

Fast Delivery

LM Guide Actuator

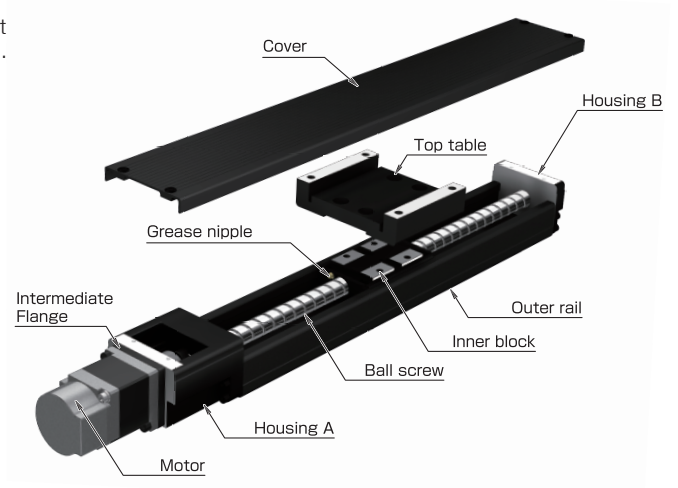
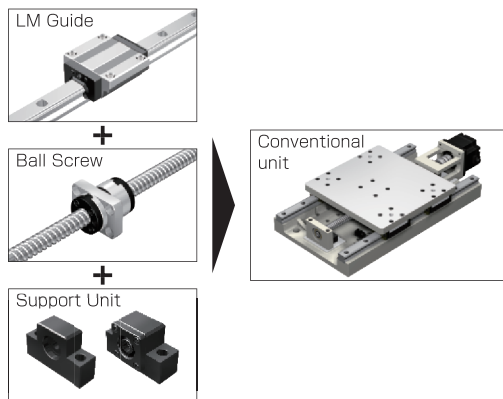
KR

Compact and High Performance!

Features

1 Reduces design and assembly man-hours

Made up of a combination of an LM guide, ball screw and support unit, so the work required for design and assembly is reduced. This also helps reduce overall costs.



2 4-way Equal Load

Each row of balls is arranged at a contact angle of 45° so that the rated load on the inner block is uniform under loads applied in the four directions (radial, reverse radial, right and left). Due to this, the SKR/KR can be used in a variety of mounting orientations, making it suitable for a wide range of applications.

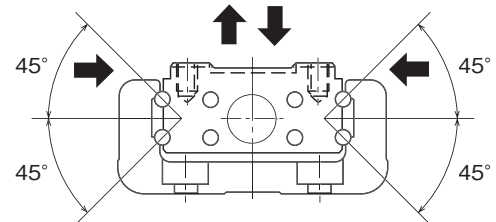


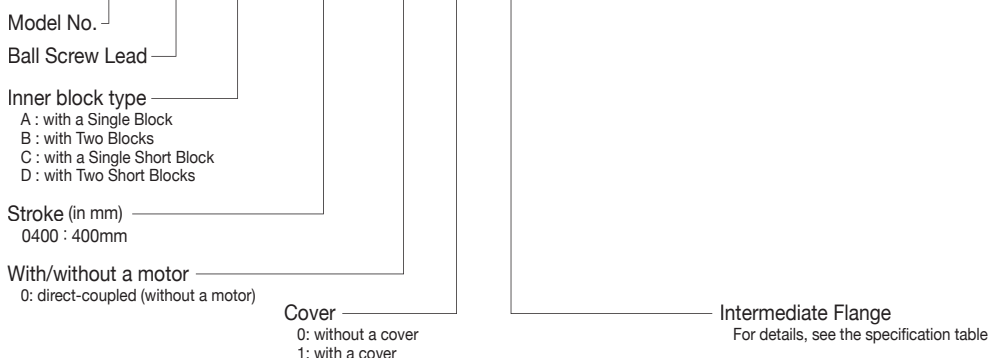
Fig. Load Capacity and Contact Angle of Model KR

3 High Rigidity & High Accuracy

The U-shaped outer rail (base) provides high rigidity against moment and torsion.

Model Number Coding

KR30H 10 A - 0400 - 0 - 1 - Q - 00000



SKR/KR Product Specifications

Model No.	Ball Screw Lead [mm]	The maximum stroke* ¹ [mm]	Rated speed* ² [mm/s]	Motor rated output [W]	Maximum load capacity [kg] ³	
					horizontal	vertical
SKR20	1	130	50	50	10	3
	6		300		6	4
SKR26	2	210	100	50	22	14
	6		300		7	7
SKR33	6	595	300	100	35	19
	10		500		30	12
	20		1000		24	6
SKR46	10	790	500	200	77	18
			400	400	36	8
	20		1000	200	51	8
			400	400	72	18

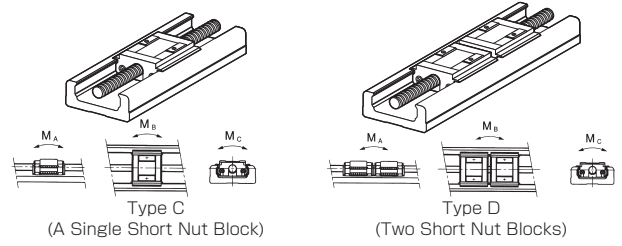
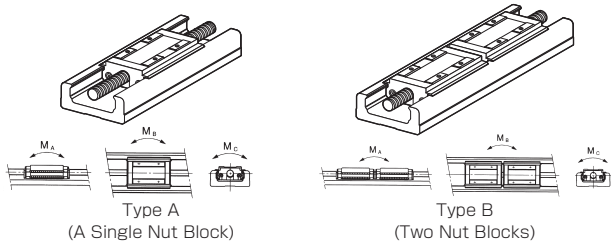
*1 Maximum stroke refers to values where the block is of type A (with a single block).

*2 Rated speed refers to the speed at the rated revolution (3,000 min⁻¹). However, this varies depending on the stroke.

*3 The maximum load capacity refers to the load capacity with a direct motor coupling at the rated speed, with an acceleration and deceleration rate of 0.3G (lead 6 mm, afterwards 0.15G).

Model No.	Ball Screw Lead [mm]	The maximum stroke* ¹ [mm]	Rated speed* ² [mm/s]	Motor rated output [W]	Maximum load capacity [kg] ³	
					horizontal	vertical
KR20	1	130	50	50	7	3
	6		300		4	4
KR26	2	210	100	50	16	8
	6		300		7	7
KR30H	6	500	300	100	28	16
	10		500		23	9
KR45H	10	800	500	200	52	18
			400	400	26	8
	20		1000	200	48	8
			400	400	18	18

Static Permissible Moments of Models SKR/KR



Unit:N·m

Model No.	Block type*	Static permissible moment		
		MA	MB	MC
SKR20	A	38	38	98
	B	207	207	197
SKR26	A	117	117	265
	B	589	589	530
SKR33	A	173	173	424
	B	990	990	848
	C	58	58	240
	D	390	390	480
SKR46	A	579	579	1390
	B	3240	3240	2780
	C	236	236	870
	D	1460	1460	1740

Unit:N·m

Model No.	Block type*	Static permissible moment		
		MA	MB	MC
KR20	A	31	31	83
	B	176	176	165
KR26	A	84	84	208
	B	480	480	416
KR30H	A	166	166	428
	B	908	908	857
	C	44	44	214
	D	319	319	427
KR45H	A	486	486	925
	B	2732	2732	1850
	C	130	130	463
	D	994	994	925

* Block types A, B, C and D refer to types of inner blocks.

- A: Single block
- B: Double blocks
- C: Single short type block
- D: Double short type blocks

Note1) The values for models SKR-B/D, KR-B/D refer to values when double inner blocks are used in close contact with each other.

Note2) Static permissible moment is the maximum moment that can be permitted while the product is stationary.

Accuracy Standards for SKR/KR (Normal Grade)

Model No.	Stroke* [mm]	Outer rail length [mm]	Positioning Repeatability [mm]	Positioning Accuracy [mm]	Running Parallelism (Vertical Direction) [mm]	Backlash [mm]	Starting torque [N·cm]
SKR20	30	100	±0.01	No standard defined	No standard defined	0.02	0.5
	80	150					
	130	200					
SKR26	60	150	±0.01	No standard defined	No standard defined	0.02	1.5
	110	200					
	160	250					
	210	300					
SKR33	45	150	±0.01	No standard defined	No standard defined	0.02	7
	95	200					
	195	300					
	295	400					
	395	500					
	495	600					
SKR46	190	340	±0.01	No standard defined	No standard defined	0.02	10
	290	440					
	390	540					
	490	640					
	590	740					
	690	840					
790	940						

* These values refer to when the block is of type A (with a single block).

Note1) The evaluation method complies with THK standards.

Note2) Measurements are taken using a motor provided by THK. Also, for the Folded Motor configuration, measurements were not carried out at the completed state.

