (Without Cover)

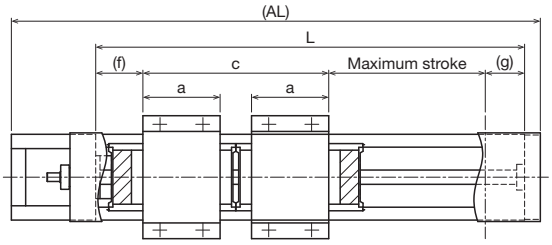
Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke	Maximum stroke	a	c	f	g
A	1,089	980	785	810	144	144	15	11
	1,189	1,080	885	910				
	1,289	1,180	985	1,010				
	1,389	1,280	1,085	1,110				
	1,489	1,380	1,185	1,210				

Note 4: B block types cannot be selected for QZB.

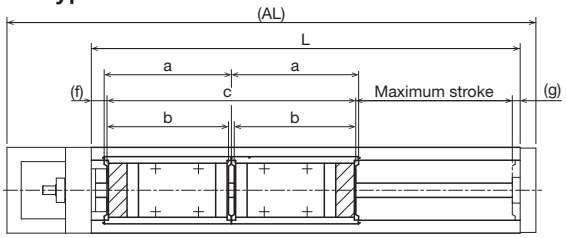
Dimensions with QZ Lubricator

QZAD (With Cover)
Block Type: B



Block Type B

QZAD (Without Cover)
Block Type: B



Block Type B

QZAD (With Cover)

Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke[1]	Maximum stroke[1]	a	c	f	g
B	1,089	980	650	666	95.2	223.2	47.4	43.4
	1,189	1,080	750	766				
	1,289	1,180	850	866				
	1,389	1,280	950	966				
	1,489	1,380	1,050	1,066				

[1] The value for B block types is with 2 blocks attached.
Note 1: A block types cannot be selected for QZAD.

QZAD (Without Cover)

Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke[2]	Maximum stroke[2]	a	b	c	f	g
B	1,089	980	650	666	144	144	288	15	11
	1,189	1,080	750	766					
	1,289	1,180	850	866					
	1,389	1,280	950	966					
	1,489	1,380	1,050	1,066					

[2] The value for B block types is with 2 blocks attached.
Note 2: A block types cannot be selected for QZAD.

KR65 A/B

Direct motor coupling | Motor wrap | Width 130 mm | Height 65 mm | Max. stroke 1,490 mm

Model Number Coding

Model ①	Ball screw lead ②	Block type ③	QZ specification ④	Stroke ⑤	Accuracy grade ⑥	With/without motor ⑦	Cover ⑧	Sensors ⑨	Housing A/ Intermediate flange ⑩
KR65	25	A	QZA	0775	P	0	1	2	AZ
KR65	25: 25 mm	A: x1	No symbol: Without QZ	0640: 640 mm	No symbol: Normal grade	With direct coupling	0: Without cover	0	With direct coupling
		B: x2	QZ	to	H: High accuracy grade	0: Direct coupling (without motor)	1: With cover	1	A0
			QZA	1490: 1,490 mm	P: Precision grade	1: Direct coupling (THK will purchase and mount the motor you specify.)	2: With bellows	2	AV
			QZB			With motor wrap		6	AZ
			QZAD			R1: Non-standard side wrap (without motor)		7	A5
						R2: Standard side wrap (without motor)		B	A6
						R3: Bottom side wrap (without motor)		E	30
						R4: Non-standard side wrap (THK will purchase and mount the motor you specify.)		H	With motor wrap
						R5: Standard side wrap (THK will purchase and mount the motor you specify.)		L	WV-14M
						R6: Bottom side wrap (THK will purchase and mount the motor you specify.)		J	WZ-16M
								M	WZ-19M
									W5-19M

Check the stroke for type with QZ when selecting anything other than "No symbol." → p. 161 to p. 164

When selecting 2: With bellows for ⑧ Cover, specify the stroke with bellows. → p. 165 to p. 166

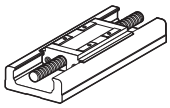
When selecting "0": A coupling is not provided. Indicate when placing an order if a coupling is required.

When selecting "1," "R4," "R5," or "R6": The specified motor will be installed. Indicate the motor cable direction separately. Select ⑩ Intermediate flange to match the specified motor.

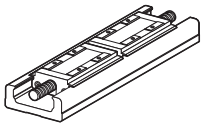
Sensor details → p. 155

With direct coupling → p. 157
With motor wrap → p. 159

③ Block Type

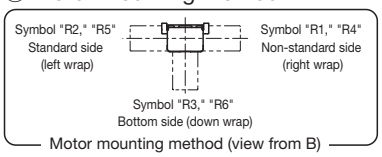


A: 1 block (A type)



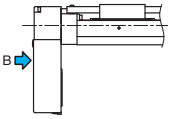
B: 2 blocks (B type)

⑦ Motor Mounting Method



Motor mounting method (view from B)

With motor wrap



Selection Information

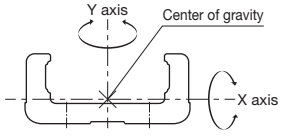
Basic Specifications

LM Guide	Basic dynamic load rating C (N)		50,900
	Basic static load rating C_0 (N)		80,900
	Radial clearance (mm)	Normal grade/High accuracy grade (H)	-0.008 to +0.004
		Precision grade (P)	-0.022 to -0.008
	Geometric moment of inertia	I_X[1] (mm^4)	4.6×10^5
		I_Y[2] (mm^4)	5.9×10^6
		Mass (kg/m)	23.1
Ball screw	Ball screw lead (mm)		25
	Basic dynamic load rating Ca (N)	Normal grade/High accuracy grade (H)	5,680
		Precision grade (P)	5,950
	Basic static load rating C_0a (N)	Normal grade/High accuracy grade (H)	14,500
		Precision grade (P)	10,700
	Screw shaft diameter (mm)		Ø25
	Thread minor diameter (mm)		Ø22
	Ball center-to-center diameter (mm)		Ø26
	Permissible rotational speed[3] (min^{-1})	Normal grade/High accuracy grade (H)	1,920
		Precision grade (P)	2,690
Bearing unit (fixed side)	Axial direction	Basic dynamic load rating Ca (N)	13,700
		Static permissible load P_0a (N)	5,830
Permissible input torque (N·m)		Direct coupling	18.5
		Motor wrap[4]	7.2 (6.7)
Static permissible moment[5, 6] (N·m)			M_A: 1,300 (7,230), M_B: 1,300 (7,230), M_C: 3,920 (7,840)
Service life[7] (km)			10,000
Standard grease/Grease nipple used			THK AFB-LF Grease/A-M6F

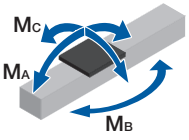
[1] I_X is the geometric moment of inertia about the X axis.
[2] I_Y is the geometric moment of inertia about the Y axis.
[3] The permissible rotational speed may decrease as the stroke becomes longer.
[4] The values in parentheses are for precision grade.
[5] The value in parentheses is with 2 blocks (B type) attached.
[6] See p. 168 for the values if "1" or "2" is selected for item ⑧ in the Model Number Coding.
[7] Calculated under the following conditions.
Stroke: 1,190 mm (A type), 1,040 mm (B type) / Speed: 800 mm/s (for 25 mm lead) / Load mass: Maximum load capacity (p. 9) / Acceleration/deceleration: As when set to maximum load capacity (p. 9) / Center of gravity: Center of the table's upper surface.

Notes: 1. LM Guide load rating is the load rating per block.
2. Precision grade (P-grade) ball screws have integrated spacer balls with a 2:1 ratio.

Geometric Moment of Inertia



Static Permissible Moment



Accuracy

Accuracy grade	Item	Stroke[8] 790	990	1,190	1,490
Normal grade (no symbol)	Positioning repeatability (mm)	±0.01			±0.012
	Positioning accuracy (mm)	Not specified			
	Running parallelism (vertical direction) (mm)	Not specified			
	Backlash (mm)	0.05			
	Starting torque (N·cm)	12			15

Accuracy grade	Item	Stroke[8] 790	990	1,190	1,490
High accuracy grade (H)	Positioning repeatability (mm)	±0.008			
	Positioning accuracy (mm)	0.18	0.2		0.28
	Running parallelism (vertical direction) (mm)	0.05			0.055
	Backlash (mm)	0.05			
	Starting torque (N·cm)	12			15

Accuracy grade	Item	Stroke[8] 790	990	1,190
Precision grade (P)	Positioning repeatability (mm)	±0.005		
	Positioning accuracy (mm)	0.035		0.04
	Running parallelism (vertical direction) (mm)	0.025		0.03
	Backlash (mm)	0.005		
	Starting torque (N·cm)	20		22

[8] Stroke with 1 block (A type, without QZ).

Notes: 3. Precision evaluation in accordance with THK standards.
4. Measured using a motor for inspection. With motor wrap specifications, measurements are not made in the completed motor wrap state.
5. The starting torque represents the value when containing THK AFB-LF Grease.
6. The starting torque may exceed standards if using vacuum grease, clean room grease, or other high-viscosity greases, so care should be taken when selecting a motor.
7. Contact THK for accuracy higher than the standard stroke.

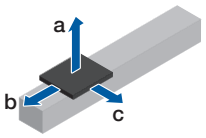
Motor Selection Information

Stroke[1] (mm)	Outer rail length (mm)	LM Guide				Ball screw		Motor mounting part	
		Moving part mass (kg)			Sliding resistance value[2] (N)	Lead (mm)	Shaft length (mm)	Direct coupling	Motor wrap
		Block mass	Sub-table mass	Total mass				Shaft end diameter (mm)	Timing pulley (sum of two) Inertial moment x 10^{-4} (kg·m²)
790 to 1,490	980 to 1,680	A type: 3.3 B type: 6.6	A type: 3.3 B type: 6.6	A type: 6.6 B type: 13.2	10.1	25	1,062 to 1,762	Ø15h7	2.081

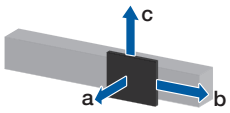
[1] Stroke with 1 block (A type, without QZ).
[2] Value with 1 block (A type, without QZ). This value is the sum of the rolling resistance value and seal resistance value.
Note: Refer to p. 157 for applicable couplings.

Permissible Overhang Length[3]

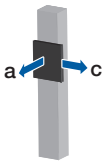
Horizontal



Wall-Mounted



Vertical



Estimated motor capacity 750 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	A type	25	15	1,300	430	830
			30.5	660	210	400
			61	300	100	200
	B type	25	13.5	1,300	1,300	1,300
			27	1,300	1,300	920
			54.5	1,300	690	450
Motor wrap	A type	25	9.5	1,300	680	1,300
			19.5	1,060	330	640
			39.5	490	160	310
	B type	25	10.5	1,300	1,300	1,300
			21.5	1,300	1,300	1,160
			43.5	1,300	860	570

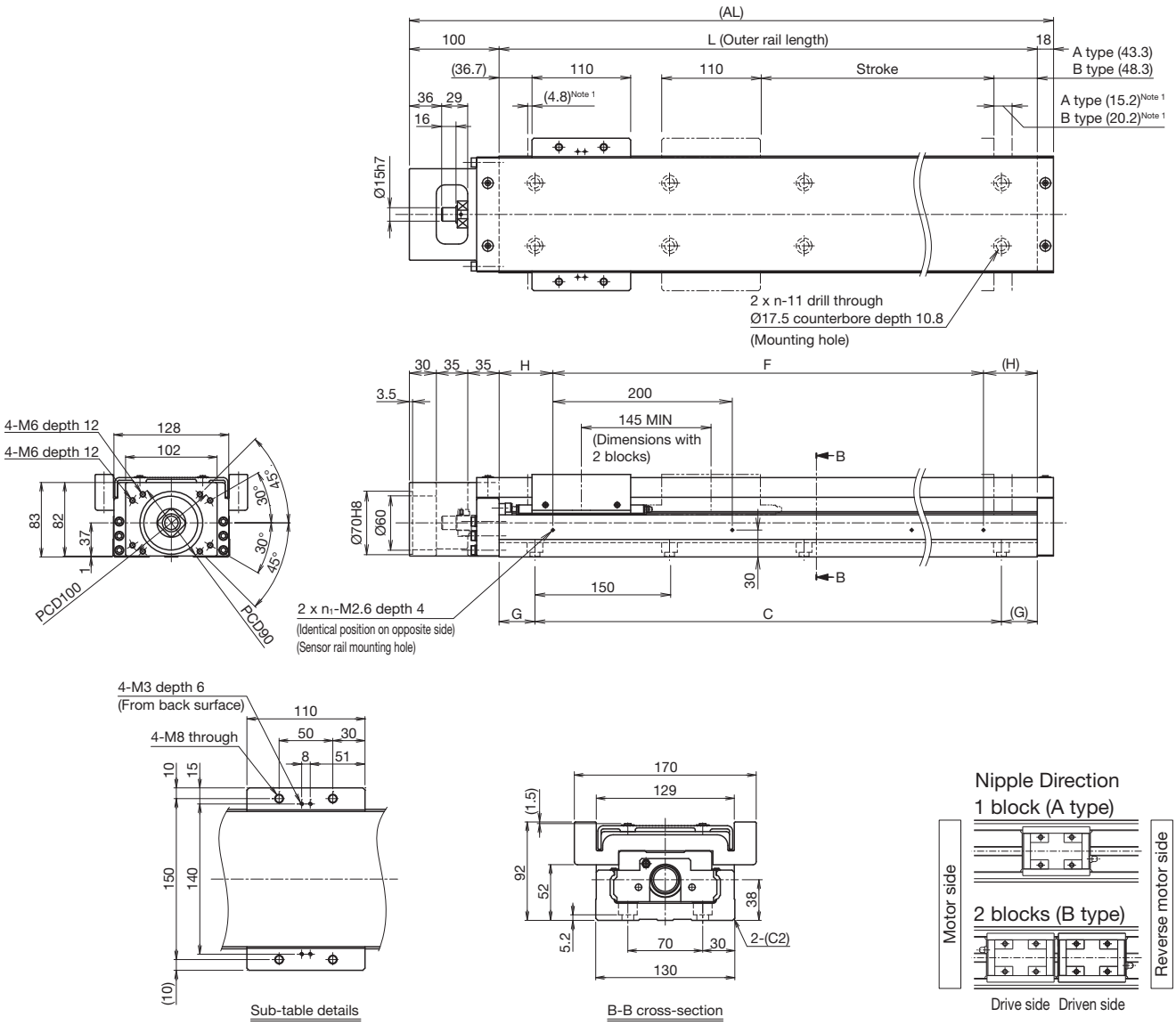
Estimated motor capacity 750 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	b (mm)	c (mm)
Direct coupling	A type	25	15	770	590	1,300
			30.5	340	280	1,280
			61	140	120	640
	B type	25	13.5	1,300	1,300	1,300
			27	860	1,190	1,300
			54.5	390	590	1,300
Motor wrap	A type	25	9.5	1,260	940	1,300
			19.5	570	450	1,300
			39.5	250	210	980
	B type	25	10.5	1,300	1,300	1,300
			21.5	1,100	1,300	1,300
			43.5	510	740	1,300

Estimated motor capacity 750 W		Ball screw lead (mm)	Load mass (kg)	a (mm)	c (mm)
Direct coupling	A type	25	6	780	1,300
			12	360	710
			24	150	330
	B type	25	5	1,300	1,300
			10.5	1,300	1,300
			21	1,300	1,180
Motor wrap	A type	25	4	1,200	1,300
			8	570	1,060
			16.5	250	500
	B type	25	3.5	1,300	1,300
			7.5	1,300	1,300
			15.5	1,300	1,300

[3] This is the value with the service life of the LM Guide limited to 10,000 km. The calculation conditions are as follows.
Stroke: 1,140 mm (A type), 990 mm (B type) / Acceleration/deceleration: 0.3 G / Speed: 800 mm/s (for 25 mm lead) / Overhang direction: Loaded only in a single direction. Dimensions a, b, and c are from the center of the table's upper surface.