Note3) The starting torque refers to the values when THK AFB-LF Grease is used. However, the values for SKR20/26 and KR20/26 refer to the values when using THK AFA Grease.

Note4) If highly viscous grease such as vacuum grease and clean room grease is used, the actual starting torque may exceed the corresponding value in the table. Use much care in selecting a motor.

Model No.	Stroke* [mm]	Outer rail length [mm]	Positioning Repeatability [mm]	Positioning Accuracy [mm]	Running Parallelism (Vertical Direction) [mm]	Backlash [mm]	Starting torque [N·cm]
KR20	30	100	±0.01	No standard defined	No standard defined	0.02	0.5
	80	150					
	130	200					
KR26	60	150	±0.01	No standard defined	No standard defined	0.02	1.5
	110	200					
	160	250					
	210	300					
	300	300					
KR30H	50	150	±0.01	No standard defined	No standard defined	0.02	7
	100	200					
	200	300					
	300	400					
	400	500					
	500	600					
KR45H	200	340	±0.01	No standard defined	No standard defined	0.02	10
	300	440					
	400	540					
	500	640					
	600	740					
	700	840					
	800	940					

KR30H

KR30H A/B direct motor coupling

Specification

Motor rated output [W]		100			
Ball Screw Lead [mm]		6	10		
Rated speed *1 [mm/s]		300	500		
Maximum load capacity *2 [kg]	Acceleration/ deceleration	horizontal	0.15G	28	—
			0.3G	28	23
			0.5G	27	22
		vertical	0.15G	16	—
			0.3G	15	9
			0.5G	15	9
Rated thrust *3 [N]		268	160		
Maximum thrust *4 [N]		795	477		

Load Rating

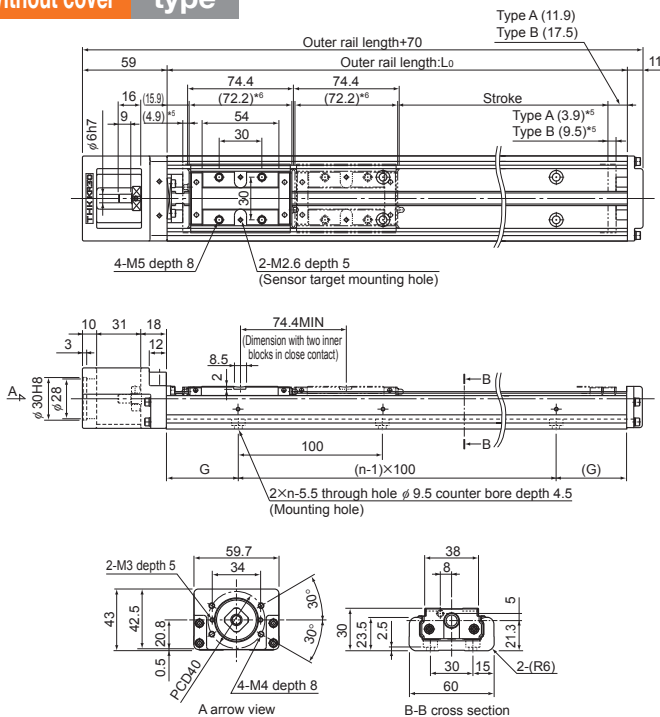
Item		KR30H06	KR30H10
LM guide unit	Basic dynamic load rating C [N]	11600	
	Basic static load rating C ₀ [N]	20200	
	Radial clearance [mm]	-0.004 to +0.002	
Ball screw unit	Basic dynamic load rating Ca [N]	2840	1760
	Basic static load rating C _{0a} [N]	4900	2840
	Screw shaft diameter [mm]	10	
	Ball Screw Lead [mm]	6	10
	Bearing unit (Fixed side)	Ball screw unit	Basic dynamic load rating Ca [N]
		Static permissible load P _{0a} [N]	2590

Motor used and applicable intermediate flanges Dimensions of Intermediate Flange → P.07

Motor type		Rated output	Flange size	Intermediate flange symbol	
AC servo motor	Yaskawa Electric	Σ-V	□40	SGMJV-A5	Q
				SGMAV-A5	Q
				SGMJV-01	Q
		Σ-7	□40	SGMAV-01	Q
				SGMJV-C2	Q
				SGMAV-C2	Q

Motor type		Rated output	Flange size	Intermediate flange symbol		
AC servo motor	Yaskawa Electric	Σ-7	□40	SGM7J-A5	Q	
				SGM7A-A5	Q	
				SGM7J-01	Q	
				SGM7A-01	Q	
				SGM7J-C2	Q	
				SGM7A-C2	Q	
	Mitsubishi Electric	MELDAS	J3	□40	HF-MP053	Q
					HF-KP053	Q
					HF-MP13	Q
		MELDAS	J4	□40	HG-MR053	Q
					HG-KR053	Q
					HG-MR13	Q
JN			□40	HF-KN053	Q	
				HF-KN13	Q	
				HG-KR13	Q	
Tamagawa Seiki Co., Ltd.	TBL-III	□40	TS4602	Q		
			TS4603	Q		
			TS4604	Q		
	TBL-IV	□40	TSM3102	Q		
			TSM3104	Q		
			TSM3104	Q		
Panasonic Corp.	MINAS	A5	□38	MSMD5A	P	
				MSME5A	P	
				MSMD01	P	
				MSME01	P	
				MSMF5A	P	
	MINAS	A6	□40	MHMF5A	Q	
				MSMF01	P	
				MHMF01	Q	
				SV-M005	Q	
				SV-M010	Q	
Keyence Corporation	SV2	□40	SV2-M005	Q		
			SV2-M010	Q		
			SV2-M010	Q		

Without cover type



Dimensions (without a Cover/with a Cover)

Stroke [mm]	Type A		50	100	200	300	400	500
	Type B*7		—	—	120	220	320	420
Maximum speed*5 [mm/s]	Ball Screw Lead	6mm	300(395)					
		10mm	500(650)					
Dimensions [mm]	Outer rail length: L ₀		150	200	300	400	500	600
	G		25	50	50	50	50	50
	F		100	100	200	200	200	200
	H		25	50	50	100	50	100
	D		45	70	70	70	70	70
	Q		—	—	—	—	400	500
	K		—	—	—	—	30	30
Number of elongated holes	p	1	1	1	1	2	2	
Number of mounting holes	n	2	2	3	4	5	6	
	n ¹	2	2	2	2	3	3	
Mass [kg]	Without a Cover	Type A	1.4	1.6	2.2	2.7	3.2	3.8
		Type B	—	—	2.5	3	3.5	4.1
	With a Cover	Type A	1.6	1.8	2.4	3	3.5	4.1
		Type B	—	—	2.83	3.43	3.93	4.53

- *1 The rated speed refers to a speed at the rated revolution (3,000 min⁻¹).
- *2 The maximum load capacity refers to a guideline load capacity at the rated speed.
- *3 The rated thrust refers to the thrust force at the rated motor torque.
- *4 The maximum thrust refers to values when the motor is at maximum peak torque, or when otherwise restricted by the permissible load.
- *5 This is the distance between the mecha stopper and the stroke starting position.
- *6 This indicates the length of the inner block when calculating the allowed stroke range. KR30H-B (with two blocks) is 146.6 mm when double blocks are used in close contact with each other.
- *7 This indicates a value when double blocks are in close contact with each other.
- *8 The maximum speed is the speed restricted by the motor rotational speed (at 3,000 min⁻¹), or by the permissible rotational speed of the ball screw. However, those within brackets are the motor rotational speed (at 6,000 min⁻¹). When used at speeds higher than the rated speed, the acceptable load will differ.

		Motor type	Rated output	Flange size	Intermediate flange symbol	
AC servo motor	SANYO DENKI	SANMOTION R	R2□A04005	50W	□40	Q
			R2EA04008	80W	□40	Q
			R2□A04010	100W	□40	Q
	Omron	OMNUC G5	R88M-K05030	50W	□40	Q
			R88M-K10030	100W	□40	Q
			R88M-1M10030	100W	□40	Q
Fanuc	β is series	βis0.2/5000	50W	□40	Q	
		βis0.3/5000	100W	□40	Q	
Stepping motor	Oriental Motor	α Step	AZ4*, AR4*(excluding the AZM48)	□42	R	
			AZ6*, AR6*	□60	U	
			CRK54*	□42	R	
			CRK56*φ8 564, 566	□60	U	
			CRK56*φ10 569	□60	U	
			RKS54*	□42	R	
		5 phase	RKII	RKS56*	□60	U
				PKA544	□42	R
				PKA566	□60	U
		2 phase	CVK	CVK54*	□42	R
				CVK56*φ8 564, 566	□60	U
				CVK56*φ8 564	□56.4	T
	SANYO DENKI	5 phase	PB	PBDM423, PBA**423	□42	R
				PBDM60*, PBA**60*	□60	U
			5 phase	FAF54*/FDF54*/FA511M42/FB511M42	□42	R
				FAF56*/FDF56*/FA512M60/FB512M60	□60	U
				DB14H52*	□42	R
				DU15H52*	□42	R
		2 phase	DB	D*16H71*	□56	T
				DB16H78*	□60	U
		Keyence Corporation	2 phase	QS-M42	□42	R
				QS-M60	□60	U

Detailed Specifications

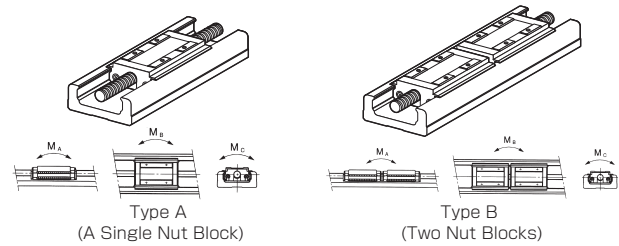
Recommended coupling	SFC-020DA2 Type C (Miki Pulley Co., LTD.) φ5 to 10
Outer diameter of ball screw shaft/shaft end [mm]	6
Permissible input torque [N-m]	1.244

Note) Recommended couplings are for use with a servo motor.