With Cover
Direct Motor Coupling

Dimensions



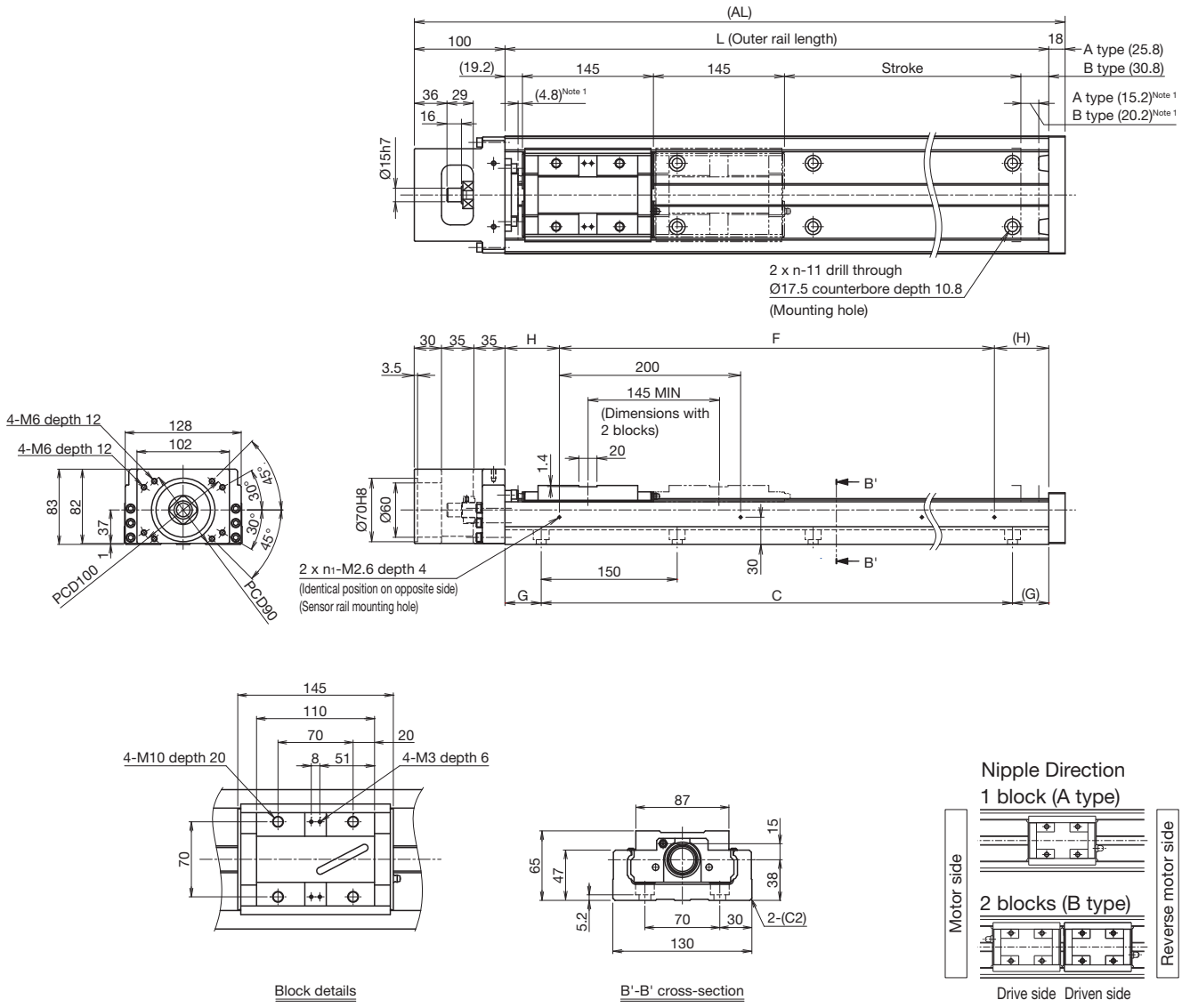
[1] Dimensions from the mechanical stopper to the stroke start position.

Stroke (mm) (Stroke between mechanical stoppers)						
	A type		790 (810)	990 (1,010)	1,190 (1,210)	1,490 (1,510)
	B type[2]		640 (665)	840 (865)	1,040 (1,065)	1,340 (1,365)
Maximum speed[3] (mm/s)	Ball screw lead: 25 mm	Normal grade/high accuracy grade	800			550
		Precision grade	1,120		840	-
Dimensions (mm)	AL		1,098	1,298	1,498	1,798
	L		980	1,180	1,380	1,680
	C		900	1,050	1,200	1,500
	G		40	65	90	90
	F		800	1,000	1,200	1,600
	H		90	90	90	40
No. of mounting holes	n		7	8	9	11
	n_1		5	6	7	9
Mass[4] (kg)			38.6	44.3	50	58.5

[2] The value with 2 blocks (B type, without QZ) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 blocks (B type) has 6.6 kg added.

Without Cover
Direct Motor Coupling

Dimensions



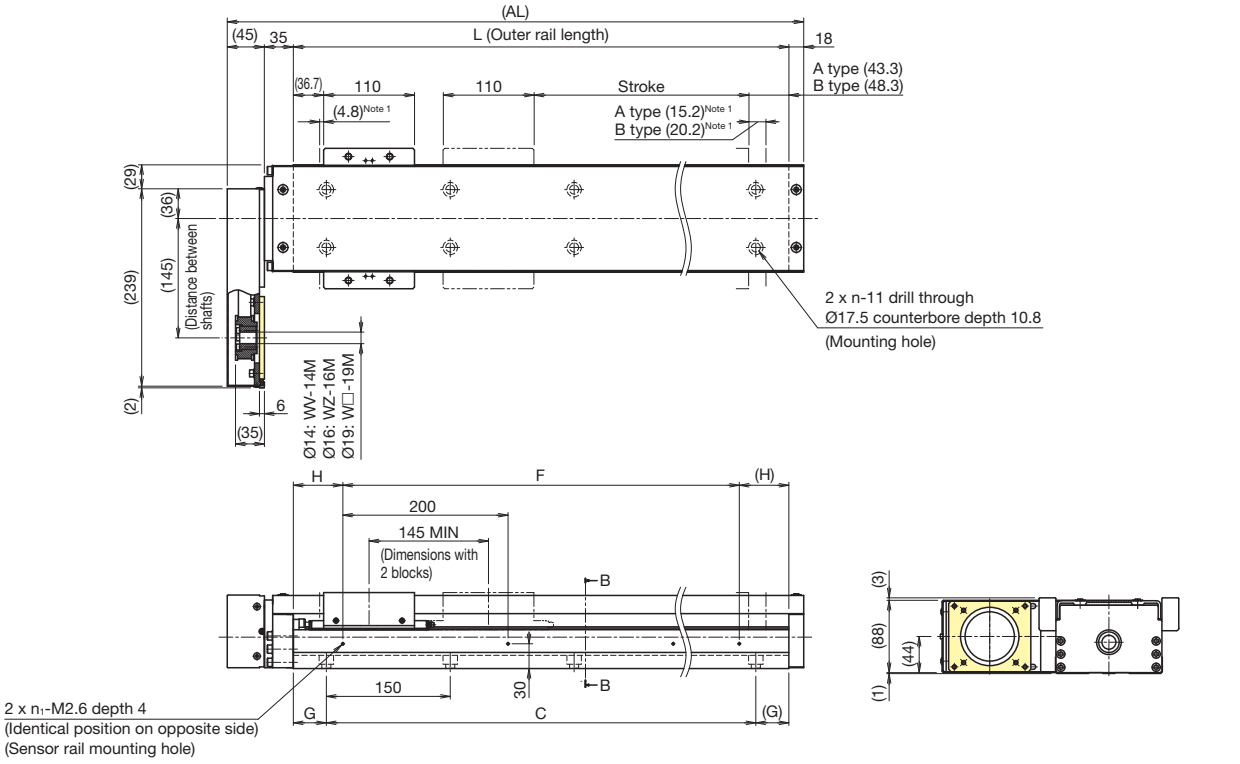
[1] Dimensions from the mechanical stopper to the stroke start position.

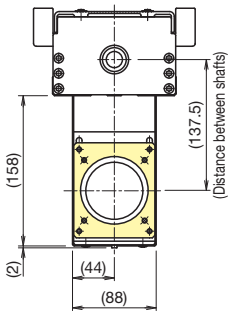
Stroke (mm) (Stroke between mechanical stoppers)	A type		790 (810)	990 (1,010)	1,190 (1,210)	1,490 (1,510)
	B type[2]		640 (665)	840 (865)	1,040 (1,065)	1,340 (1,365)
Maximum speed[3] (mm/s)	Ball screw lead: 25 mm	Normal grade/high accuracy grade	800			550
		Precision grade	1,120		840	-
Dimensions (mm)	AL		1,098	1,298	1,498	1,798
	L		980	1,180	1,380	1,680
	C		900	1,050	1,200	1,500
	G		40	65	90	90
	F		800	1,000	1,200	1,600
	H		90	90	90	40
No. of mounting holes	n		7	8	9	11
	n_1		5	6	7	9
Mass[4] (kg)			32.2	37.6	43	51.1

[2] The value with 2 blocks (B type, without QZ) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 blocks (B type) has 3.3 kg added.

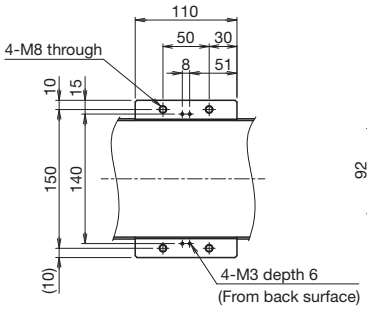
With Cover
Motor Wrap

Dimensions

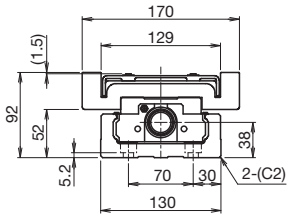




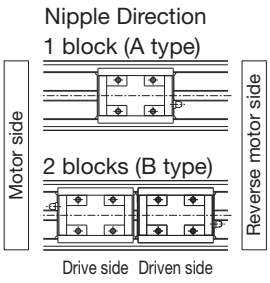
With bottom side wrap selected



Sub-table details



B-B cross-section



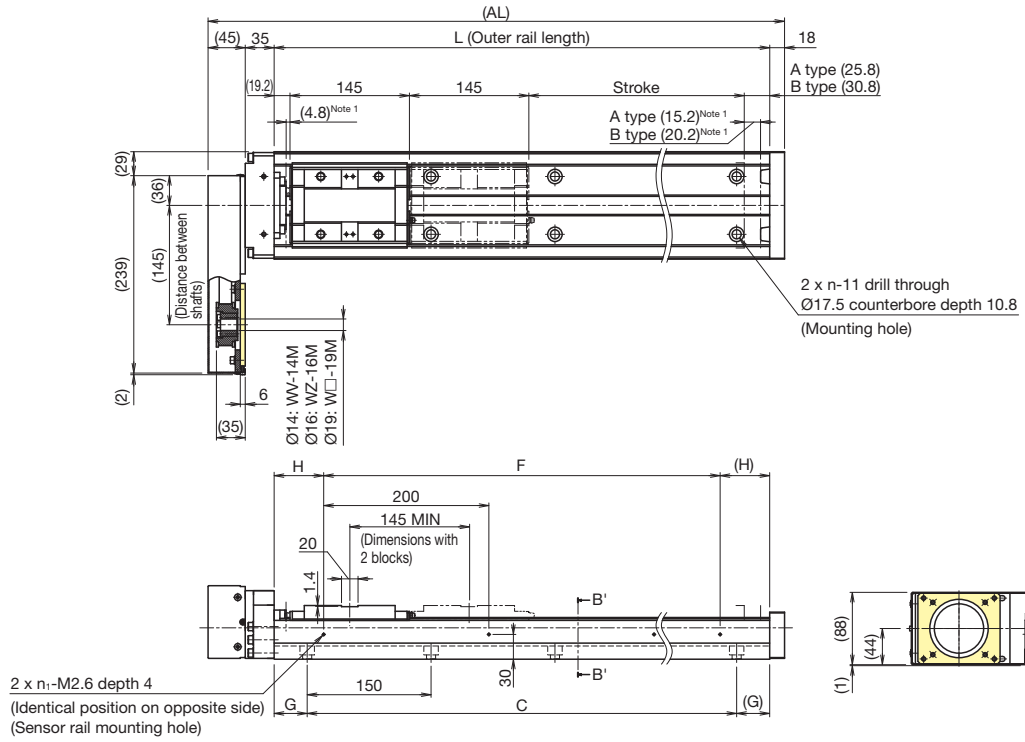
[1] Dimensions from the mechanical stopper to the stroke start position.

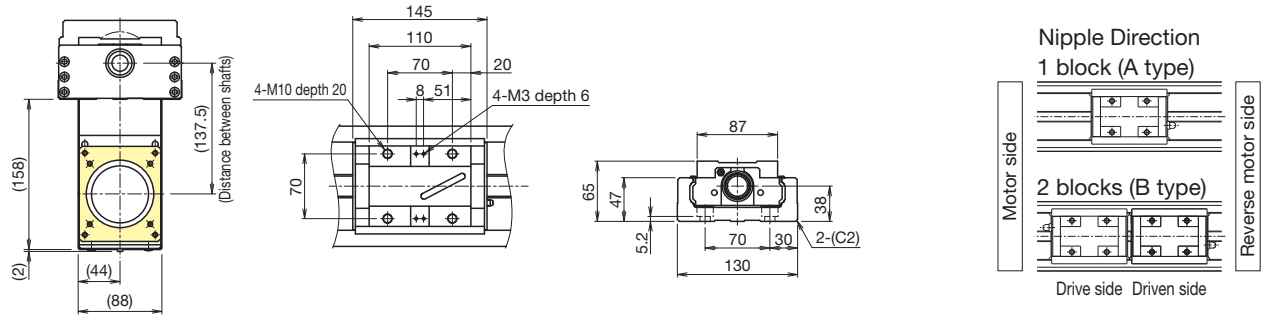
Stroke (mm) (Stroke between mechanical stoppers)	A type		790 (810)	990 (1,010)	1,190 (1,210)	1,490 (1,510)
	B type[2]		640 (665)	840 (865)	1,040 (1,065)	1,340 (1,365)
Maximum speed[3] (mm/s)	Ball screw lead: 25 mm	Normal grade/high accuracy grade	800			550
		Precision grade	1,120		840	-
Dimensions (mm)	AL		1,078	1,278	1,478	1,778
	L		980	1,180	1,380	1,680
	C		900	1,050	1,200	1,500
	G		40	65	90	90
	F		800	1,000	1,200	1,600
	H		90	90	90	40
No. of mounting holes	n		7	8	9	11
	n_1		5	6	7	9
Mass[4] (kg)			40.3	46	51.7	60.2

[2] The value with 2 blocks (B type, without QZ) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 blocks (B type) has 6.6 kg added.

Without Cover
Motor Wrap

Dimensions





With bottom side wrap selected

Block details

B'-B' cross-section

[1] Dimensions from the mechanical stopper to the stroke start position.