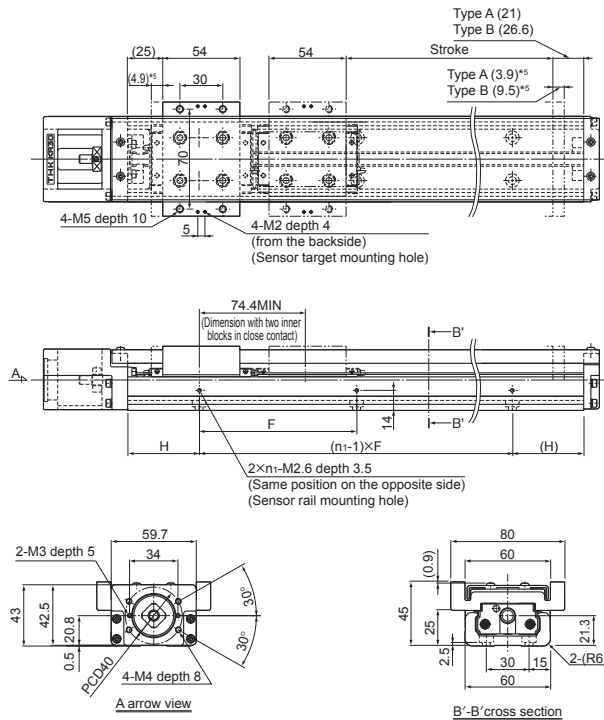
Static permissible moment

Unit:N-m

Model No.	Block type	Static permissible moment		
		M _A	M _B	M _C
KR30H	A	166	166	428
	B	908	908	857



With Cover type



KR30H

KR30H C/D direct motor coupling

Specification

Motor rated output [W]		100			
Ball Screw Lead [mm]		6	10		
Rated speed *1 [mm/s]		300	500		
Maximum load capacity *2 [kg]	Acceleration/deceleration	horizontal	0.15G	28	-
			0.3G	28	23
			0.5G	27	22
		vertical	0.15G	16	-
			0.3G	15	9
			0.5G	15	9
Rated thrust *3 [N]		268	160		
Maximum thrust *4 [N]		795	477		

Load Rating

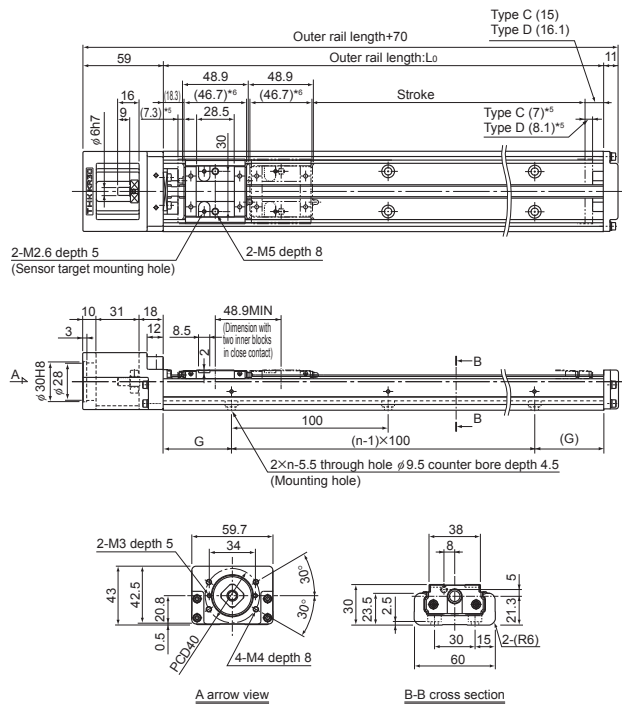
Item		KR30H06	KR30H10
LM guide unit	Basic dynamic load rating C [N]	4900	
	Basic static load rating C ₀ [N]	10000	
	Radial clearance [mm]	-0.004 to +0.002	
Ball screw unit	Basic dynamic load rating Ca [N]	2840	1760
	Basic static load rating C _{0a} [N]	4900	2840
	Screw shaft diameter [mm]	10	
	Ball Screw Lead [mm]	6	10
	Bearing unit (Fixed side)	Axial direction	Basic dynamic load rating Ca [N] Static permissible load P _{0a} [N]
		1790 2590	

Motor used and applicable intermediate flanges Dimensions of Intermediate Flange → P.08

Motor type		Rated output	Flange size	Intermediate flange symbol		
AC servo motor	Yaskawa Electric	Σ-V	□40	SGMJV-A5	Q	
				SGMAV-A5	Q	
				SGMJV-01	Q	
		100W		SGMAV-01	Q	
				150W	SGMJV-C2	Q

Motor type		Rated output	Flange size	Intermediate flange symbol					
AC servo motor	Yaskawa Electric	Σ-7	□40	SGM7J-A5	Q				
				SGM7A-A5	Q				
				SGM7J-01	Q				
				SGM7A-01	Q				
				SGM7J-C2	Q				
				150W	Q				
	Mitsubishi Electric	MEL-D	J3	□40	HF-MP053	Q			
					HF-KP053	Q			
					HF-MP13	Q			
					HF-KP13	Q			
					100W	J4	□40	HG-MR053	Q
								HG-KR053	Q
HG-MR13		Q							
100W		JN	□40	HG-KR13	Q				
				HF-KN053	Q				
				HF-KN13	Q				
Tamagawa Seiki Co., Ltd.		TBL-III	□40	TS4602	Q				
				TS4603	Q				
	TS4604			Q					
	TBL-IV	TSM3102		Q					
		TSM3104		Q					
		Panasonic Corp.		MINAS	□38	100W	MSMD5A	P	
MSME5A	P								
MSMD01	P								
50W	A5		MSME01			P			
			A6			MSMF5A	□38 P		
						MHMF5A	□40 Q		
100W	A6	MSMF01		□38 P					
		MHMF01	□40 Q						
		Keyence Corporation	SV	□40	SV-M005	Q			
SV-M010	Q								
SV2	SV2-M005		Q						
	SV2-M010		Q						

Without cover type



Dimensions (without a Cover/with a Cover)

Stroke [mm]	Type C		70	120	220	320	420	520
	Type D*7		20	70	170	270	370	470
Maximum speed*8 [mm/s]	Ball Screw Lead	6mm	300(470)					
		10mm	500(790)					
Dimensions [mm]	Outer rail length: L ₀		150	200	300	400	500	600
	G		25	50	50	50	50	50
	F		100	100	200	200	200	200
	H		25	50	50	100	50	100
	D		45	70	70	70	70	70
	Q		-	-	-	-	400	500
	K		-	-	-	-	30	30
Number of elongated holes	p		1	1	1	1	2	2
	n		2	2	3	4	5	6
Number of mounting holes	n'		2	2	2	2	3	3
			2	2	2	2	3	3
Mass [kg]	Without a Cover	Type C	1.3	1.5	2.1	2.6	3.1	3.7
		Type D	1.47	1.67	2.27	2.77	3.27	3.87
	With a Cover	Type C	1.4	1.6	2.2	2.8	3.3	3.9
		Type D	1.64	1.84	2.44	3.04	3.54	4.14

*1 The rated speed refers to a speed at the rated revolution (3,000 min⁻¹).
 *2 The maximum load capacity refers to a guideline load capacity at the rated speed.
 *3 The rated thrust refers to the thrust force at the rated motor torque.
 *4 The maximum thrust refers to values when the motor is at maximum peak torque, or when otherwise restricted by the permissible load.
 *5 This is the distance between the mecha stopper and the stroke starting position.
 *6 This indicates the length of the inner block when calculating the allowed stroke range. KR30H-D (with two short type blocks) is 95.6 mm when double blocks are used in close contact with each other.
 *7 This indicates a value when double blocks are in close contact with each other.
 *8 The maximum speed is the speed restricted by the motor rotational speed (at 3,000 min⁻¹), or by the permissible rotational speed of the ball screw. However, those within brackets are the motor rotational speed (at 6,000 min⁻¹). When used at speeds higher than the rated speed, the acceptable load will differ.