Stroke (mm) (Stroke between mechanical stoppers)	A type		790 (810)	990 (1,010)	1,190 (1,210)	1,490 (1,510)
	B type[2]		640 (665)	840 (865)	1,040 (1,065)	1,340 (1,365)
Maximum speed[3] (mm/s)	Ball screw lead: 25 mm	Normal grade/high accuracy grade	800			550
		Precision grade	1,120		840	-
Dimensions (mm)	AL		1,078	1,278	1,478	1,778
	L		980	1,180	1,380	1,680
	C		900	1,050	1,200	1,500
	G		40	65	90	90
	F		800	1,000	1,200	1,600
	H		90	90	90	40
No. of mounting holes	n		7	8	9	11
	n_1		5	6	7	9
Mass[4] (kg)			33.9	39.3	44.7	52.7

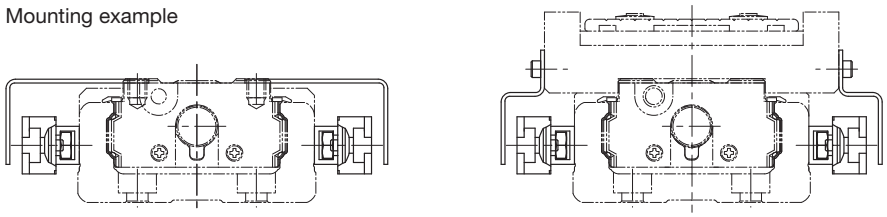
[2] The value with 2 blocks (B type, without QZ) attached.
[3] The maximum speed is restricted by the actuator's permissible speed.
[4] The mass with 2 blocks (B type) has 3.3 kg added.

Options

Sensors

Optional photo sensors and proximity sensors are available. Sensor-equipped models also feature a dedicated sensor rail and sensor dog.
Sensors, sensor rails, and sensor dogs can be mounted on both sides when the stroke is less than 70 mm.

Mounting example

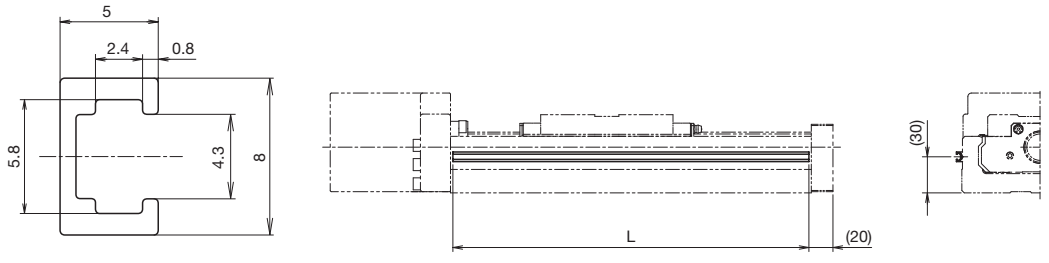


Symbol	Description	Model	Accessories
0	None	-	-
1	With sensor rail	-	Mounting screws, sensor rail (x1 or 2)
2	Photo sensor[1] (x3)	EE-SX671 (OMRON Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2), mounting plates (x3), connectors (EE-1001 x3)
6	Photo sensor[1] (x3)	EE-SX674 (OMRON Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2), mounting plates (x3), connectors (EE-1001 x3)
7	Proximity sensor N.O. contact[2] (x3)	APM-D3A1-001 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
B	Proximity sensor N.C. contact[3] (x3)	APM-D3B1-003 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
E	Proximity sensor N.O. contact[2] (x1) N.C. contact[3] (x2)	APM-D3A1-001 (Azbil Corporation) APM-D3B1-003 (Azbil Corporation)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
H	Proximity sensor N.O. contact[2] (x3)	GX-F12A (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
L	Proximity sensor N.C. contact[3] (x3)	GX-F12B (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
J	Proximity sensor N.O. contact[2] (x1) N.C. contact[3] (x2)	GX-F12A (Panasonic Industry Co., Ltd.) GX-F12B (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)
M	Proximity sensor N.O. contact[2] (x1) (PNP output) N.C. contact[3] (x2) (PNP output)	GX-F12A-P (Panasonic Industry Co., Ltd.) GX-F12B-P (Panasonic Industry Co., Ltd.)	Mounting screws, nuts, sensor dog (x1 or 2), sensor rail (x1 or 2)

[1] The photo sensors can be switched between ON when lit and ON when unlit.
[2] N.O. contact: Normally open contact point
[3] N.C. contact: Normally closed contact point
Notes: 1. If proximity sensors are close to one another, they may not function properly. If that happens, please prepare a type with a different frequency.
2. Mounting of sensors other than those in the table above is possible. Contact THK for details.

Sensor Rail Mounting Dimensions

Mounting only a sensor rail is also possible.



Sensor rail details

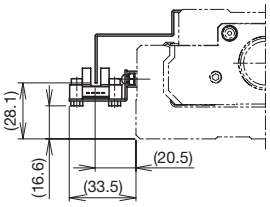
Stroke[4] (mm)	Outer rail length (mm)	L (mm)
790	980	976
990	1,180	1,176
1,190	1,380	1,376
1,490	1,680	1,676

[4] Stroke with 1 block (A type).

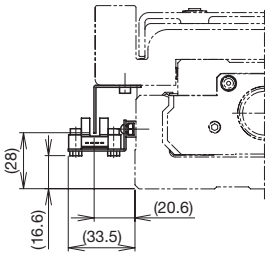
Photo Sensor Mounting Dimensions

Connector: EE-1001 (OMRON Corporation) x3 included.
To be mounted by the customer.

Without cover



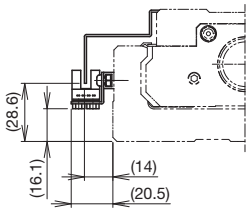
With cover



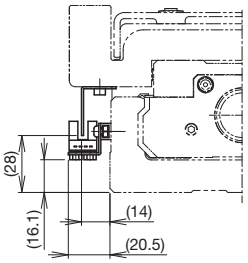
Symbol	Model	Manufacturer
2	EE-SX671	OMRON Corporation

Sensor dog width: 20 mm

Without cover



With cover

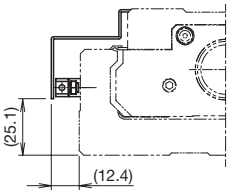


Symbol	Model	Manufacturer
6	EE-SX674	OMRON Corporation

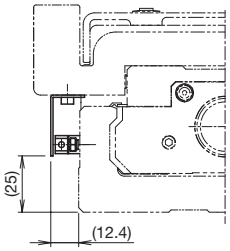
Sensor dog width: 20 mm

Proximity Sensor Mounting Dimensions

Without cover



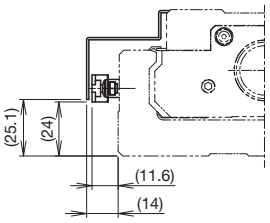
With cover



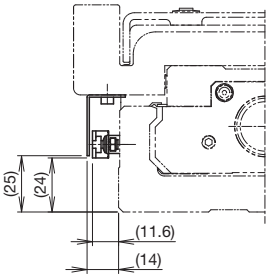
Symbol	Model	Manufacturer
7, B, E	APM-D3A1-001	Azbil Corporation
	APM-D3B1-003	

Sensor dog width: 20 mm

Without cover



With cover



Symbol	Model	Manufacturer
H, L, J	GX-F12A	Panasonic Industry Co., Ltd.
	GX-F12B	
M	GX-F12A-P	
	GX-F12B-P	

Sensor dog width: 20 mm

Options

Intermediate Flange (Direct Coupling)

Several types of intermediate flanges for mounting motors are available.
When selecting "0" or "1" for Model Number Coding ⑦ With/without motor, specify an intermediate flange that matches the motor used.

Compatibility Table: Motors Used, Intermediate Flanges, and Couplings

Motor type	Manufacturer	Series		Motor model	Motor rated output (W)	Flange size	Housing A/ Intermediate flange	Compatible coupling models	
								MIKI PULLEY CO., LTD.	Nabeya Bi-tech Kaisha (NBK)
AC servo motor	YASKAWA Electric Corporation	Σ-V		SGMJV-02	200	60×60	AV	SFC-035DA2-14B-15B	XGT2-30C-14-15
				SGMAV-02					
				SGMJV-04	400				
				SGMAV-04					
				SGMJV-06	600				XGT2-34C-14-15
				SGMJV-08	750	80×80	AZ	SFC-040DA2-15B-19B	XGT2-39C-15-19
				SGMAV-08					
		Σ-7		SGM7J-02	200	60×60	AV	SFC-035DA2-14B-15B	XGT2-30C-14-15
				SGM7A-02					
				SGM7J-04	400				
				SGM7A-04					
				SGM7J-06	600				XGT2-34C-14-15
				SGM7J-08	750	80×80	AZ	SFC-040DA2-15B-19B	XGT2-39C-15-19
				SGM7A-08					
		Σ–X		SGMXJ-02	200	60×60	AV	SFC–035DA2–14B–15B	XGT2–30C–14–15
				SGMXA-02					
				SGMXJ-04	400				
				SGMXA-04					
				SGMXJ-06	600				XGT2–34C–14–15
				SGMXA-06					
				SGMXJ-08	750	80×80	AZ	SFC–040DA2–15B–19B	XGT2–39C–15–19
				SGMXA-08					
	Mitsubishi Electric Corporation	MELSERVO	J4	HG-KR23	200	60×60	AV	SFC-035DA2-14B-15B	XGT2-30C-14-15
				HG-MR23					
				HG-KR43	400				
				HG-MR43					
				HG-KR73	750	80×80	AZ	SFC-040DA2-15B-19B	XGT2-39C-15-19
				HG-MR73					
			J5	HK-KT23W	200	60×60	AV	SFC–035DA2–14B–15B	XGT2–30C–14–15
				HK-KT43W	400				
				HK-KT7M3W	750	80×80	AZ	SFC–040DA2–15B–19B	XGT2–39C–15–19
			JN	HF-KN23	200	60×60	AV	SFC-035DA2-14B-15B	XGT2-30C-14-15
				HF-KN43	400				
	TAMAGAWA SEIKI CO., LTD.	TBL-iII		TS4607	200	60×60	AV	SFC-035DA2-14B-15B	XGT2-30C-14-15
				TS4609	400				
				TS4614	750	80×80	AZ	SFC-040DA2-15B-19B	XGT2-39C-15-19
		TBL-iIV		TSM3202	200	60×60	AV	SFC-035DA2-14B-15B	XGT2-30C-14-15
				TSM3204	400				
				TSM3303	600	80×80	AZ	SFC-040DA2-15B-19B	XGT2-39C-15-19
				TSM3304	750				
	Panasonic Corporation	MINAS	A5	MSMD08	750	80×80	A5	SFC-040DA2-15B-19B	XGT2-39C-15-19
				MSME08					
			A6	MSMF08	750	80×80	A5	SFC-040DA2-15B-19B	XGT2-39C-15-19
				MHMF08					
	KEYENCE CORPORATION	SV		SV-M020	200	60×60	AV	SFC-035DA2-14B-15B	XGT2-30C-14-15
				SV-M040	400				
				SV-M075	750	80×80	AZ	SFC-040DA2-15B-19B	XGT2-39C-15-19
		SV2		SV2-M020	200	60×60	AV	SFC-035DA2-14B-15B	XGT2-30C-14-15
				SV2-M040	400				
				SV2-M075	750	80×80	AZ	SFC-040DA2-15B-19B	XGT2-39C-15-19
	SANYO DENKI CO., LTD.	SANMOTION R		R2□A06020	200	60×60	AV	SFC-035DA2-14B-15B	XGT2-30C-14-15
				R2AA06040	400				
				R2AA08075	750	80×80	AZ	SFC-040DA2-15B-16B	XGT2-39C-15-16
	OMRON Corporation	OMNUC G5		R88M-K75030	750	80×80	A5	SFC-040DA2-15B-19B	XGT2-39C-15-19
		1S		R88M-1M75030	750	80×80			

Motor type	Manufacturer	Series		Motor model	Flange size	Housing A/ Intermediate flange	Compatible coupling models	
							MIKI PULLEY CO., LTD.	Nabeya Bi-tech Kaisha (NBK)
Stepper motor	ORIENTAL MOTOR CO., LTD.	α step		AZ9*, AR9*	85×85	A6	SFC-035DA2-14B-15B	XGT2-34C-14-15
		5-phase	RK II	RKS59*	85×85	A6	SFC-035DA2-14B-15B	XGT2-34C-14-15

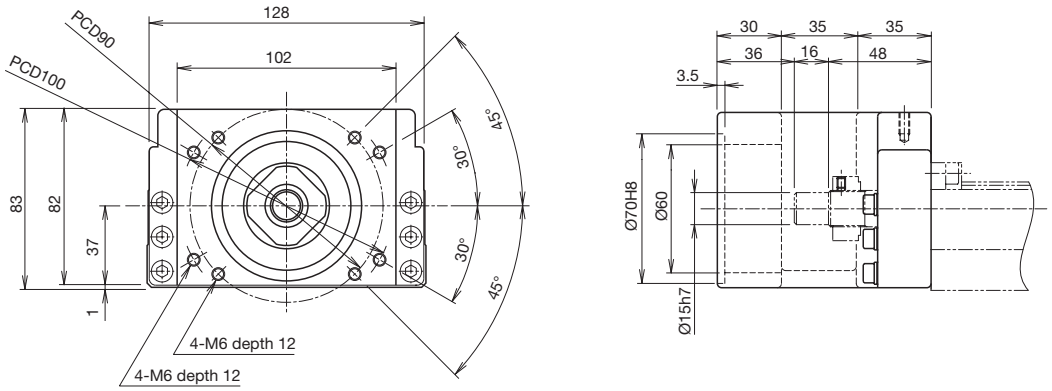
Notes: 1. The table shows only a portion of the model numbers for motors. For details regarding model numbers, please see the catalog for each respective motor manufacturer.
2. If the maximum torque for motors exceeds the permissible input torque (p. 149), please consider a safety measure to limit the torque.
3. When installing a motor other than the motor model numbers listed above, contact THK.

Housing A

KR**
●◇

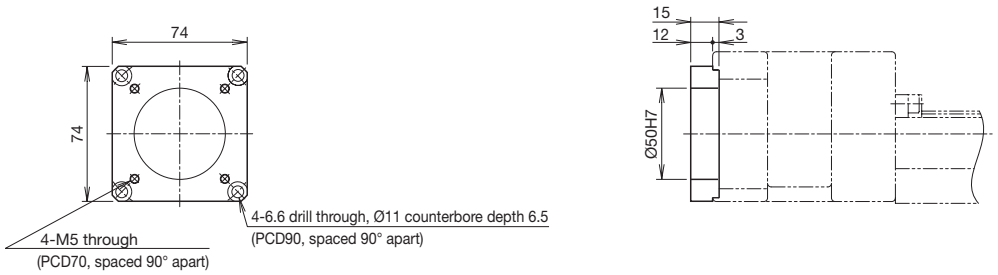
Actuator model
●: Housing A
◇: Intermediate flange

KR65
A0

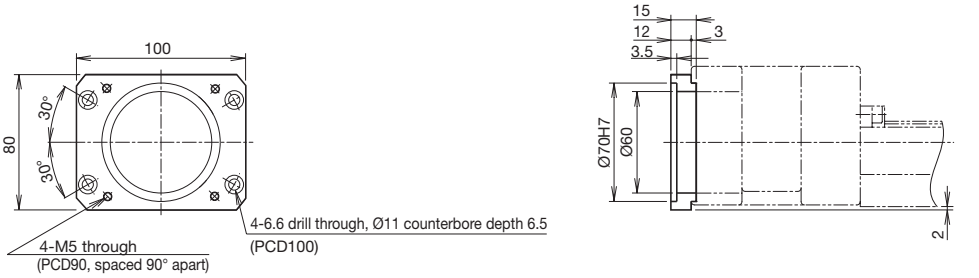


Intermediate Flange

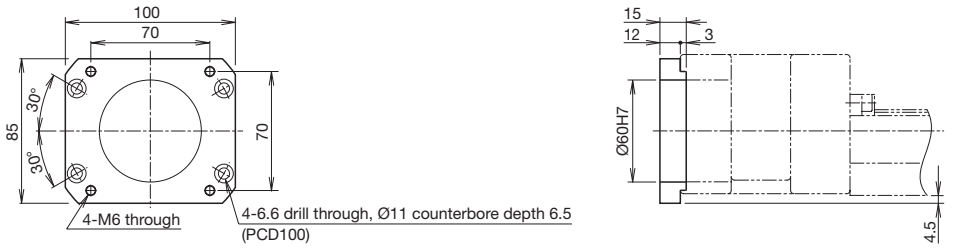
KR65
AV



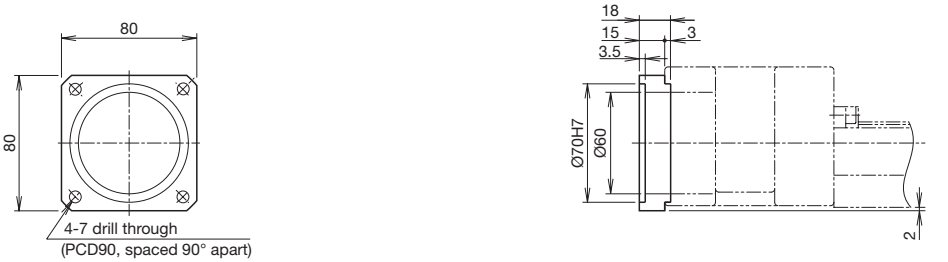
KR65
A5



KR65
A6



KR65
AZ



Options

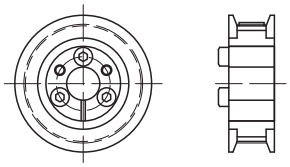
Intermediate Flange (Motor Wrap)

Several types of intermediate flanges for mounting motors are available.
When selecting "R1," "R2," "R3," "R4," "R5," or "R6" for Model Number Coding ⑦ With/without motor, specify an intermediate flange that matches the motor used.

Symbol Coding

Motor wrap symbol ①	Intermediate flange ②		Motor shaft diameter (mm) ③	Motor shaft securing method ④
W	Z	-	19	M
W	Refer to the Compatibility Table: Motors Used and Motor Wrap Symbols below.		Specify a motor shaft diameter. (Refer to the Compatibility Table: Motors Used and Motor Wrap Symbols below.)	M: Friction tightening tool

Motor Shaft Securing Method



Friction tightening tool

Compatibility Table: Motors Used and Motor Wrap Symbols

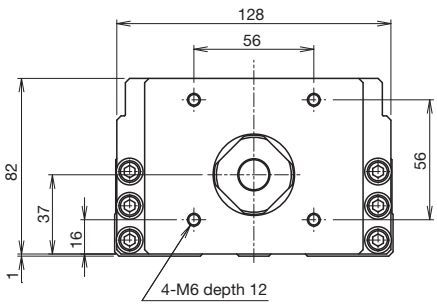
Motor type	Manufacturer	Series		Motor model	Motor rated output (W)	Flange size	Housing A/Intermediate flange
AC servo motor	YASKAWA Electric Corporation	Σ-V		SGMJV-02	200	60×60	WV-14M
				SGMAV-02			
				SGMJV-04	400		
				SGMAV-04			
				SGMJV-06	600		
				SGMJV-08	750	80×80	WZ-19M
				SGMAV-08			
		Σ-7		SGM7J-02	200	60×60	WV-14M
				SGM7A-02			
				SGM7J-04	400		
				SGM7A-04			
				SGM7J-06	600		
				SGM7J-08	750	80×80	WZ-19M
				SGM7A-08			
		Σ-X		SGMXJ-02	200	60×60	WV–14M
				SGMXA-02			
				SGMXJ-04	400		
				SGMXA-04			
				SGMXJ-06	600		
				SGMXA-06			
				SGMXJ-08	750	80×80	WZ–19M
				SGMXA-08			
	Mitsubishi Electric Corporation	MELSERVO	J4	HG-KR23	200	60×60	WV-14M
				HG-MR23			
				HG-KR43	400		
				HG-MR43			
				HG-KR73	750	80×80	WZ-19M
				HG-MR73			
			J5	HK-KT23W	200	60×60	WV–14M
				HK-KT43W	400		
				HK-KT7M3W	750	80×80	WZ–19M
			JN	HF-KN23	200	60×60	WV-14M
				HF-KN43	400		
	TAMAGAWA SEIKI CO., LTD.	TBL-iII		TS4607	200	60×60	WV-14M
				TS4609	400		
				TS4614	750	80×80	WZ-19M
		TBL-iIV		TSM3202	200	60×60	WV-14M
				TSM3204	400		
				TSM3303	600	80×80	WZ-19M
				TSM3304	750		
	Panasonic Corporation	MINAS	A5	MSMD08	750	80×80	W5-19M
				MSME08			
			A6	MSMF08			
				MHMF08			
	KEYENCE CORPORATION	SV		SV-M020	200	60×60	WV-14M
				SV-M040	400		
				SV-M075	750	80×80	WZ-19M
		SV2		SV2-M020	200	60×60	WV-14M
				SV2-M040	400		
				SV2-M075	750	80×80	WZ-19M
	SANYO DENKI CO., LTD.	SANMOTION R		R2□A06020	200	60×60	WV-14M
				R2AA06040	400		
				R2AA08075	750	80×80	WZ-16M
	OMRON Corporation	OMNUC G5		R88M-K75030	750	80×80	W5-19M
		1S		R88M-1M75030			

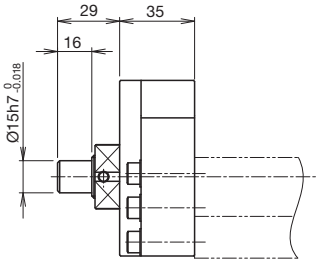
Notes: 1. The table shows only a portion of the model numbers for motors. For details regarding model numbers, please see the catalog for each respective motor manufacturer.
2. If the maximum torque for motors exceeds the permissible input torque (p. 149), please consider a safety measure to limit the torque.
3. When installing a motor other than the motor model numbers listed above, contact THK.

KR**	Actuator model
●◇	●: Housing A ◇: Intermediate flange

Motor Wrap Housing A

KR65
30



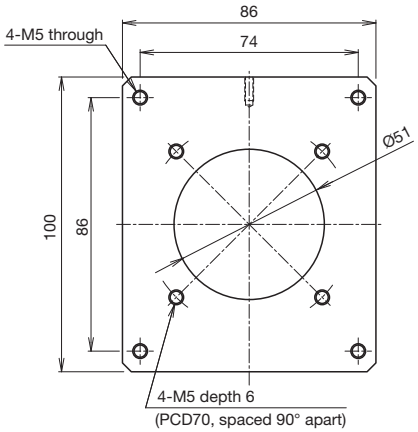


KR**	Actuator model
W□	□: Intermediate flange

Motor Wrap Specification (Intermediate Flange)

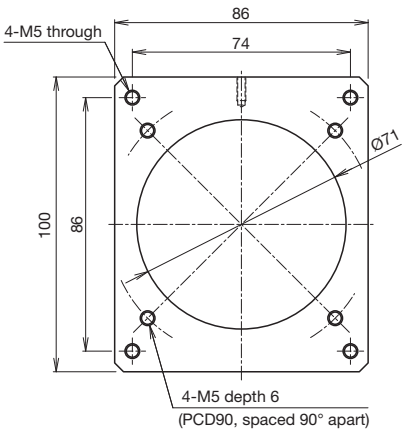
KR65
WV

Thickness: 6 mm



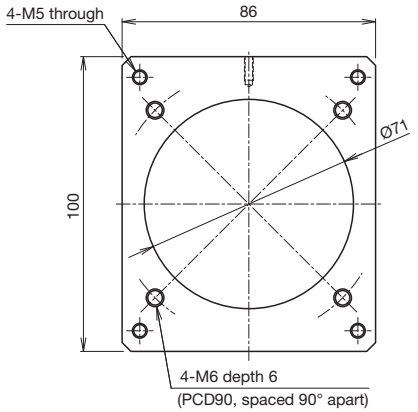
KR65
W5

Thickness: 6 mm



KR65
WZ

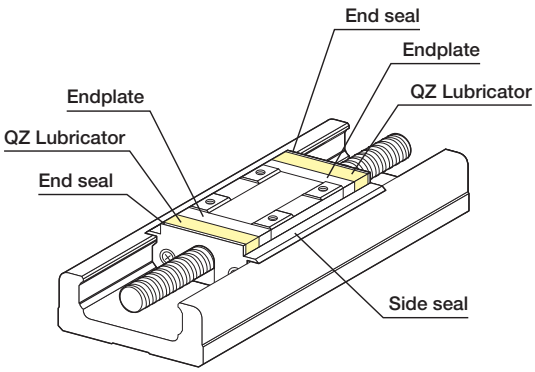
Thickness: 6 mm



Options

QZ Lubricator

The QZ Lubricator for KR feeds the right amount of lubricant to the outer rail and ball screw shaft raceways. This allows an oil film to be constantly formed between the balls and the raceway, and it significantly extends the lubrication maintenance interval.



Appearance

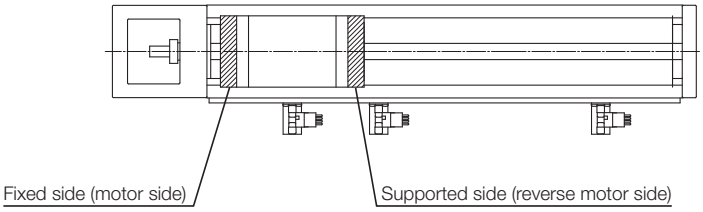
Features

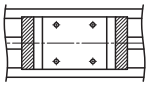
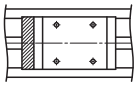
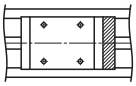
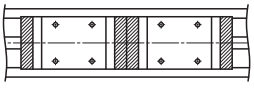
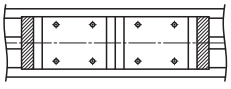
- Since it compensates for oil loss, the lubrication maintenance interval can be significantly extended.
- It is an eco-friendly lubrication system that does not contaminate the surrounding area, as it feeds the right amount of lubricant to the ball raceway.

QZ Configuration

Symbol	Block type	Description
QZ	A/B	QZ all-block double-sided specification
QZA	A	QZ fixed side specification
QZB	A	QZ supported side specification
QZAD	B	QZ fixed side (drive side block) + QZ supported side (driven side block) specification

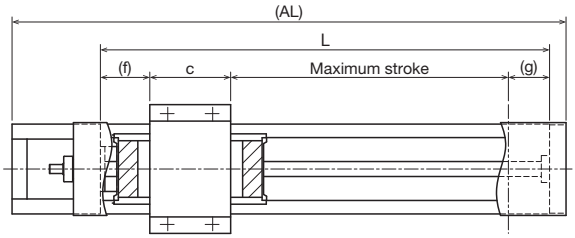
Note: QZ specification types do not have a grease nipple mounted. Contact THK if a grease nipple is required.



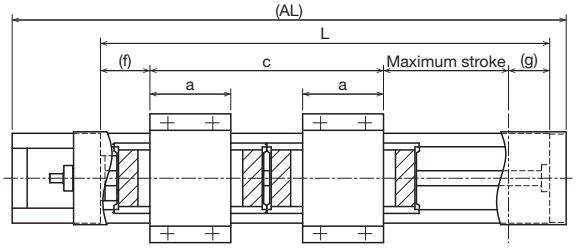
Block type \ QZ configuration	QZ	QZA	QZB	QZAD
A type (1 block)	 Fixed side / Supported side	 Fixed side / Supported side	 Fixed side / Supported side	-
B type (2 blocks)	 Fixed side / Supported side	-	-	 Fixed side / Supported side

Dimensions with QZ Lubricator

QZ (With Cover)
Block Type: A/B



Block Type A



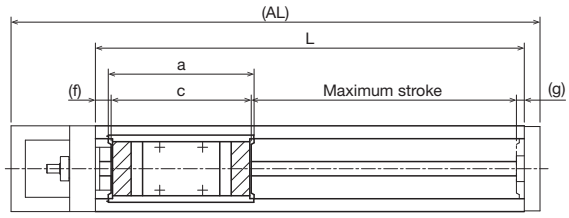
Block Type B

Unit: mm

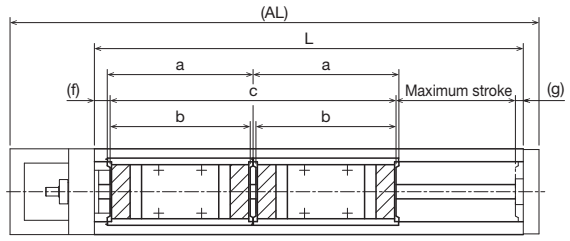
Block type	Overall length AL	Outer rail length L	Stroke[1]	Maximum stroke[1]	a	c	f	g
A	1,098	980	760	778	-	110	47.9	44.1
	1,298	1,180	960	978				
	1,498	1,380	1,160	1,178				
	1,798	1,680	1,460	1,478				
B	1,098	980	580	601	110	287	47.9	44.1
	1,298	1,180	780	801				
	1,498	1,380	980	1,001				
	1,798	1,680	1,280	1,301				

[1] The value for B block types is with 2 blocks attached.

QZ (Without Cover)
Block Type: A/B



Block Type A



Block Type B

Unit: mm

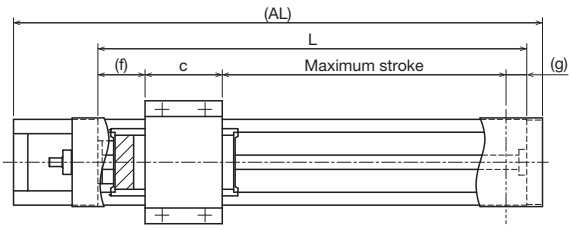
Block type	Overall length AL	Outer rail length L	Stroke[2]	Maximum stroke[2]	a	b	c	f	g
A	1,098	980	760	778	177	-	177	14.4	10.6
	1,298	1,180	960	978					
	1,498	1,380	1,160	1,178					
	1,798	1,680	1,460	1,478					
B	1,098	980	580	601	177	177	354	14.4	10.6
	1,298	1,180	780	801					
	1,498	1,380	980	1,001					
	1,798	1,680	1,280	1,301					

[2] The value for B block types is with 2 blocks attached.

Options

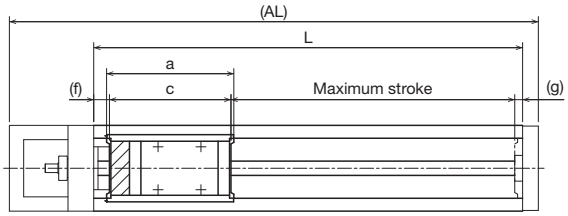
Dimensions with QZ Lubricator

QZA (With Cover)
Block Type: A



Block Type A

QZA (Without Cover)
Block Type: A



Block Type A

QZA (With Cover)

Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke	Maximum stroke	c	f	g
A	1,098	980	775	794	110	47.9	28.1
	1,298	1,180	975	994			
	1,498	1,380	1,175	1,194			
	1,798	1,680	1,475	1,494			

Note 1: B block types cannot be selected for QZA.