		Motor type	Rated output	Flange size	Intermediate flange symbol	
AC servo motor	SANYO DENKI	SANMOTION R	R2□A04005	50W	□40	Q
			R2EA04008	80W	□40	Q
	Omron	OMNUC G5	R88M-K05030	50W	□40	Q
			R88M-K10030	100W	□40	Q
Fanuc	β is series	βis0.2/5000	50W	□40	Q	
		βis0.3/5000	100W	□40	Q	
Stepping motor	Oriental Motor	α Step	AZ4*, AR4*(excluding the AZM48)	100W	□42	R
			AZ6*, AR6*	100W	□42	R
		CRK	CRK54*	564, 566	□42	R
			CRK56*φ8	564, 566	□60	U
			CRK56*φ10	569	□60	U
			RKII	RKS54*	□42	R
		PKA	PKA544	□42	R	
			PKA566	□60	U	
		CVK	CVK54*	□42	R	
			CVK56*φ8	564, 566	□60	U
	2 phase	CVK	CVK24*	□42	R	
			CVK26*	□56.4	T	
	SANYO DENKI	PB	PBDM423, PBA**423	□42	R	
			PBDM60*, PBA**60*	□60	U	
		5 phase	FAF54*/FDF54*/FA511M42/FB511M42	□42	R	
			FAF56*/FDF56*/FA512M60/FB512M60	□60	U	
		2 phase	DB14H52*	□42	R	
			DU15H52*	□42	R	
			D*16H71*	□56	T	
			DB16H78*	□60	U	
Keyence Corporation		2 phase	QS-M42	□42	R	
			QS-M60	□60	U	

Detailed Specifications

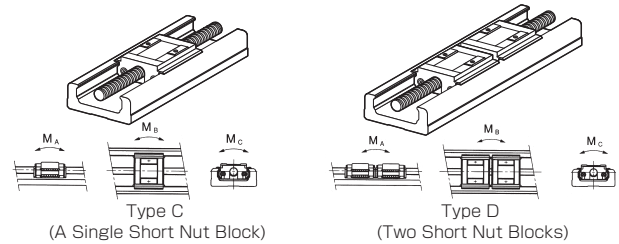
Recommended coupling	SFC-020DA2 Type C (Miki Pulley Co., LTD.) φ5 to 10
Outer diameter of ball screw shaft/shaft end [mm]	6
Permissible input torque [N-m]	1.244
Ball Screw Lead	6,10mm

Note) Recommended couplings are for use with a servo motor.

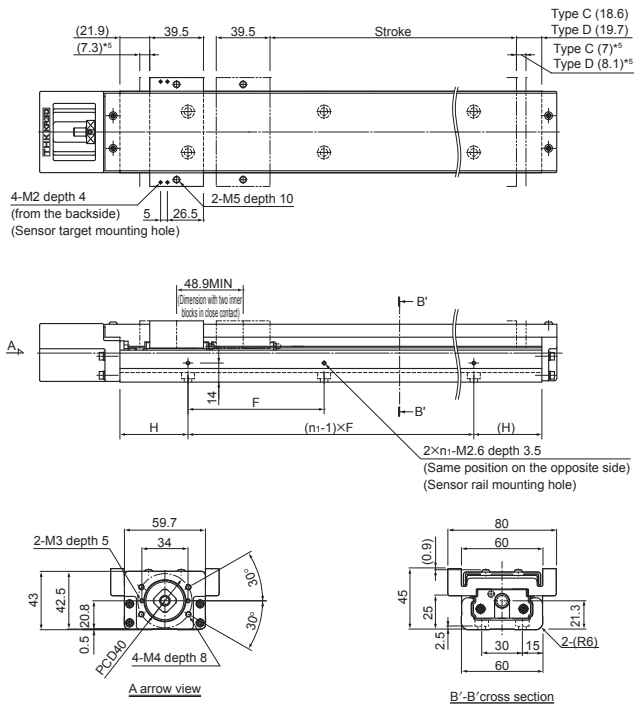
Static permissible moment

Unit:N-m

Model No.	Block type	Static permissible moment		
		M _A	M _B	M _C
KR30H	C	44	44	214
	D	319	319	427



With Cover type



KR30H

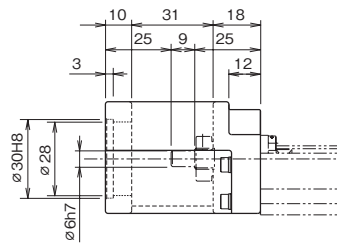
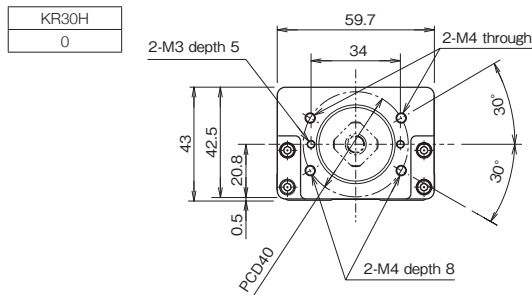
KR30H A/B direct motor coupling

Model Number Coding

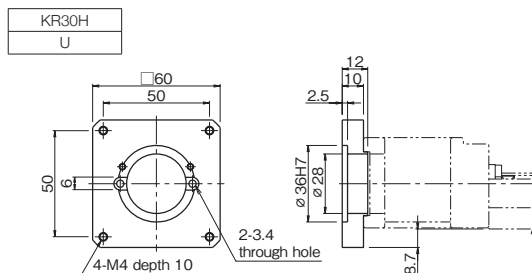
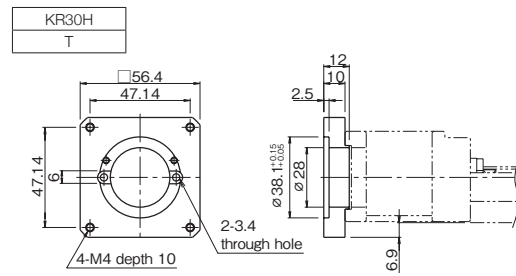
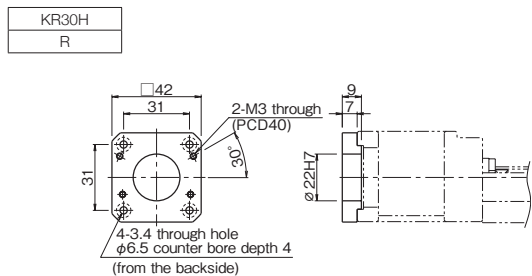
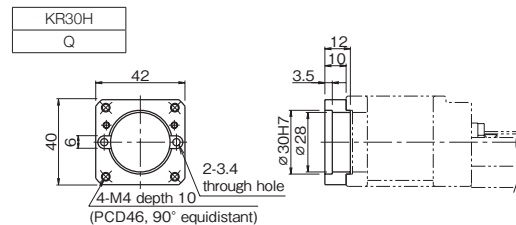
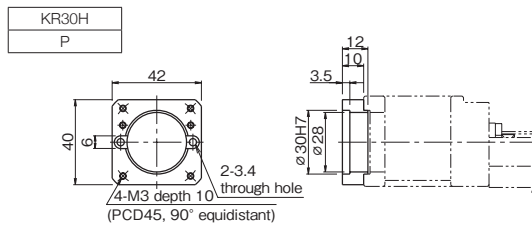
Model No.	Ball Screw Lead	Block type	Basic Configuration		Direct-coupled	Cover*1	Housing A/ Intermediate Flange	00000
			Type A	Type B				
KR30H	06:6mm	A : with a Single Nut Block	0050:50mm	0120:120mm	0: direct-coupled	0: without a cover	0: none (Housing A only)	
			0100:100mm	0220:220mm				
	0200:200mm	0320:320mm						
	0300:300mm	0420:420mm						
	0400:400mm							
0500:500mm								
	10:10mm	B : with Two Nut Blocks			1: with a cover	P/Q/R/T/U (Housing A and intermediate flange) : See the following reference		

KR30H A/B direct motor coupling Dimensional diagram for motor mounting part

Housing A



Intermediate Flange



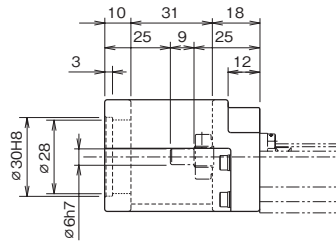
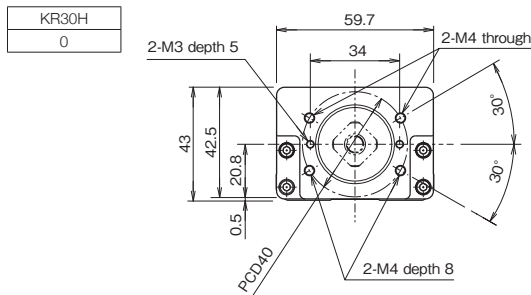
KR30H C/D direct motor coupling