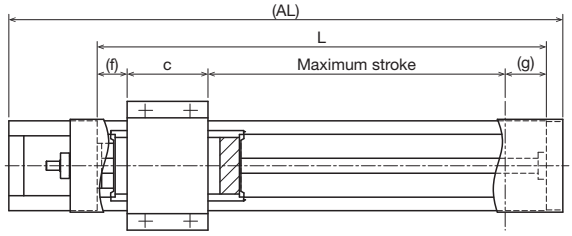
QZA (Without Cover)

Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke	Maximum stroke	a	c	f	g
A	1,098	980	775	794	161	161	14.4	10.6
	1,298	1,180	975	994				
	1,498	1,380	1,175	1,194				
	1,798	1,680	1,475	1,494				

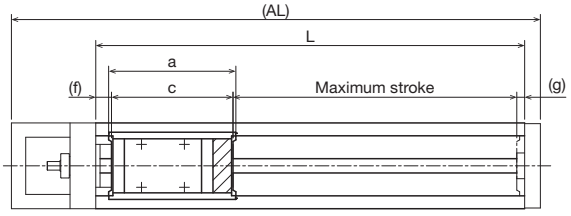
Note 2: B block types cannot be selected for QZA.

QZB (With Cover)
Block Type: A



Block Type A

QZB (Without Cover)
Block Type: A



Block Type A

QZB (With Cover)

Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke	Maximum stroke	c	f	g
A	1,098	980	775	794	110	31.9	44.1
	1,298	1,180	975	994			
	1,498	1,380	1,175	1,194			
	1,798	1,680	1,475	1,494			

Note 3: B block types cannot be selected for QZB.

QZB (Without Cover)

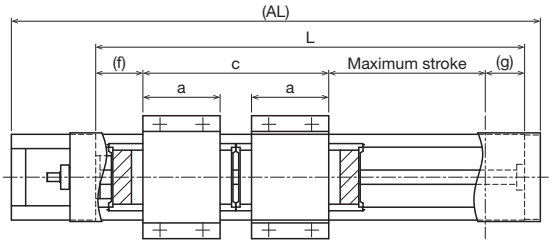
Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke	Maximum stroke	a	c	f	g
A	1,098	980	775	794	161	161	14.4	10.6
	1,298	1,180	975	994				
	1,498	1,380	1,175	1,194				
	1,798	1,680	1,475	1,494				

Note 4: B block types cannot be selected for QZB.

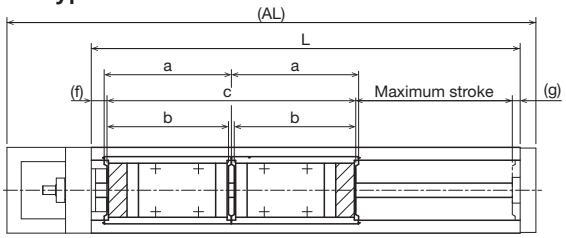
Dimensions with QZ Lubricator

QZAD (With Cover)
Block Type: B



Block Type B

QZAD (Without Cover)
Block Type: B



Block Type B

QZAD (With Cover)

Unit: mm

Block type	Overall length AL	Outer rail length L	Stroke[1]	Maximum stroke[1]	a	c	f	g
B	1,098	980	610	633	110	255	47.9	44.1
	1,298	1,180	810	833				
	1,498	1,380	1,010	1,033				
	1,798	1,680	1,310	1,333				

[1] The value for B block types is with 2 blocks attached.
Note 1: A block types cannot be selected for QZAD.

QZAD (Without Cover)

Unit: mm

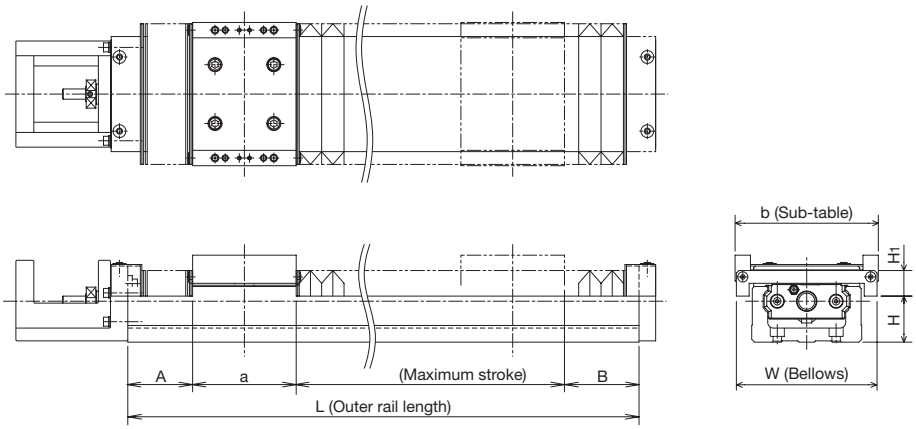
Block type	Overall length AL	Outer rail length L	Stroke[2]	Maximum stroke[2]	a	b	c	f	g
B	1,098	980	610	633	161	161	322	14.4	10.6
	1,298	1,180	810	833					
	1,498	1,380	1,010	1,033					
	1,798	1,680	1,310	1,333					

[2] The value for B block types is with 2 blocks attached.
Note 2: A block types cannot be selected for QZAD.

Bellows

In addition to a cover, bellows are available for the KR for dust-proofing purposes.

KR-A (1 Block)

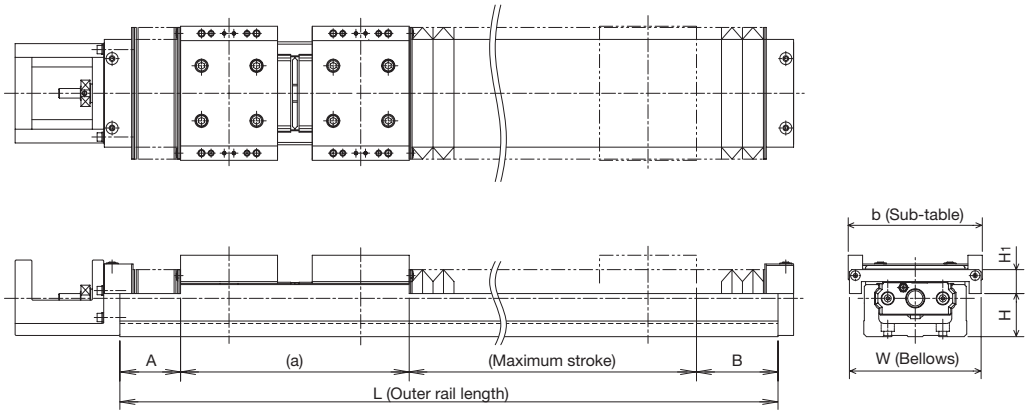


Unit: mm

Model	Stroke	Maximum stroke	Outer rail length L	A	B	a	b	W	H	H_1
KR15	15	22.2	75	15.8	14	23	44	49	8	15.5
	30	37.2	100	20.8	19					
	45	52.2	125	25.8	24					
	60	67.2	150	30.8	29					
	75	82.2	175	35.8	34					
	90	97.2	200	40.8	39					
KR20	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					
KR26	50	61.3	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					
KR30H	30	42	150	28.5	25.5	54	80	80	21.5	17.5
	60	72	200	38.5	35.5					
	130	142	300	53.5	50.5					
	200	212	400	68.5	65.5					
	270	282	500	83.5	80.5					
	340	352	600	98.5	95.5					
KR33	30	42	150	28.4	25.6	54	86	84	24.5	20
	70	82	200	33.4	30.6					
	150	162	300	43.4	40.6					
	220	232	400	58.4	55.6					
	300	312	500	68.4	65.6					
	370	382	600	83.4	80.6					
	450	462	700	93.4	90.6					
KR45H	160	177	340	41.1	40.9	81	104	104	28	28
	240	255	440	52.1	51.9					
	320	339	540	60.1	59.9					
	400	423	640	68.1	67.9					
	470	491	740	84.1	83.9					
	550	575	840	92.1	91.9					
	640	659	940	100.1	99.9					
KR46	140	155	340	52.9	51.1	81	112	110	36	20
	210	225	440	67.9	66.1					
	290	305	540	77.9	76.1					
	360	375	640	92.9	91.1					
	440	455	740	102.9	101.1					
	510	525	840	117.9	116.1					
	590	605	940	127.9	126.1					
KR55[1]	700	719.6	980	84.6	80.6	95.2	124	154	37	40
	790	809.6	1,080	89.6	85.6					
	870	889.6	1,180	99.6	95.6					
	960	979.6	1,280	104.6	100.6					
	1,050	1,069.6	1,380	109.6	105.6					
KR65[1]	680	703.2	980	85.1	81.7	110	170	184	40	47
	860	883.2	1,180	95.1	91.7					
	1,030	1,053.2	1,380	110.1	106.7					
	1,290	1,313.2	1,680	130.1	126.7					

[1] The bellows for models KR55 and KR65 are only suitable for horizontal orientation. If the bellows are to be used in other orientations (vertical or wall-mounted), contact THK.

KR-B (2 Blocks)

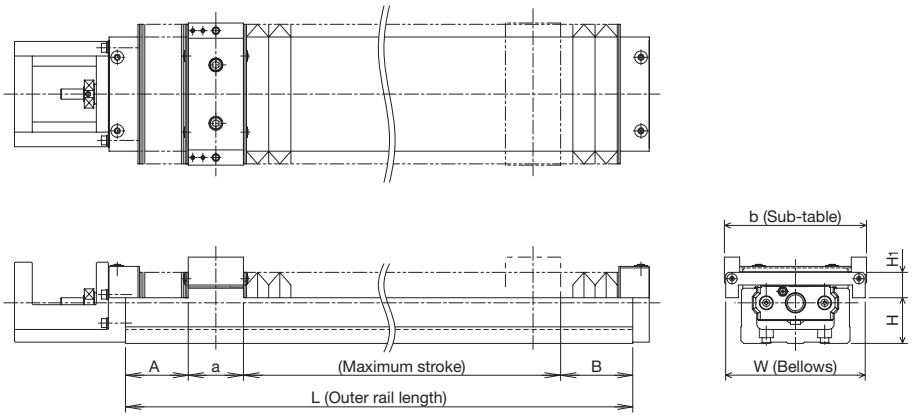


Unit: mm

Model	Stroke[1]	Maximum stroke[1]	Outer rail length L	A	B	a[1]	b	W	H	H_1
KR15	20	29.2	125	20.8	19	56	44	49	8	15.5
	35	44.2	150	25.8	24					
	50	59.2	175	30.8	29					
	65	74.2	200	35.8	34					
KR20	25	34.8	150	18.8	17.2	79.2	52	60	10	20
	60	71.8	200	25.3	23.7					
KR26	35	47.3	200	23.7	17.6	111.4	62	74	18	20
	65	77.6	250	32.8	28.2					
	115	127.6	300	32.8	28.2					
KR30H	85	97.6	300	38.5	35.5	128.4	80	80	21.5	17.5
	155	167.6	400	53.5	50.5					
	225	237.6	500	68.5	65.5					
	295	307.6	600	83.5	80.5					
KR33	80	96	300	38.4	35.6	130	86	84	24.5	20
	160	176	400	48.4	45.6					
	240	256	500	58.4	55.6					
	310	326	600	73.4	70.6					
	390	406	700	83.4	80.6					
KR45H	80	95	340	28.1	27.9	189	104	104	28	28
	155	170.5	440	41.1	39.4					
	230	247	540	52.1	51.9					
	310	331	640	60.1	59.9					
	400	415	740	68.1	67.9					
	465	483	840	84.1	83.9					
	550	567	940	92.1	91.9					
KR46	60	75	340	37.9	36.1	191	112	110	36	20
	130	145	440	52.9	51.1					
	210	225	540	62.9	61.1					
	280	295	640	77.9	76.1					
	360	375	740	87.9	86.1					
	430	445	840	102.9	101.1					
	510	525	940	112.9	111.1					
KR55[2]	590	612	980	74.6	70.6	222.8	124	154	37	40
	670	692	1,080	84.6	80.6					
	760	782	1,180	89.6	85.6					
	850	872	1,280	94.6	90.6					
	930	952	1,380	104.6	100.6					
KR65[2]	550	578.6	980	75.1	71.7	254.6	170	184	40	47
	720	748.6	1,180	90.1	86.7					
	900	928.6	1,380	100.1	96.7					
	1,160	1,188.6	1,680	120.1	116.7					

[1] The value with 2 blocks (B type) attached.
[2] The bellows for models SKR55 and SKR65 are only suitable for horizontal orientation. If the bellows are to be used in other orientations (vertical or wall-mounted), contact THK.
Note: Bellows cannot be attached between sub-tables.

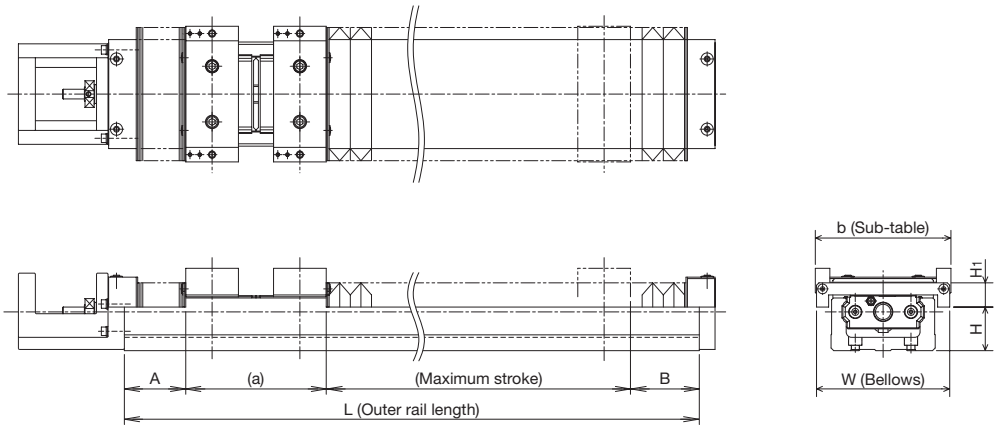
KR-C (1 Short Block)



Unit: mm

Model	Stroke	Maximum stroke	Outer rail length L	A	B	a	b	W	H	H_1
KR30H	45	57.5	150	33.5	30.5	28.5	80	80	21.5	17.5
	85	97.5	200	38.5	35.5					
	155	167.5	300	53.5	50.5					
	225	237.5	400	68.5	65.5					
	295	307.5	500	83.5	80.5					
	365	377.5	600	98.5	95.5					
KR33	55	67.5	150	28.4	25.6	28.5	86	84	24.5	20
	95	107.5	200	33.4	30.6					
	165	177.5	300	48.4	45.6					
	245	257.5	400	58.4	55.6					
	315	327.5	500	73.4	70.6					
	395	407.5	600	83.4	80.6					
	465	477.5	700	98.4	95.6					
KR45H	190	208.5	340	44.1	43.9	43.5	104	104	28	28
	275	292.5	440	52.1	51.9					
	340	360.5	540	68.1	67.9					
	425	444.5	640	76.1	75.9					
	510	528.5	740	84.1	83.9					
	580	596.5	840	100.1	99.9					
	660	680.5	940	108.1	107.9					
KR46	170	182.5	340	57.9	56.1	43.5	112	110	36	20
	240	252.5	440	72.9	71.1					
	320	332.5	540	82.9	81.1					
	390	402.5	640	97.9	96.1					
	470	482.5	740	107.9	106.1					
	540	552.5	840	122.9	121.1					
	620	632.5	940	132.9	131.1					