Model Number Coding

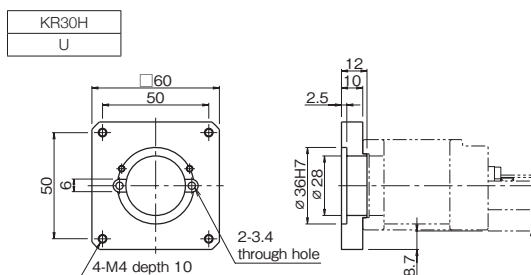
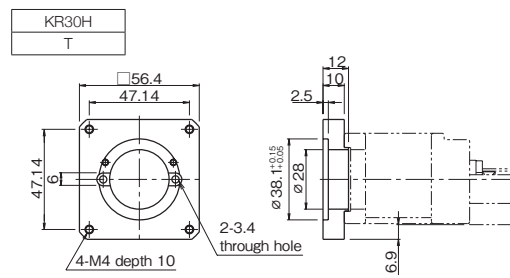
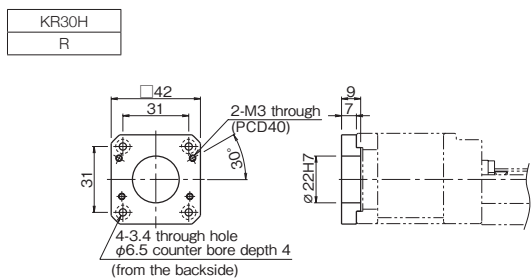
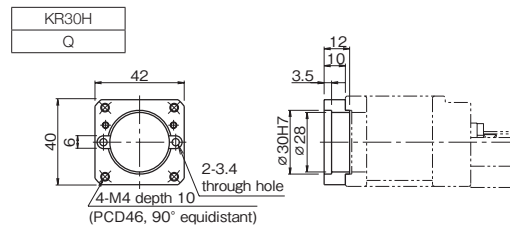
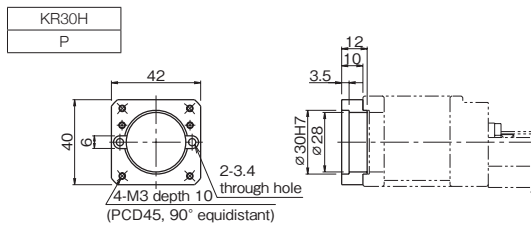
Model No.	Ball Screw Lead	Block type	Basic Configuration		Direct-coupled	Cover*1	Housing A/ Intermediate Flange	00000
			Type C	Type D				
KR30H	06:6mm 10:10mm	C : with a Single Short Nut Block D : with Two Short Nut Blocks	0070:70mm	0020:20mm	0: direct-coupled	0: without a cover 1: with a cover	0: none (Housing A only) P/Q/R/T/U (Housing A and intermediate flange) : See the following reference	
			0120:120mm	0070:70mm				
	0220:220mm	0170:170mm						
	0320:320mm	0270:270mm						
	0420:420mm	0370:370mm						
	0520:520mm	0470:470mm						

KR30H C/D direct motor coupling Dimensional diagram for motor mounting part

Housing A



Intermediate Flange



KR45H

KR45H A/B direct motor coupling

Specification

Motor rated output [W]		200		400			
Ball Screw Lead [mm]		10	20	10	20		
Rated speed *1 [mm/s]		500	1000	500	1000		
Maximum load capacity *2 [kg]	Acceleration/deceleration	horizontal	0.3G	52	48	52	48
			0.5G	43	27	51	45
		vertical	0.3G	18	8	26	18
			0.5G	17	8	25	18
Rated thrust *3 [N]		321	160	653	326		
Maximum thrust *4 [N]		955	477	1080	955		

Load Rating

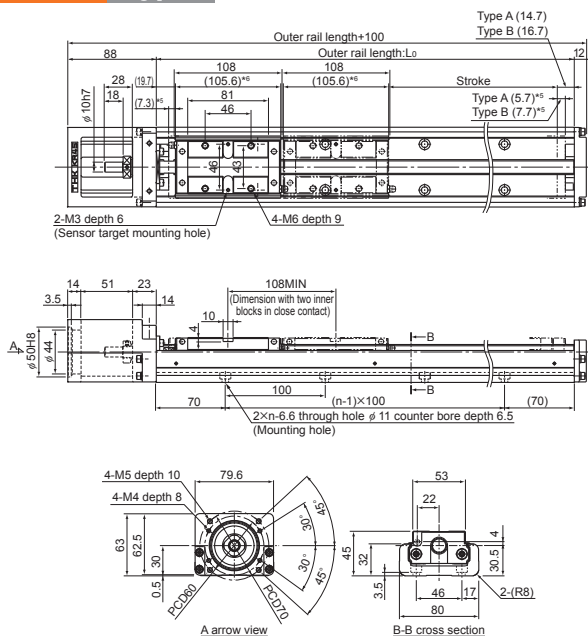
Item		KR45H10	KR45H20
LM guide unit	Basic dynamic load rating C [N]	23300	
	Basic static load rating C ₀ [N]	39200	
	Radial clearance [mm]	-0.006 to +0.003	
Ball screw unit	Basic dynamic load rating Ca [N]	3140	3040
	Basic static load rating C _{0a} [N]	6760	7150
	Screw shaft diameter [mm]	15	
	Ball Screw Lead [mm]	10	20
Bearing unit (Fixed side)	Axial direction	Basic dynamic load rating Ca [N]	6660
		Static permissible load P _{0a} [N]	3240

Motor used and applicable intermediate flanges Dimensions of Intermediate Flange → P.13

Motor type		Rated output	Flange size	Intermediate flange symbol	
AC servo motor	Yaskawa Electric	Σ-V	□40	SGMJV-A5	Q
				SGMAV-A5	Q
				SGMJV-01	Q
				SGMAV-01	Q
				SGMJV-C2	0
				SGMJV-02	0
		Σ-7	□60	SGMAV-02	0
				SGMJV-04	0
				SGMAV-04	0
				SGMJV-06	0
				SGM7J-A5	Q
				SGM7A-A5	Q

Motor type		Rated output	Flange size	Intermediate flange symbol	
AC servo motor	Yaskawa Electric	Σ-7	□40	SGM7J-01	Q
				SGM7A-01	Q
				SGM7J-C2	Q
				SGMJV-02	0
				SGM7A-02	0
				SGM7J-04	0
		Σ-7	□60	SGM7A-04	0
				SGM7J-06	0
				HF-MP053	Q
				HF-KP053	Q
				HF-MP13	Q
				HF-KP13	Q
	Mitsubishi Electric	J3	□40	HF-MP23	0
				HF-KP23	0
				HF-MP43	0
				HF-KP43	0
				HF-MP43	0
				HF-KP43	0
		J4	□60	HG-MR053	Q
				HG-KR053	Q
				HG-MR13	Q
				HG-KR13	Q
				HG-MR23	0
				HG-KR23	0
	JN	□60	HG-MR43	0	
			HG-KR43	0	
			HF-KN053	Q	
			HF-KN13	Q	
			HF-KN23	0	
			HF-KN43	0	
Tamagawa Seiki Co., Ltd.	TBL-III	□40	TS4602	Q	
			TS4603	Q	
			TS4604	Q	
			TS4607	0	
			TS4609	0	
			TS4609	0	
	TBL-IV	□60	TSM3101	Q	
			TSM3102	Q	
			TSM3104	Q	
			TSM3202	0	
			TSM3204	0	
			TSM3204	0	

Without cover type



Dimensions (without a Cover/with a Cover)

Stroke [mm]	Type A		200	300	400	500	600	700	800
	Type B*7		90	190	290	390	490	590	690
Maximum speed*4 [mm/s]	Ball Screw Lead	10mm	500(520)						430
		20mm	1000(1050)						840
Dimensions [mm]	Outer rail length: L ₀		340	440	540	640	740	840	940
	F		200	400	400	600	600	800	800
	H		70	20	70	20	70	20	70
	Q		-	-	360	460	560	660	760
	K		-	-	90	90	90	90	90
Number of elongated holes	p		1	1	2	2	2	2	2
	n		3	4	5	6	7	8	9
Number of mounting holes	n'		2	3	3	4	4	5	5
Mass[kg]	Without a Cover	Type A	5.1	6.1	7.1	8.1	9.1	10.1	11.2
		Type B	6.05	7.05	8.05	9.05	10.05	11.05	12.15
	With a Cover	Type A	5.7	6.8	7.9	9	10.1	11.2	12.3
		Type B	7.01	8.11	9.21	10.31	11.41	12.51	13.61

- *1 The rated speed refers to a speed at the rated revolution (3,000 min⁻¹).
- *2 The maximum load capacity refers to a guideline load capacity at the rated speed.
- *3 The rated thrust refers to the thrust force at the rated motor torque.
- *4 The maximum thrust refers to values when the motor is at maximum peak torque, or when otherwise restricted by the permissible load.
- *5 This is the distance between the mecha stopper and the stroke starting position.
- *6 This indicates the length of the inner block when calculating the allowed stroke range. KR45H-B (with two blocks) is 213.6 mm when double blocks are used in close contact with each other.
- *7 This indicates a value when double blocks are in close contact with each other.
- *8 The maximum speed is the speed restricted by the motor rotational speed (at 3,000 min⁻¹), or by the permissible rotational speed of the ball screw. However, those within brackets are the motor rotational speed (at 6,000 min⁻¹). When used at speeds higher than the rated speed, the acceptable load will differ.

		Motor type		Rated output	Flange size	Intermediate flange symbol	
AC servo motor	Panasonic Corp.	MINAS	A5	MSMD5A	50W	P	
				MSME5A		P	
				MSMD01	100W	P	
				MSME01		P	
				MSMD02	200W	Y	
				MSME02		Y	
		A6	MSMD04	400W	Y		
			MSME04		Y		
			MSMF5A	50W	P		
			MHMF5A		Q		
			MSMF01	100W	P		
			MHMF01		Q		
		200W	MSMF02		Y		
			MHMF02		Y		
			MSMF04	400W	Y		
			MHMF04		Y		
			Keyence Corporation	SV	SV-M005	50W	Q
					SV-M010	100W	Q
	SV-M020	200W			0		
	SV2	SV-M040		400W	0		
		SV2-M005		50W	Q		
		SV2-M010		100W	Q		
	SANYO DENKI	SANMOTION R	SV2-M020	200W	0		
			SV2-M040	400W	0		
			R2□A04003	30W	Q		
			R2□A04005	50W	Q		
			R2EA04008	80W	Q		
			R2□A04010	100W	Q		
		OMNUC G5	R2□A06020	200W	0		
			R2AA06040	400W	0		
			R88M-K05030	50W	Q		
			R88M-K10030	100W	Q		
			R88M-K20030	200W	Y		
			R88M-K40030	400W	Y		
	1S	R88M-1M10030	100W	Q			
		R88M-1M20030	200W	Y			
R88M-1M40030		400W	Y				
Fanuc		β is series	βis0.2/5000	50W	Q		
	βis0.3/5000		100W	Q			

		Motor type		Flange size	Intermediate flange symbol
Stepping motor	Oriental Motor	5 phase	α Step	AZ6*, AR6*	□60 U
			CRK	CRK56	□60 U
			RKII	RKS56*	□60 U
			PKA	PKA566	□60 U
			CVK	PKP56	□60 U
	SANYO DENKI	5 phase	PB	PBDM60*, PBA**60*	□60 U
			FAF56*/DF56*/FA512M60/FA512M60		□60 U
			DB16H78*		□60 U
	Keyence Corporation		2 phase	QS-M60	□60 U

Detailed Specifications

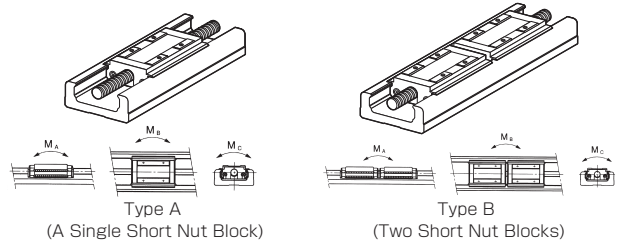
Recommended coupling	SFC-035DA2 Type C (Miki Pulley Co., LTD.) φ8 to 16
Outer diameter of ball screw shaft/shaft end [mm]	10
Permissible input torque [N·m]	5.498

Note) Recommended couplings are for use with a servo motor.

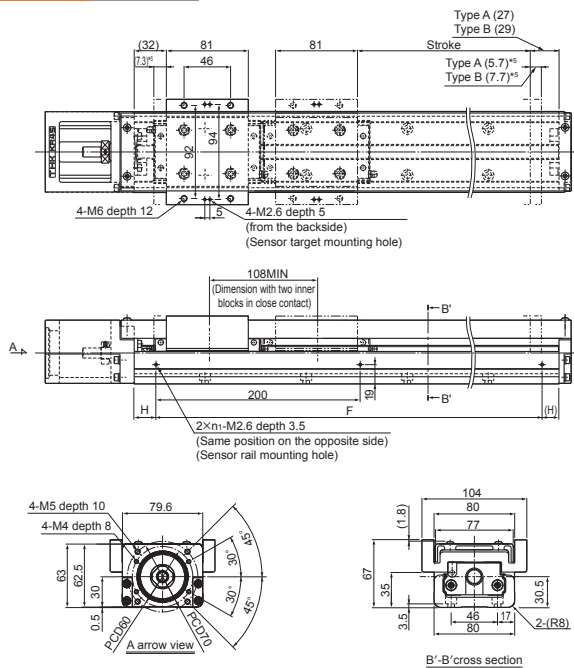
Static permissible moment

Unit: N·m

Model No.	Block type	Static permissible moment		
		M _A	M _B	M _C
KR45H	A	486	486	925
	B	2732	2732	1850



With Cover type



KR45H

KR45H C/D direct motor coupling

Specification

Motor rated output [W]		200		400			
Ball Screw Lead [mm]		10	20	10	20		
Rated speed *1 [mm/s]		500	1000	500	1000		
Maximum load capacity *2 [kg]	Acceleration/ deceleration	horizontal	0.3G	52	48	52	48
			0.5G	43	27	51	45
		vertical	0.3G	18	8	26	18
			0.5G	17	8	25	18
Rated thrust *3 [N]		321	160	653	326		
Maximum thrust *4 [N]		955	477	1080	955		

Load Rating

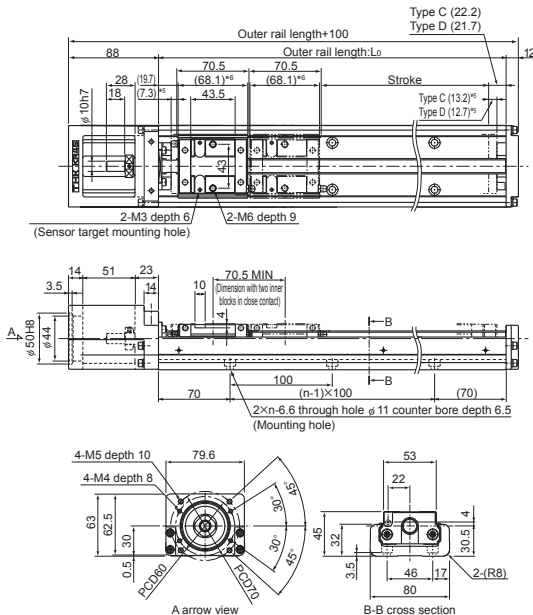
Item		KR45H10	KR45H20
LM guide unit	Basic dynamic load rating C [N]	11900	
	Basic static load rating C ₀ [N]	19600	
	Radial clearance [mm]	-0.006 to +0.003	
Ball screw unit	Basic dynamic load rating Ca [N]	3140	3040
	Basic static load rating C _{0a} [N]	6760	7150
	Screw shaft diameter [mm]	15	
	Ball Screw Lead [mm]	10	20
Bearing unit (Fixed side)	Axial direction	Basic dynamic load rating Ca [N]	6660
		Static permissible load P _{0a} [N]	3240

Motor used and applicable intermediate flanges Dimensions of Intermediate Flange ⇒ P.14

Motor type		Rated output	Flange size	Intermediate flange symbol	
AC servo motor	Yaskawa Electric	Σ-V	□40	SGMJV-A5	Q
				SGMAV-A5	Q
				SGMJV-01	Q
				SGMAV-01	Q
		Σ-7	□60	SGMJV-C2	0
				SGMJV-02	0
				SGMAV-02	0
				SGMJV-04	0
			□40	SGMAV-04	0
				SGMJV-06	0
				SGM7J-A5	Q
				SGM7A-A5	Q

Motor type		Rated output	Flange size	Intermediate flange symbol			
AC servo motor	Yaskawa Electric	Σ-7	□40	SGM7J-01	Q		
				SGM7A-01	Q		
				SGM7J-C2	Q		
				SGMJV-02	0		
				SGM7A-02	0		
				SGM7J-04	0		
		□60	SGM7A-04	0			
			SGMJV-06	0			
			Mitsubishi Electric	J3	□40	HF-MP053	Q
						HF-KP053	Q
						HF-MP13	Q
						HF-KP13	Q
	HF-MP23	0					
	HF-KP23	0					
	□60	HF-MP43		0			
		HF-KP43		0			
		J4		□40	HG-MR053	Q	
					HG-KR053	Q	
					HG-MR13	Q	
				□60	HG-KR13	Q	
	HG-MR23		0				
	HG-KR23		0				
	JN	□60	HG-MR43	0			
			HG-KR43	0			
			HF-KN053	Q			
			HF-KN13	Q			
			HF-KN23	0			
			HF-KN43	0			
	Tamagawa Seiki Co., Ltd.	TBL-III	□40	TS4602	Q		
				TS4603	Q		
TS4604				Q			
TS4607				0			
TS4609				0			
TS4609				0			
TBL-IV		□40	TSM3101	Q			
			TSM3102	Q			
			TSM3104	Q			
			TSM3202	0			
			TSM3204	0			
			TSM3204	0			