KR-D (2 Short Blocks)



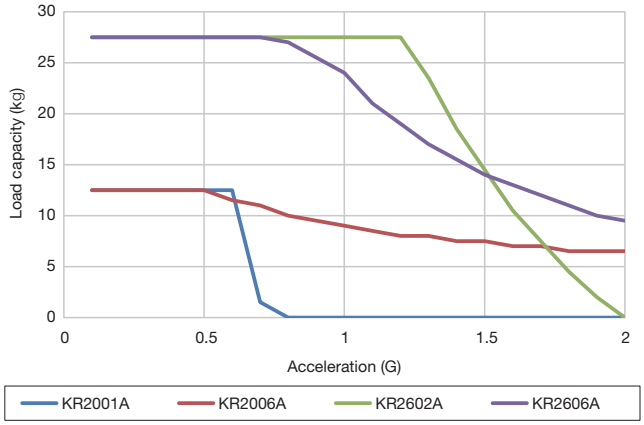
Unit: mm

Model	Stroke[1]	Maximum stroke[1]	Outer rail length L	A	B	a[1]	b	W	H	H_1
KR30H	15	28.6	150	23.5	20.5	77.4	80	80	21.5	17.5
	45	58.6	200	33.5	30.5					
	115	128.6	300	48.5	45.5					
	185	198.6	400	63.5	60.5					
	255	268.6	500	78.5	75.5					
	325	338.6	600	93.5	90.5					
KR33	55	67	200	28.4	25.6	79	86	84	24.5	20
	125	137	300	43.4	40.6					
	205	217	400	53.4	50.6					
	275	287	500	68.4	65.6					
	355	367	600	78.4	75.6					
	425	437	700	93.4	90.6					
KR45H	140	154	340	36.1	35.9	114	104	104	28	28
	220	238	440	44.1	43.9					
	290	306	540	60.1	59.9					
	370	390	640	68.1	67.9					
	455	474	740	76.1	75.9					
	525	542	840	92.1	91.9					
	605	626	940	100.1	99.9					
KR46	110	130	340	47.9	46.1	116	112	110	36	20
	180	200	440	62.9	61.1					
	260	280	540	72.9	71.1					
	330	350	640	87.9	86.1					
	410	430	740	97.9	96.1					
	480	500	840	112.9	111.1					
	560	580	940	122.9	121.1					

[1] The value with 2 short blocks (D type) attached.
Note: Bellows cannot be attached between sub-tables.

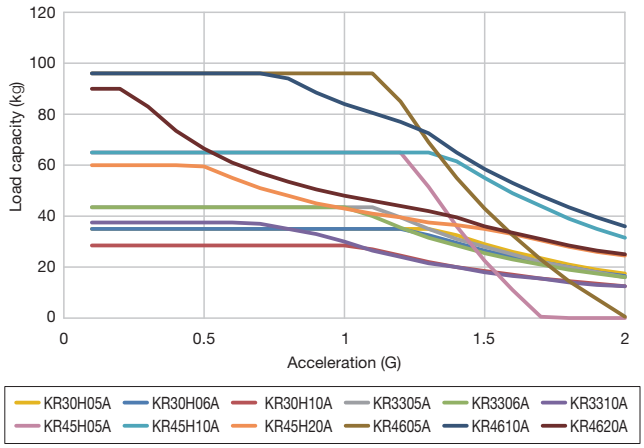
Maximum Load Capacity Guidelines by Acceleration

Horizontal



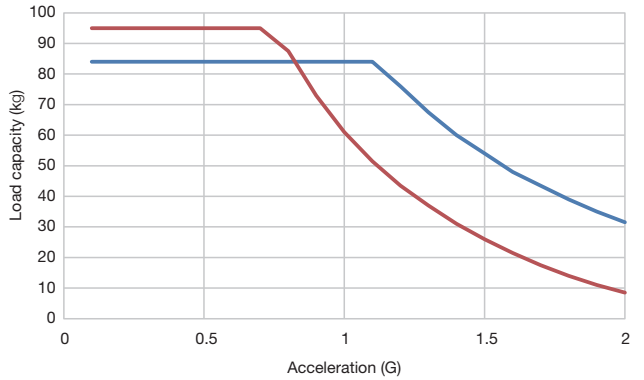
Unit: kg

	0.15 G	0.3 G	0.5 G	1 G	1.5 G	2 G
KR2001A	12.5	12.5	12.5	-	-	-
KR2006A	12.5	12.5	12.5	9	7.5	6.5
KR2602A	27.5	27.5	27.5	27.5	14.5	-
KR2606A	27.5	27.5	27.5	24	14	9.5



Unit: kg

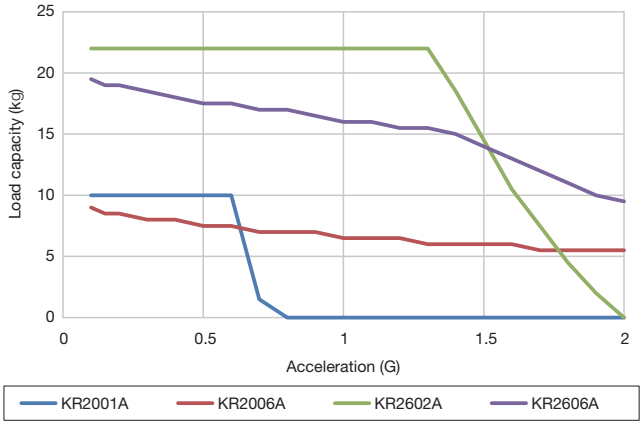
	0.15 G	0.3 G	0.5 G	1 G	1.5 G	2 G
KR30H05	35	35	35	35	29	17.5
KR30H06A	35	35	35	35	26.5	16.5
KR30H10A	28.5	28.5	28.5	28.5	18.5	12.5
KR3305A	43.5	43.5	43.5	43.5	28	16
KR3306A	43.5	43.5	43.5	43.5	25.5	16
KR3310A	37.5	37.5	37.5	30	18	12.5
KR45H05	65	65	65	65	22.5	0
KR45H10A	65	65	65	65	55	31.5
KR45H20A	60	60	59.5	43	35	24.5
KR4605A	96	96	96	96	43	0.5
KR4610A	96	96	96	84	58.5	36
KR4620A	90	83	66.5	48	36	25



Unit: kg

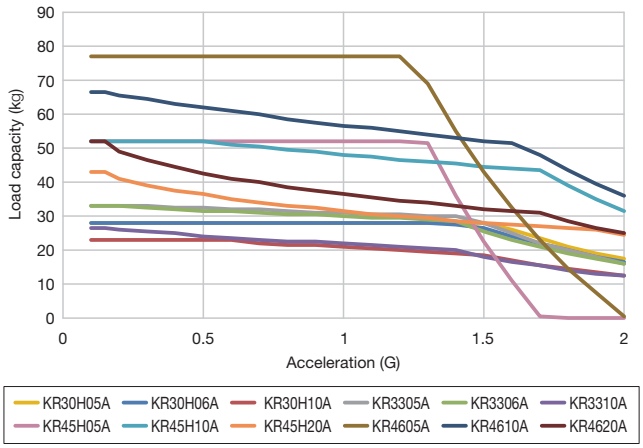
	0.15 G	0.3 G	0.5 G	1 G	1.5 G	2 G
KR5520A	84	84	84	84	54	31.5
KR6525A	95	95	95	61	26	8.5

Wall-Mounted



Unit: kg

	0.15 G	0.3 G	0.5 G	1 G	1.5 G	2 G
KR2001A	10	10	10	-	-	-
KR2006A	8.5	8	7.5	6.5	6	5.5
KR2602A	22	22	22	22	14.5	-
KR2606A	19	18.5	17.5	16	14	9.5



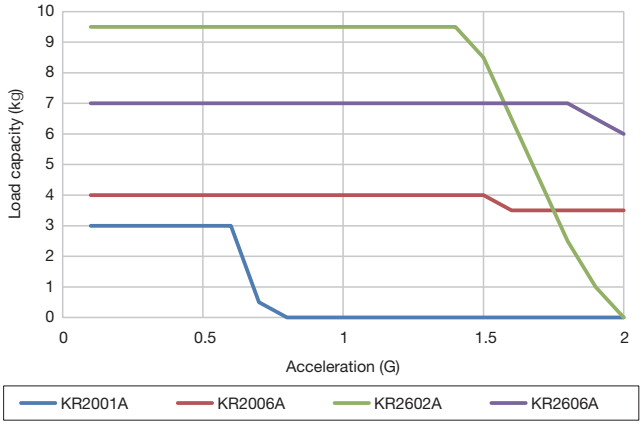
Unit: kg

	0.15 G	0.3 G	0.5 G	1 G	1.5 G	2 G
KR30H05	28	28	28	28	28	17.5
KR30H06A	28	28	28	28	26.5	16.5
KR30H10A	23	23	23	21	18.5	12.5
KR3305A	33	33	32.5	31	28	16
KR3306A	33	32.5	31.5	30	25.5	16
KR3310A	26.5	25.5	24	22	18	12.5
KR45H05	52	52	52	52	22.5	0
KR45H10A	52	52	52	48	44.5	31.5
KR45H20A	43	39	36.5	31.5	28	24.5
KR4605A	77	77	77	77	43	0.5
KR4610A	66.5	64.5	62	56.5	52	36
KR4620A	52	46.5	42.5	36.5	32	25

Unit: kg

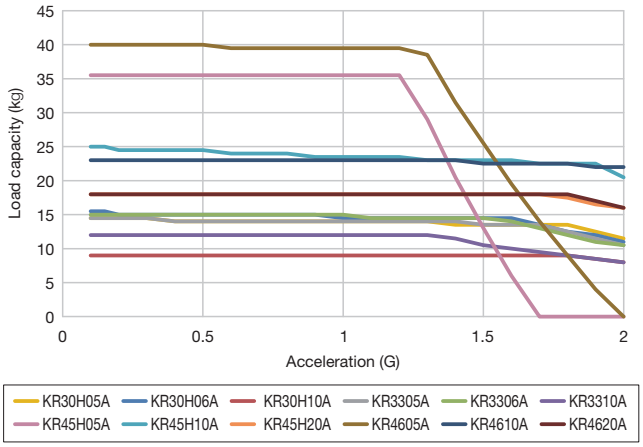
	0.15 G	0.3 G	0.5 G	1 G	1.5 G	2 G
KR5520A	84	84	83	75	54	31.5
KR6525A	95	95	95	61	26	8.5

Vertical



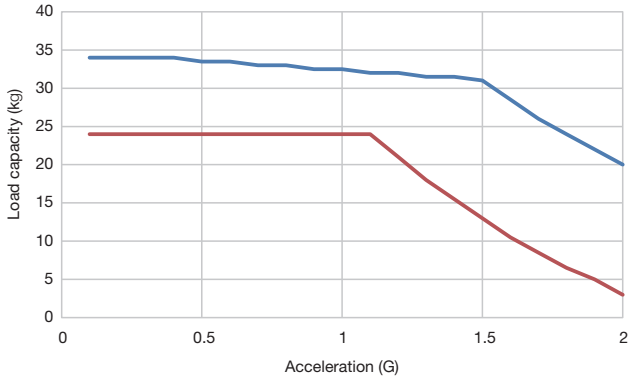
Unit: kg

	0.15 G	0.3 G	0.5 G	1 G	1.5 G	2 G
KR2001A	3	3	3	-	-	-
KR2006A	4	4	4	4	4	3.5
KR2602A	9.5	9.5	9.5	9.5	8.5	-
KR2606A	7	7	7	7	7	6



Unit: kg

	0.15 G	0.3 G	0.5 G	1 G	1.5 G	2 G
KR30H05	14.5	14.5	14	14	13.5	11.5
KR30H06A	15.5	15	15	14.5	14.5	11
KR30H10A	9	9	9	9	9	8
KR3305A	14.5	14.5	14	14	13.5	10.5
KR3306A	15	15	15	15	14.5	10.5
KR3310A	12	12	12	12	10.5	8
KR45H05	35.5	35.5	35.5	35.5	13	0
KR45H10A	25	24.5	24.5	23.5	23	20.5
KR45H20A	18	18	18	18	18	16
KR4605A	40	40	40	39.5	25.5	-
KR4610A	23	23	23	23	22.5	22
KR4620A	18	18	18	18	18	16



Unit: kg

	0.15 G	0.3 G	0.5 G	1 G	1.5 G	2 G
KR5520A	34	34	33.5	32.5	31	20
KR6525A	24	24	24	24	13	3

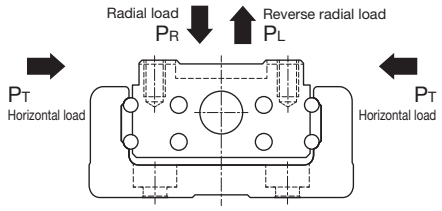
Calculation Conditions

Model	Lead (mm)	Stroke* (mm)	Estimated motor capacity (W)	Speed (mm/s)	Center of gravity
KR20	1	80	50	50	Center of table upper surface
	6			300	
KR26	2	160	50	100	
	6			300	
KR30H	5	300	100	250	
	6			300	
	10			500	
KR33	5	400	100	250	
	6			300	
	10			500	
KR45H	5	500	400	240	
	10			500	
	20			1,000	
KR46	5	490	400	240	
	10			500	
	20			1,000	
KR55	20	1,000	750	800	
KR65	25	1,190	750	800	

* Stroke with 1 block (A type).

Load Rating and Static Permissible Moment for Each Direction

Load Rating



KR: 4-way loads

- LM Guide
  The KR can receive loads in 4 directions (radial, reverse radial, and horizontal directions). The basic load rating is when each of the 4 directions is equal. These values are listed in the "Load Rating" table below.
- Ball screw
  The KR has a ball screw nut built into the inner block to enable axial loads to be applied. The basic load rating is listed in the "Load Rating" table below.
- Bearing (fixed side)
  The KR's housing A has an embedded angular bearing to enable axial loads to be applied. The basic load rating is listed in the "Load Rating" table below.

Equivalent Load (LM Guide)

The equivalent load when the LM Guide unit of the Model KR simultaneously receives loads in all directions is obtained from the following formula.

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

P_E: Equivalent load (N)
P_R: Radial load (N)
P_L: Reverse radial load (N)
P_T: Horizontal load (N)

Load Rating

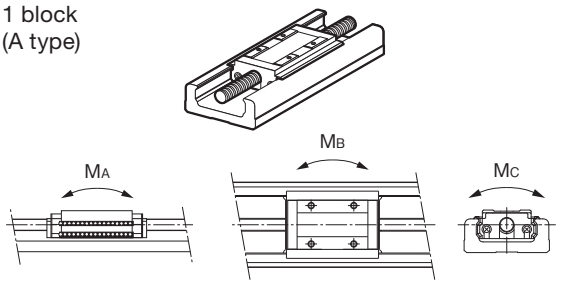
Model			KR15		KR20		KR26		KR30H			KR33			KR45H			KR46			KR55	KR65
			KR1501	KR1502	KR2001	KR2006	KR2602	KR2606	KR30H05	KR30H06	KR30H10	KR3305	KR3306	KR3310	KR45H05	KR45H10	KR45H20	KR4605	KR4610	KR4620		
LM Guide	Basic dynamic load rating C (N)	1 block (A type)	1,930		3,590		7,240		11,600			11,600			23,300			27,400			38,100	50,900
		1 short block (C type)	-		-		-		4,900			4,900			11,900			14,000			-	-
	Basic static load rating C_0 (N)	1 block (A type)	3,450		6,300		12,150		20,200			20,200			39,200			45,500			61,900	80,900
		1 short block (C type)	-		-		-		10,000			10,000			19,600			22,700			-	-
Ball screw	Ball screw lead (mm)		1	2	1	6	2	6	5	6	10	5	6	10	5	10	20	5	10	20	20	25
	Basic dynamic load rating Ca (N)	Normal grade/ High accuracy grade (H)	340	230	660	860	2,350	1,950	3,370	2,840	1,760	3,370	2,840	1,760	5,500	3,140	3,040	5,500	3,140	3,040	3,620	5,680
		Precision grade (P)				1,060		2,390	1,860	2,250	1,370	1,860	2,250	1,370	4,100	2,940	3,430	4,100	2,940	3,430	3,980	5,950
	Basic static load rating C_0a (N)	Normal grade/ High accuracy grade (H)	660	410	1,170	1,450	4,020	3,510	5,390	4,900	2,840	5,390	4,900	2,840	13,900	6,760	7,150	13,900	6,760	7,150	9,290	14,500
		Precision grade (P)				1,600		3,900	2,690	2,740	1,570	2,690	2,740	1,570	6,960	3,720	5,290	6,960	3,720	5,290	6,850	10,700
Bearing unit (fixed side)	Axial direction	Basic dynamic load rating Ca (N)	590		1,000		1,380		1,790			1,790			6,660			6,660			7,600	13,700
		Static permissible load P_0a (N)	290		1,240		1,760		2,590			2,590			3,240			3,240			3,990	5,830

Notes: 1. LM Guide load rating is the load rating per block.
2. KR30H, KR33, KR45H10, and KR4610 precision grade (P-grade) ball screws have integrated spacer balls with a 1:1 ratio.
3. KR45H20, KR4620, KR55, and KR65 precision grade (P-grade) ball screws have integrated spacer balls with a 2:1 ratio.

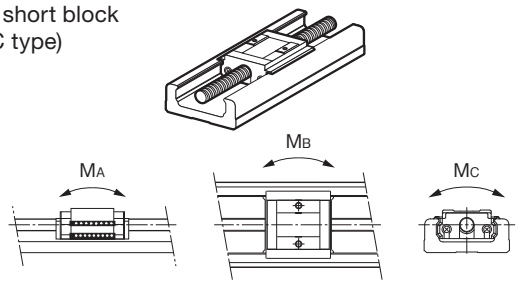
Static Permissible Moment (LM Guide)

The KR LM Guide supports moment loads in 3 directions with a single block.

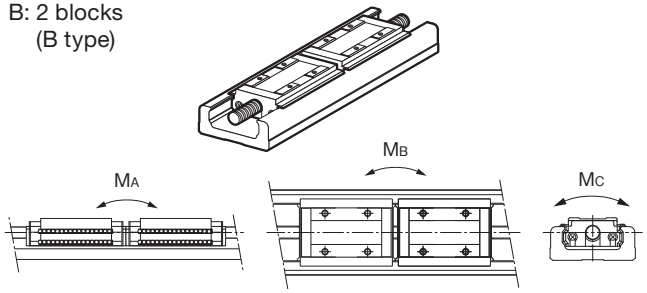
A: 1 block (A type)



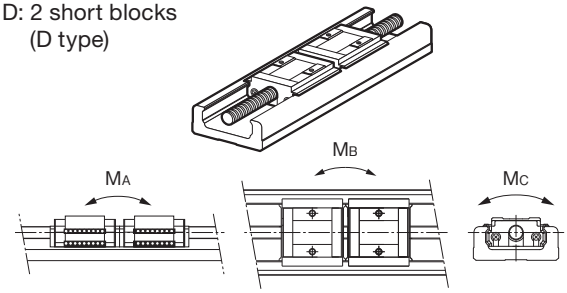
C: 1 short block (C type)



B: 2 blocks (B type)



D: 2 short blocks (D type)



Static Permissible Moment

The static permissible moment values are for the LM Guide.

Unit: N·m

Model	Static permissible moment		
	M_A	M_B	M_C
KR15-A	12.1	12.1	38
KR15-B	70.3	70.3	76
KR20-A	31	31	83
KR20-B	176	176	165
KR26-A	84	84	208
KR26-B	480	480	416
KR30H-A	166	166	428
KR30H-B	908	908	857
KR30H-C	44	44	214
KR30H-D	319	319	427
KR33-A	166	166	428
KR33-B	908	908	857
KR33-C	44	44	214
KR33-D	319	319	427
KR45H-A	486	486	925
KR45H-B	2,732	2,732	1,850
KR45H-C	130	130	463
KR45H-D	994	994	925
KR46-A	547	547	1,400
KR46-B	2,940	2,940	2,800
KR46-C	149	149	700
KR46-D	1,010	1,010	1,400
KR55-A	870	870	2,280
KR55-B	4,890	4,890	4,570
KR65-A	1,300	1,300	3,920
KR65-B	7,230	7,230	7,840

Notes: 1. The "A," "B," "C," or "D" at the end of the model number indicates the block type.
A: 1 block / B: 2 blocks / C: 1 short block / D: 2 short blocks
2. The value for KR-B/D is with 2 blocks attached (without QZ).
3. Static permissible moment is the maximum permissible moment when the unit is stationary.

Permissible Moment

This is the moment that can be tolerated when stationary, taking the inner block and sub-table's connectors into consideration.

Unit: N·m

Model	Permissible moment		
	M_A	M_B	M_C
KR15–A	10 (5)	5 (5)	8 (5)
KR15–B	48 (16)	19 (15)	17 (18)
KR20–A	14 (9)	7 (8)	13 (13)
KR20–B	67 (39)	27 (32)	26 (27)
KR26–A	35 (31)	18 (17)	29 (30)
KR26–B	151 (154)	67 (47)	59 (60)
KR30H–A	51 (32)	33 (32)	51 (46)
KR30H–B	256 (256)	128 (90)	103 (103)
KR30H–C	24 (10)	11 (14)	25 (20)
KR30H–D	84 (84)	45 (36)	51 (51)
KR33–A	51 (53)	33 (34)	51 (53)
KR33–B	261 (271)	130 (93)	103 (107)
KR33–C	7 (7)	11 (14)	25 (26)
KR33–D	86 (90)	46 (38)	51 (53)
KR45H–A	105 (34)	70 (63)	98 (31)
KR45H–B	495 (159)	262 (179)	197 (63)
KR45H–C	49 (16)	23 (28)	49 (15)
KR45H–D	161 (52)	91 (71)	98 (31)
KR46–A	105 (34)	72 (68)	105 (34)
KR46–B	504 (165)	310 (188)	211 (69)
KR46–C	15 (18)	29 (30)	52 (17)
KR46–D	166 (54)	95 (76)	105 (34)
KR55–A	170 (169)	141 (212)	170 (169)
KR55–B	872 (863)	553 (686)	341 (338)
KR65–A	349 (170)	306 (316)	349 (326)
KR65–B	1,441 (988)	1,015 (845)	698 (653)

Notes: 4. The "A," "B," "C," or "D" at the end of the model number indicates the block type.
A: 1 block / B: 2 blocks / C: 1 short block / D: 2 short blocks
5. The value for KR-B/D is with 2 blocks attached (without QZ).
6. Values in parentheses are with a cover or bellows.

Service Life

The KR is composed of an LM Guide, ball screw, and support bearing. The service life of each structure can be calculated using the basic dynamic load rating described in the "Load Rating" table on p. 171.

LM Guide

Nominal Life

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

L_{10}: Nominal life (km)
(The nominal life is the total travel distance that 90% of a group of LM Guide units can achieve without flaking after individually running under the same conditions.)
C: Basic dynamic load rating (N)
P_C: Calculated load (N)

- If a moment will be applied, multiply the applied moment by the equivalent factor listed in the "Equivalent Moment Factors (K)" table on p. 174 to calculate the equivalent load.

$$P_m = K \cdot M$$

P_m: Equivalent load (per block) (N)
K: Equivalent moment factor (see the "Equivalent Moment Factors (K)" table)
M: Applied moment (N·mm)
(If planning to use the product with a wide block span, contact THK.)

- If moment M_C is applied with KR-B/D

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

- If a radial load (P) and a moment are simultaneously applied to the KR:

$$P_E = P_m + P$$

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

Service Life Time

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

Once the nominal life (L_{10}) has been obtained, the service life time can be obtained using the following formula if the stroke length and the cycles per minute are constant.

L_h: Service life time (h)
ℓ_S: Stroke length (mm)
n_1: Cycles per minute (min^{-1})

Ball Screw and Bearing Unit (Fixed Side)

Nominal Life

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

L_{10}: Nominal life (rev.)
(The nominal life is the total rotations that 90% of a group of ball screw (bearing) units can achieve without flaking after individually running under the same conditions.)
C_a: Basic dynamic load rating (N)
F_a: Axial load (N)

Service Life Time

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

Once the nominal life (L_{10}) has been obtained, the service life time can be obtained using the following formula if the stroke length and the cycles per minute are constant.

L_h: Service life time (h)
ℓ_S: Stroke length (mm)
n_1: Cycles per minute (min^{-1})
ℓ: Ball screw lead (mm)

f_C: Contact Factor

When using 2 blocks with KR-B/D, multiply the basic load rating by the contact factor from the table on the right.

Contact Factors (f_C)

Block type	Contact factor (f_C)
KR-B	0.81
KR-D	

f_W: Load Factor

In general, reciprocating machines tend to experience vibrations or impacts during operation, and it is difficult to accurately determine the vibrations generated during high-speed operation and impacts during frequent starts and stops. Therefore, when speed and impacts have a significant influence, divide the basic dynamic load rating (C) by the corresponding load factor, which has been empirically obtained.

Load Factor (f_W)

Vibrations/impacts	Speed (V)	Load coefficient (f_W)
Very low	Under very low speeds V ≤ 0.25 m/s	1 to 1.2
Low	Under low speeds 0.25 m/s < V ≤ 1 m/s	1.2 to 1.5
Medium	Under medium speeds 1 m/s < V ≤ 2 m/s	1.5 to 2
High	Under high speeds V > 2 m/s	2 to 3.5

K: Equivalent Moment Factor (LM Guide)

When running while bearing a load, multiply the equivalent moment factor shown in the table below by the moment value to calculate the load, because the load distribution of the LM Guide will be greater locally. K_A, K_B, and K_C show the equivalent moment factors for directions M_A, M_B, and M_C.

Equivalent Moment Factors (K)

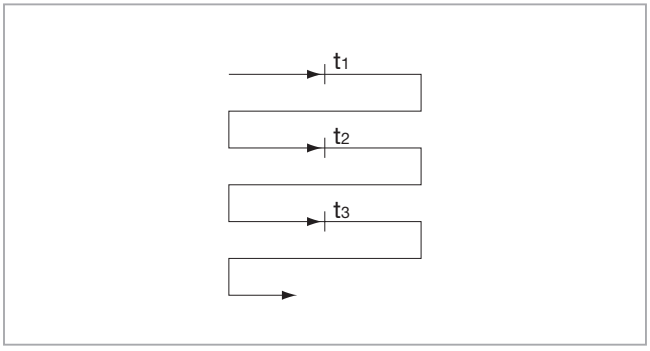
Model	K_A	K_B	K_C
KR15-A	3.2×10^{-1}	3.2×10^{-1}	9.09×10^{-2}
KR15-B	5.96×10^{-2}	5.96×10^{-2}	9.09×10^{-2}
KR20-A	2.4×10^{-1}	2.4×10^{-1}	7.69×10^{-2}
KR20-B	4.26×10^{-2}	4.26×10^{-2}	7.69×10^{-2}
KR26-A	1.73×10^{-1}	1.73×10^{-1}	5.88×10^{-2}
KR26-B	3.06×10^{-2}	3.06×10^{-2}	5.88×10^{-2}
KR30H-A	1.51×10^{-1}	1.51×10^{-1}	4.78×10^{-2}
KR30H-B	2.76×10^{-2}	2.76×10^{-2}	4.78×10^{-2}
KR30H-C	2.77×10^{-1}	2.77×10^{-1}	4.78×10^{-2}
KR30H-D	3.99×10^{-2}	3.99×10^{-2}	4.78×10^{-2}
KR33-A	1.51×10^{-1}	1.51×10^{-1}	4.93×10^{-2}
KR33-B	2.57×10^{-2}	2.57×10^{-2}	4.93×10^{-2}
KR33-C	2.77×10^{-1}	2.77×10^{-1}	4.93×10^{-2}
KR33-D	3.55×10^{-2}	3.55×10^{-2}	4.93×10^{-2}
KR45H-A	9.83×10^{-2}	9.83×10^{-2}	3.45×10^{-2}
KR45H-B	1.87×10^{-2}	1.87×10^{-2}	3.45×10^{-2}
KR45H-C	1.83×10^{-1}	1.83×10^{-1}	3.45×10^{-2}
KR45H-D	2.81×10^{-2}	2.81×10^{-2}	3.45×10^{-2}
KR46-A	1.01×10^{-1}	1.01×10^{-1}	3.38×10^{-2}
KR46-B	1.78×10^{-2}	1.78×10^{-2}	3.38×10^{-2}
KR46-C	1.85×10^{-1}	1.85×10^{-1}	3.38×10^{-2}
KR46-D	2.5×10^{-2}	2.5×10^{-2}	3.38×10^{-2}
KR55-A	8.63×10^{-2}	8.63×10^{-2}	2.83×10^{-2}
KR55-B	1.53×10^{-2}	1.53×10^{-2}	2.83×10^{-2}
KR65-A	7.55×10^{-2}	7.55×10^{-2}	2.14×10^{-2}
KR65-B	1.35×10^{-2}	1.35×10^{-2}	2.14×10^{-2}

K_A: Equivalent moment factor in the M_A direction.
K_B: Equivalent moment factor in the M_B direction.
K_C: Equivalent moment factor in the M_C direction.
Note: The value for KR-B/D is with 2 blocks attached.

Accuracy Standards

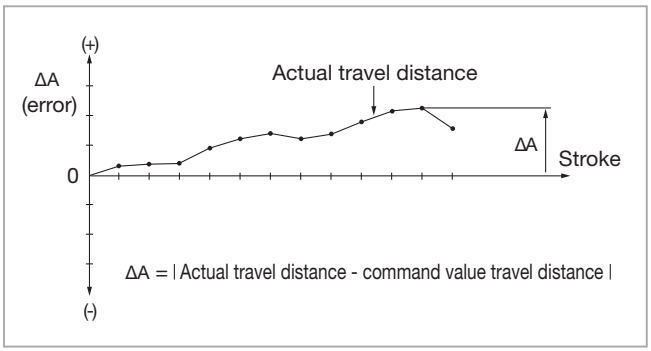
Positioning Repeatability

A positioning operation is performed to arrive at a given arbitrary point, the stop position is measured, and the operation is repeated seven times from the same direction to determine half the difference between the largest and smallest values. The same test is conducted at three points: the middle of the stroke and both the approximate maximum and minimum positions of travel. The positioning repeatability is expressed as the maximum difference among the three measurements divided by 2 with a "±" sign.



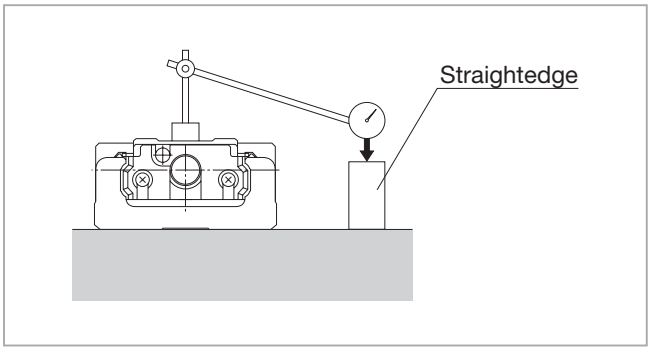
Positioning Accuracy

With the maximum stroke as reference length, the maximum error between the command value and the actual travel distance from the stroke start position is displayed as an absolute value.