Without cover type



Dimensions (without a Cover/with a Cover)

Stroke [mm]	Type C		230	330	430	530	630	730	830	
	Type D *7		160	260	360	460	560	660	760	
Maximum speed *8 [mm/s]	Ball Screw Lead	10mm	500(520)						490	380
		20mm	1000(1050)						980	770
Dimensions [mm]	Outer rail length: L ₀		340	440	540	640	740	840	940	
	F		200	400	400	600	600	800	800	
	H		70	20	70	20	70	20	70	
	Q		-	-	360	460	560	660	760	
	K		-	-	90	90	90	90	90	
Number of elongated holes	p		1	1	2	2	2	2	2	
Number of mounting holes	n		3	4	5	6	7	8	9	
	n'		2	3	3	4	4	5	5	
	n''		-	-	-	-	-	-	-	
Mass [kg]	Without a Cover	Type C	4.7	5.7	6.7	7.7	8.7	9.7	10.8	
		Type D	5.27	6.27	7.27	8.27	9.27	10.27	11.37	
	With a Cover	Type C	5.1	6.2	7.3	8.4	9.5	10.6	11.7	
		Type D	5.82	6.92	8.02	9.12	10.22	11.32	12.42	

- *1 The rated speed refers to a speed at the rated revolution (3,000 min⁻¹).
- *2 The maximum load capacity refers to a guideline load capacity at the rated speed.
- *3 The rated thrust refers to the thrust force at the rated motor torque.
- *4 The maximum thrust refers to values when the motor is at maximum peak torque, or when otherwise restricted by the permissible load.
- *5 This is the distance between the mecha stopper and the stroke starting position.
- *6 This indicates the length of the inner block when calculating the allowed stroke range. KR45H-D (with two short type blocks) is 138.6 mm when double blocks are used in close contact with each other.
- *7 This indicates a value when double blocks are in close contact with each other.
- *8 The maximum speed is the speed restricted by the motor rotational speed (at 3,000 min⁻¹), or by the permissible rotational speed of the ball screw. However, those within brackets are the motor rotational speed (at 6,000 min⁻¹). When used at speeds higher than the rated speed, the acceptable load will differ.

		Motor type		Rated output	Flange size	Intermediate flange symbol			
AC servo motor	Panasonic Corp.	MINAS	A5	MSMD5A	50W	P			
				MSME5A		P			
				MSMD01	100W	P			
				MSME01		P			
				MSMD02	200W	Y			
				MSME02		Y			
			MSMD04	400W	Y				
			MSME04		Y				
			A6	MSMF5A	50W	□38	P		
				MHMF5A		□40	Q		
				MSMF01	100W	□38	P		
				MHMF01		□40	Q		
		MSMF02		200W		Y			
		MHMF02				Y			
		MSMF04		400W	□60	Y			
		MHMF04				Y			
		Keyence Corporation		SV	SV-M005	50W	□40	Q	
					SV-M010	100W		Q	
					SV-M020	200W		0	
					SV-M040	400W	□60	0	
			SV2		SV2-M005	50W	□40	Q	
					SV2-M010	100W		Q	
				SV2-M020	200W		0		
				SV2-M040	400W	□60	0		
	SANYO DENKI			SANMOTION R	R2□A04003	30W		Q	
					R2□A04005	50W	□40	Q	
			R2EA04008		80W		Q		
			R2□A04010		100W		Q		
		R2□A06020	200W			0			
		R2AA06040	400W		□60	0			
		Omron	OMNUC G5		R88M-K05030	50W	□40	Q	
					R88M-K10030	100W		Q	
					R88M-K20030	200W		Y	
					R88M-K40030	400W	□60	Y	
					1S	R88M-1M10030	100W	□40	Q
						R88M-1M20030	200W		Y
R88M-1M40030	400W		□60	Y					
Fanuc	β is series		βis0.2/5000	50W		□40	Q		
			βis0.3/5000	100W			Q		

		Motor type		Flange size	Intermediate flange symbol	
Stepping motor	Oriental Motor	α Step	AZ6*, AR6*	□60	U	
		CRK	CRK56	□60	U	
		RKII	RKS56*	□60	U	
		PKA	PKA566	□60	U	
		CVK	PKP56	□60	U	
	SANYO DENKI	PB	PBDM60*, PBA**60*	□60	U	
		5 phase	FAF56*/FDF56*/FA512M60/FA512M60	□60	U	
		2 phase	DB16H78*	□60	U	
		Keyence Corporation	2 phase	QS-M60	□60	U

Detailed Specifications

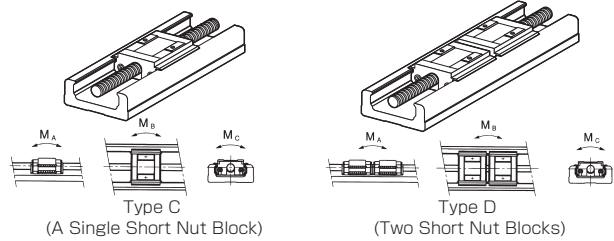
Recommended coupling	SFC-035DA2 Type C (Miki Pulley Co., LTD.) φ8 to 16
Outer diameter of ball screw shaft/shaft end [mm]	10
Permissible input torque [N·m]	Ball Screw Lead 10,20mm 5.498

(Note) Recommended couplings are for use with a servo motor.

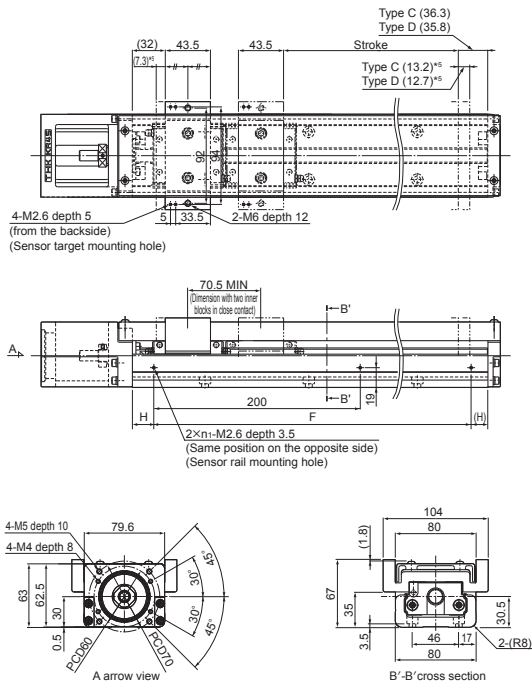
Static permissible moment

Unit:N·m

Model No.	Block type	Static permissible moment		
		M _A	M _B	M _C
KR45H	C	130	130	463
	D	994	994	925