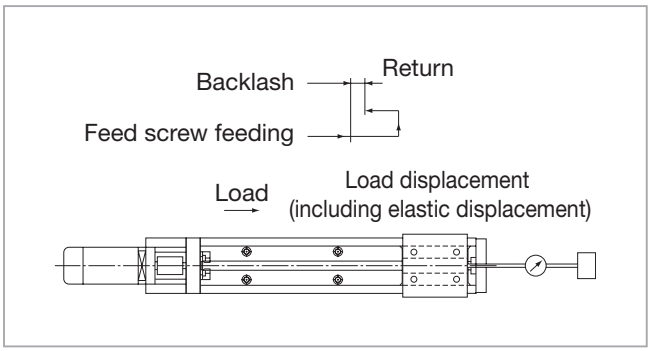
Running Parallelism (Vertical Direction)

A straightedge is positioned on a surface plate with the KR mounted and the entire range of block movement is measured with a test indicator, taking the maximum difference in readings along the travel distance as the measured value.



Backlash

Using as a reference the test indicator reading with feeding applied to the block to move it slightly, a load is applied to the block from the same direction (table feed direction) in this state, without using the feed mechanism, and then the difference between the reference when opened and the return value is taken as the measured value. This measurement is made at the center of the travel distance and at each of the two ends; the largest of the obtained values is set as the measurement value.



Normal Grade (No Symbol)

Unit: mm

Model	Stroke[1]	Outer rail length	Positioning repeatability	Positioning accuracy	Running parallelism (vertical direction)	Backlash	Starting torque (N·cm)
KR20	30	100	±0.01	Not specified	Not specified	0.02	0.5
	80	150					
	130	200					
KR26	60	150	±0.01	Not specified	Not specified	0.02	1.5
	110	200					
	160	250					
	210	300					
KR30H	50	150	±0.01	Not specified	Not specified	0.02	7
	100	200					
	200	300					
	300	400					
	400	500					
	500	600					
KR33	50	150	±0.01	Not specified	Not specified	0.02	7
	100	200					
	200	300					
	300	400					
	400	500					
	500	600					
	600	700					
KR45H	200	340	±0.01	Not specified	Not specified	0.02	10
	300	440					
	400	540					
	500	640					
	600	740					
	700	840					
	800	940					
KR46	190	340	±0.01	Not specified	Not specified	0.02	10
	290	440					
	390	540					
	490	640					
	590	740					
	690	840					
	790	940					
KR55	800	980	±0.01	Not specified	Not specified	0.05	12
	900	1,080					
	1,000	1,180					
	1,100	1,280					
	1,200	1,380					
KR65	790	980	±0.01	Not specified	Not specified	0.05	12
	990	1,180					
	1,190	1,380					
	1,490	1,680	±0.012				15

[1] Stroke with 1 block (A type: Without QZ).

Notes: 1. Accuracy standard evaluation method in accordance with THK standards.
2. Measured using a motor for inspection. With motor wrap specifications, measurements are not made in the completed motor wrap state.
3. The starting torque refers to the values when the below greases are used.
Models KR20, KR26: THK AFA Grease
Models KR30H, KR33, KR45H, KR46, KR55, KR65: THK AFB-LF Grease
4. The starting torque may exceed standards if using vacuum grease, clean room grease, or other high-viscosity greases, so care should be taken when selecting a motor.
5. Contact THK for accuracy higher than the standard outer rail length.
6. KR15 is available only as high accuracy grade (H) or precision grade (P).

Accuracy Standards

High Accuracy Grade (H)

Unit: mm

Model	Stroke[1]	Outer rail length	Positioning repeatability	Positioning accuracy	Running parallelism (vertical direction)	Backlash	Starting torque (N·cm)
KR15	25	75	±0.004	0.04	0.02	0.01	0.4
	50	100					
	75	125					
	100	150					
	125	175					
	150	200					
KR20	30	100	±0.005	0.06	0.025	0.01	0.5
	80	150					
	130	200					
KR26	60	150	±0.005	0.06	0.025	0.01	1.5
	110	200					
	160	250					
	210	300					
KR30H	50	150	±0.005	0.06	0.025	0.02	7
	100	200					
	200	300					
	300	400					
	400	500		0.1	0.035		
	500	600					
KR33	50	150	±0.005	0.06	0.025	0.02	7
	100	200					
	200	300					
	300	400					
	400	500		0.1	0.035		
	500	600					
	600	700		0.14			
KR45H	200	340	±0.005	0.1	0.035	0.02	10
	300	440					
	400	540					
	500	640					
	600	740		0.12	0.04		
	700	840		0.15	0.05		
	800	940					
KR46	190	340	±0.005	0.1	0.035	0.02	10
	290	440					
	390	540					
	490	640					
	590	740		0.12	0.04		
	690	840		0.15	0.05		
	790	940					
KR55	800	980	±0.005	0.18	0.05	0.05	12
	900	1,080					
	1,000	1,180		0.25			
	1,100	1,280					
	1,200	1,380					
KR65	790	980	±0.008	0.18	0.05	0.05	12
	990	1,180		0.2			
	1,190	1,380					
	1,490	1,680		0.28	0.055		15

[1] Stroke with 1 block (A type: Without QZ).

Notes: 1. Accuracy standard evaluation method in accordance with THK standards.
2. Measured using a motor for inspection. With motor wrap specifications, measurements are not made in the completed motor wrap state.
3. The starting torque represents values when containing THK AFB-LF Grease. However, the value for KR15 is when using THK AFF Grease.
4. The starting torque may exceed standards if using vacuum grease, clean room grease, or other high-viscosity greases, so care should be taken when selecting a motor.
5. Contact THK for accuracy higher than the standard outer rail length.

Precision Grade (P)

Unit: mm

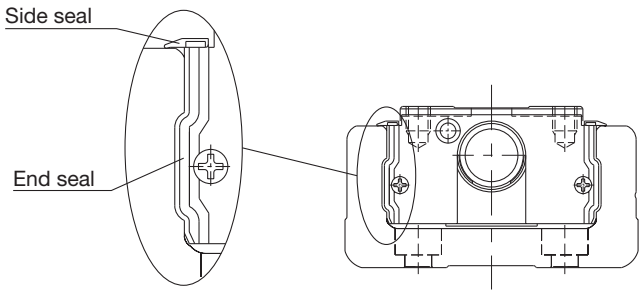
Model	Stroke[1]	Outer rail length	Positioning repeatability	Positioning accuracy	Running parallelism (vertical direction)	Backlash	Starting torque (N·cm)
KR15	25	75	±0.003	0.02	0.01	0.002	0.8
	50	100					
	75	125					
	100	150					
	125	175					
	150	200					
KR20	30	100	±0.003	0.02	0.01	0.003	1.2
	80	150					
	130	200					
KR26	60	150	±0.003	0.02	0.01	0.003	4
	110	200					
	160	250					
	210	300					
KR30H	50	150	±0.003	0.02	0.01	0.003	15
	100	200					
	200	300					
	300	400					
	400	500		0.025	0.015		
	500	600					
KR33	50	150	±0.003	0.02	0.01	0.003	15
	100	200					
	200	300					
	300	400					
	400	500		0.025	0.015		
	500	600					
	600	700		0.03			
KR45H	200	340	±0.003	0.025	0.015	0.003	15
	300	440					
	400	540					
	500	640					17
	600	740		0.03	0.02		
	700	840	±0.005	0.035	0.025		
	800	940					
KR46	190	340	±0.003	0.025	0.015	0.003	15
	290	440					
	390	540					
	490	640					17
	590	740		0.03	0.02		
	690	840	±0.005	0.035	0.025		
	790	940					
KR55	800	980	±0.005	0.035	0.025	0.003	17
	900	1,080					
	1,000	1,180		0.04	0.03		20
KR65	790	980	±0.005	0.035	0.025	0.005	20
	990	1,180					
	1,190	1,380		0.04	0.03		22

[1] Stroke with 1 block (A type: Without QZ).

Notes: 1. Accuracy standard evaluation method in accordance with THK standards.
2. Measured using a motor for inspection. With motor wrap specifications, measurements are not made in the completed motor wrap state.
3. The starting torque represents values when containing THK AFB-LF Grease. However, the value for KR15 is when using THK AFF Grease.
4. The starting torque may exceed standards if using vacuum grease, clean room grease, or other high-viscosity greases, so care should be taken when selecting a motor.
5. Contact THK for accuracy higher than the standard outer rail length.

Seals

End seals and side seals are attached as standard for dust-proofing.



Maximum Resistance Value

The following table shows the maximum resistance values for each model.

Units: N

Model	Maximum resistance value
KR15	0.9
KR20	1.2
KR26	1.4
KR30H	3.5
KR33	3.4
KR45H	5.1
KR46	5
KR55	8.8
KR65	10.1

Standard Grease

The following table shows the standard grease and grease nipple used.

Model	Standard grease	Grease nipple used
KR15	THK AFF Grease	-
KR20	THK AFA Grease	PB107
KR26	THK AFA Grease	PB107
KR30H	THK AFB-LF Grease	PB107
KR33	THK AFB-LF Grease	PB107
KR45H	THK AFB-LF Grease	A-M6F
KR46	THK AFB-LF Grease	A-M6F
KR55	THK AFB-LF Grease	A-M6F
KR65	THK AFB-LF Grease	A-M6F

MEMO

MEMO

⚠ Precautions on Use

How to Use this Product
· This product must not be used for devices or systems that are utilized under situations that may affect human life.
· Be sure to contact THK in advance if you are considering using this product for special applications, such as with devices or systems relating to passenger vehicles, medicine, aerospace, nuclear power, or electric power.

Products with Rotary Motor Drives

Handling
· Please contact THK when using the product in special environments such as locations exposed to constant vibrations, clean rooms, vacuums, and low/high temperatures.
· Tilting the table or the outer rail may cause them to fall due to their own weight.

Safety Precautions
· Carefully read JIS B8433 "Manipulating Industrial Robots - Safety" and the Japanese Ministry of Health, Labour and Welfare's "Ordinance on Industrial Safety and Health" before working with the product, and follow the guidance within.
· Carefully read the user manual, gain a sufficient understanding of its contents, and be sure to follow the safety precautions.
· When installing, adjusting, inspecting, or performing maintenance on the main actuator unit and connected peripherals, be sure to remove all power plugs from their outlets, and prepare a lock or safety plug to prevent anyone else from turning on the power. Additionally, place a sign in a visible location to notify others that work is being performed.
· Do not touch any moving parts of the actuator while it is energized. In addition, do not enter the operating range of this product while it is in operation or in an operable state.
· If performing a task involving multiple people, confirm how to perform the work, what signals will be used, and how to handle problems before beginning, and assign another person to monitor the work.
· Do not carelessly disassemble this product. Otherwise, it may cause foreign material ingress or decrease the accuracy.
· Take care not to drop or strike this product. Otherwise, it may cause injury or damage the unit. Even if there is no outward indication of damage, a sudden impact could prevent the unit from functioning properly.
· Using this product in excess of the permissible rotational speed may damage the components or cause an accident. Be sure to use the product within the specified rotational speed designated by THK.
· Prevent foreign materials such as cutting chips from entering the product. Otherwise, it may damage the ball circulation components or result in a loss of functionality.
· If using the product in an environment where coolant may get inside, contact THK.
· Install shock absorbers or another impact-absorbing mechanism if there is a risk that the slider may strike the stoppers mounted on both ends of the range of motion. The stoppers are not intended to absorb the impact from sliders. Impacts to the stoppers during operation may lead to damage or accidents.
· Using this product in excess of the torque limit may damage the components or cause an accident.
· Do not set the torque control parameter higher than the torque limit.
· The motor wrap type does not have a safety device for if the timing belt breaks. For your safety, please install a safety device next to the equipment.
· Some models of this product are heavy, with the main unit of this product weighing in excess of 20 kg. Use appropriate transportation equipment and take safety precautions to avoid injury or damage when transporting or installing the product.
· In applications where this product will be moved or transferred, the conditions of use may cause inertia from the motor's mass to result in damage to the motor attachment (Housing A) or other parts. Please contact THK before use.

Operating Environment
· Indoors, ambient temperature between 0°C to 40°C, and ambient humidity of 80% RH or less (no freezing or condensation)
· A location with no corrosive or flammable gas
· A location where vibrations or impacts are not transmitted to the main unit
· A location where electrically conductive particles such as steel dust, dust, oil mist, cutting oil, water content, salt content, or organic solvents will not be present in the air
· A location not exposed to direct sunlight or radiant heat
· A location where no strong electric fields or powerful magnetic fields are generated
· A location where inspections and cleanings can easily be performed
· When using the product in locations exposed to constant vibrations or in special environments such as in vacuums or low/high temperatures, contact THK.

Actuator Mounting Surface
· Prepare a flat surface that has been machined or possesses an equivalent level of accuracy. Some products have required degrees of flatness.
· Be sure to mount the product on a sufficiently rigid base.

Lubrication
· The actuator must be lubricated in order for it to demonstrate its full performance. Insufficient lubrication may increase wear on the rolling elements and lead to premature damage.
· Do not mix lubricants with different properties. Please be aware that the applied lubricant will differ depending on the product.
· Contact THK if a special lubricant will be used.
· As a general guideline, the greasing interval should be every 100 km. However, this will vary depending on the operating conditions, so we recommend determining the greasing interval based on the initial inspection.
· Contact THK if the product will be used in a special environment such as a location with constant vibrations, a vacuum, high/low temperatures, or a clean room, as it may not be possible to use the regular lubricant.
· Contact THK if oil lubricant will be used.
· Thoroughly wipe off anti-rust oil and feed lubricant before using the product.

Storage
· When storing the actuator, enclose it in a package designated by THK and store it in a horizontal orientation while avoiding high temperatures, low temperatures, and high humidity.
· Avoid storing control devices in an environment with high/low temperatures or high humidity.

Disposal
·The product should be treated as industrial waste and disposed of appropriately.

Other Recommended Products

Caged Ball LM Guide Actuator

SKR

- ○ Modularized structure reduces number of components and both design and assembly time
- ○ Caged ball effect gives long life and long-term maintenance-free operation
- ○ Optimal for high-precision positioning and orthogonal-axis designs

LM Guide Actuator with Large-Diameter Ball Screw

KSF

Open Cover/Top Cover/Fully Enclosed

- ○ Large-diameter ball screw enables high-speed and high-acceleration operations
- ○ 3 types of cover options to choose from to suit the application
- ○ Supports long strokes up to 1,500 mm

LM Guide Actuator **KR**

- ● The actual products may differ from the illustrations and photographs in this catalog.
- ● Outward appearances and specifications are subject to change without notice for the purpose of improvement. Please consult with THK before using.
- ● Although great care has been taken in the production of this catalog, THK will not take any responsibility for damages resulting from typographical errors or omissions.
- ● For exports of our products and technologies and sales for export, our basic policy is to comply with the Foreign Exchange and Foreign Trade Act and other laws and regulations. Please consult us in advance if you want to export our products by the piece.

THK CO., LTD.

Global Headquarters 2-12-10 Shibaura, Minato-ku, Tokyo 108-8506 Japan
International Sales Department Phone: +81-3-5730-3860
www.thk.com

Please visit our website to find the most recent information.

CATALOG No.209-18E ©THK CO., LTD. 202411