With Cover type



KR45H

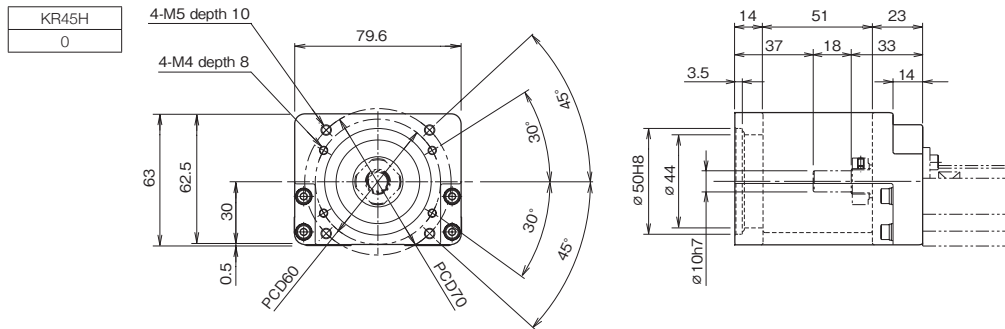
KR45H A/B direct motor coupling

Model Number Coding

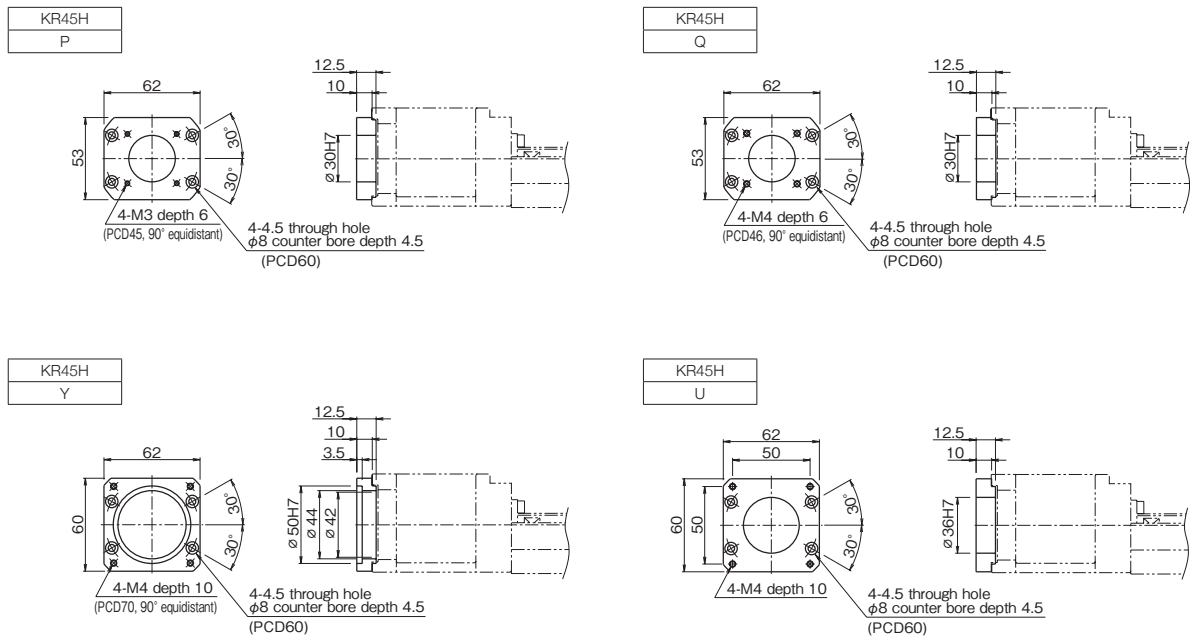
Model No.	Ball Screw Lead	Block type	Stroke		Direct-coupled	Cover*1	Housing A/ Intermediate Flange	00000
			Type A	Type B				
KR45H	10:10mm	A : with a Single Nut Block	0200:200mm	0090:90mm	0: direct-coupled	0: without a cover	0: none (Housing A only)	
			0300:300mm	0190:190mm				
	0400:400mm	0290:290mm						
	0500:500mm	0390:390mm						
	0600:600mm	0490:490mm						
	0700:700mm	0590:590mm						
	0800:800mm	0690:690mm						
20:20mm	B : with Two Nut Blocks			1: with a cover	P/Q/Y/U (Housing A and intermediate flange) : See the following reference			

KR45H A/B direct motor coupling Dimensional diagram for motor mounting part

Housing A



Intermediate Flange



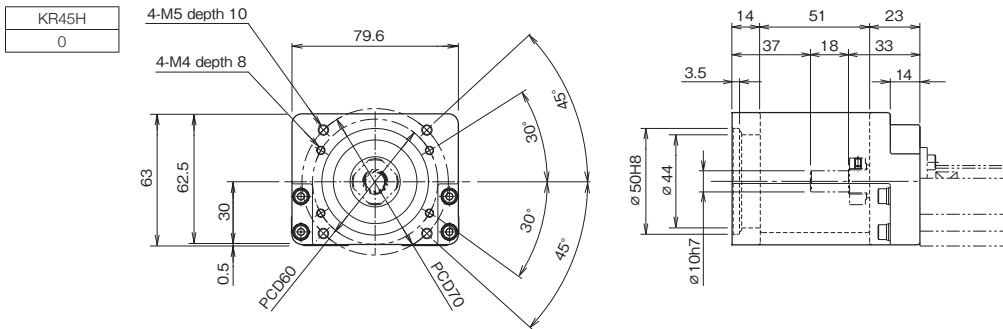
KR45H C/D direct motor coupling

Model Number Coding

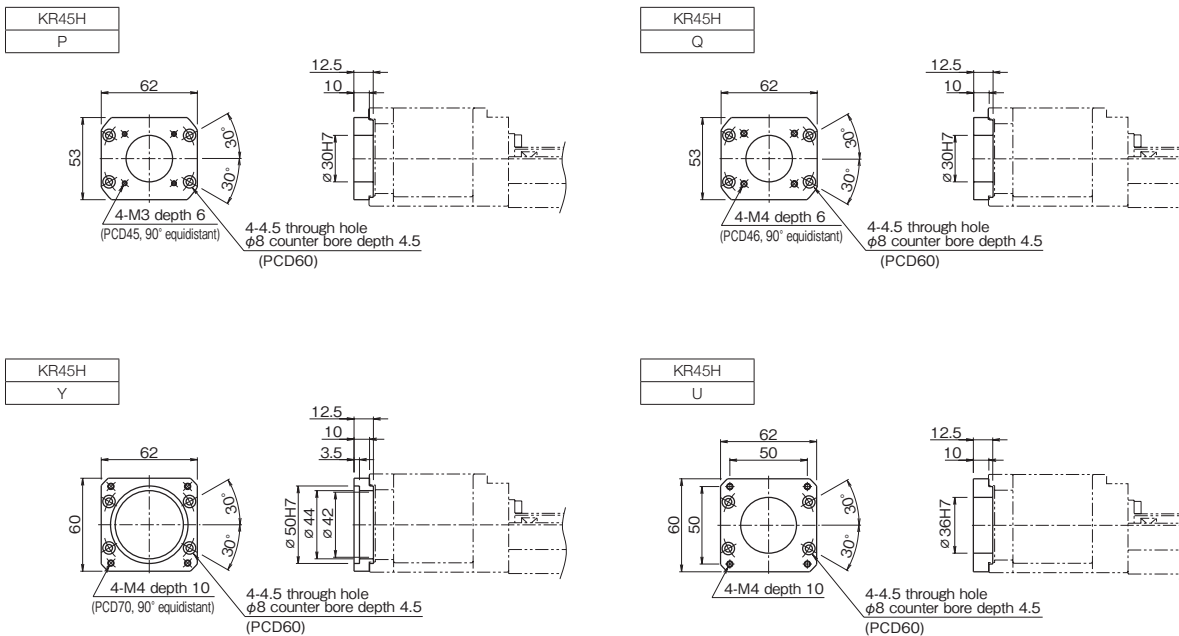
Model No.	Ball Screw Lead	Block type	Stroke		Direct-coupled	Cover*1	Housing A/ Intermediate Flange	00000
			Type C	Type D				
KR45H	10:10mm	C : with a Single Short Nut Block	0230:230mm	0160:160mm	0: direct-coupled	0: without a cover 1: with a cover	0: none (Housing A only) P/Q/Y/U (Housing A and intermediate flange) : See the following reference	
			0330:330mm	0260:260mm				
	20:20mm	D : with Two Short Nut Blocks	0430:430mm	0360:360mm				
			0530:530mm	0460:460mm				
			0630:630mm	0560:560mm				
			0730:730mm	0660:660mm				
			0830:830mm	0760:760mm				

KR45H C/D direct motor coupling Dimensional diagram for motor mounting part

Housing A



Intermediate Flange



Handling

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

Precautions on Use

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

Lubrication

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

Models KR30H, KR45H	THK AFB-LF Grease
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- (3) Do not mix different lubricants. Mixing greases using the same type of thickening agent may still cause adverse interaction between the two greases if they use different additives, etc.
- (4) When using the product in locations exposed to constant vibrations or in special environments such as clean rooms, vacuum and low/high temperatures, it is necessary to select the appropriate grease for the specification/environment. Contact THK for advice regarding this.
- (5) When adopting oil lubrication method, contact THK.
- (6) Because the intervals between greasing vary depending on the conditions of product use, it is recommended that the greasing interval be determined through an initial inspection. Although the lubrication interval may vary according to use conditions and the service environment, lubrication should be performed approximately every 100 km in travel distance (three to six months). Set the final lubrication interval/amount based on the actual machine.
- (7) The consistency of grease changes according to the temperature. Take note that the slide resistance of the model KR also changes as the consistency of grease changes.
- (8) After lubrication, the slide resistance of the model KR may increase due to the agitation resistance of grease. Be sure to perform a break-in to let the grease spread fully, before operating the machine.
- (9) Excess grease may scatter immediately after lubrication, so wipe off scattered grease as necessary.
- (10) The properties of grease deteriorate and its lubrication performance drops over time, so grease must be checked and added properly according to the use frequency of the machine.

Storage

When storing the model KR, enclose them in a package designated by THK and store them in a room in a horizontal orientation while avoiding high temperature, low temperature and high humidity.

After the product has been in storage for an extended period of time, lubricant inside may have deteriorated, so add new lubricant before use.

Disposal

Dispose of the product properly as industrial waste.

Instruction Manual

You can download the "LM Guide Actuator Model KR -- Instruction Manual" from the THK technical support website.

Technical support website

<https://tech.thk.com/>