

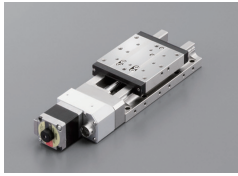
Motorized Stage

CAVE-X POSITIONER

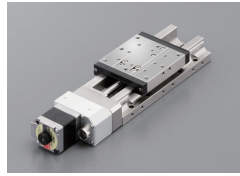
X-axis Linear Ball Guide: KXL06030/KXL06050/KXL06075

Motorized Stage

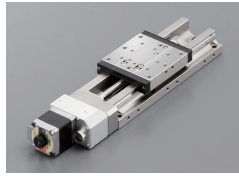
KXL06030M-N



KXL06050M-N



KXL06075M-N



KXL06030M-C



KXL06050M-C



KXL06075M-C



* Clean grease is applied to the drive parts of the KXL series.

KXL06030M-N1-C

1 2 3 4 4 5 6 6

▶ Cables P.1-287~
▶ Electrical specification P.1-121~

1 Travel distance

030	30mm
050	50mm
075	75mm

2 Cover type

N	Uncovered	
C	Covered	

3 Ball screw lead

1	1mm
2	2mm

4 Motor Option

Code	Specification
C	Standard
F	High-torque
G	High resolution
T	2 Phase stepping motor

*For Code T, 2-phase stepping motor, our controller (DS102/112) cannot be used.

5 Origin sensor option

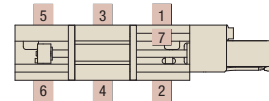
Code	Specification
Blank	None
1	CCW right side
2	CCW left side
3	Center right side
4	Center left side
5	CW right side
6	CW left side
7	Built-in

※ See page P.1-121~ for details of origin sensor option.

4 Motor Option

Code	Specification
MA	With electromagnetic brake(□42_100V)
MB	With electromagnetic brake(□42_200V)
PA	αSTEP (AR Series)
ZA	αSTEP (AZ Series)
UA	Servo motor(J4)

Origin sensor option (Please select one location)



6 Cable Option (Motor-code: C/F/G)

Code	Specification	Cable type
Blank	Cable is not included (Standard)	—
A	2m	D214-2-2E
B	2m One end loose	D214-2-2EK
C	4m	D214-2-4E
D	4m One end loose	D214-2-4EK
E	4 Only connector (Cable is not included) —	—
F	Robot cable 2m	D214-2-2R
G	Robot cable 2m one end loose	D214-2-2RK
H	Robot cable 4m	D214-2-4R
J	Robot cable 4m one end loose	D214-2-4RK

* One end loose position to only stage opposite side.

* See page P.1-287~ for details of cable.

* For connection with our controllers (DS102/112), please select from codes A, C, F, or H.

6 Cable Option (Motor-code: T)

Code	Specification	Cable type
Blank	Cable is not included (Standard)	—
B	2m One end loose	DS1-2C-2-2EK
D	4m One end loose	DS1-2C-2-4EK
G	Robot cable 2m one end loose	DS1-2C-2-2RK
J	Robot cable 4m one end loose	DS1-2C-2-4RK

6 Cable Option (Motor-code: MA/MB/PA/ZA/UA)

Code	Specification
Blank	Sensor cable 2m One end loose wire
3	Sensor cable 3m One end loose wire
5	Sensor cable 5m One end loose wire
3A	Driver Amplifier (3m Cable Set)
5A	Driver Amplifier (5m Cable Set)

products list [4] Motor [6] Cable/Driver combination

Code	Driver (amplifier) cable	Blank	3	5	3A (5A)		
	Motor	MA • MB/PA • ZA/UA			MA • MB	PA • ZA	UA
Cable	Sensor	2m	3m	5m	3m (5m)		
	Motor	None			3m (5m)		
	Electromagnetic brake	None			3m (5m)	—	—
Encoder	Encoder	None			—	—	3m (5m)
	Driver (Amplifier)	None			Available		

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT
Linear Ball

PG
Linear Ball

KXG/KXL
Linear Ball

Cross
Roller

Slide
Guide

40

50

60

70

80

100

120

180

Other

Specification

		SPEC					
Model	Uncovered	KXL06030M-N1-C	KXL06030M-N2-C	KXL06050M-N1-C	KXL06050M-N2-C	KXL06075M-N1-C	KXL06075M-N2-C
	Covered	KXL06030M-C1-C	KXL06030M-C2-C	KXL06050M-C1-C	KXL06050M-C2-C	KXL06075M-C1-C	KXL06075M-C2-C
Mechanical specification	Travel distance	30mm		50mm		75mm	
	Stage table size	60×60mm					
	Feed screw (Ball screw)	φ8 Lead 1	φ8 Lead 2	φ8 Lead 1	φ8 Lead 2	φ8 Lead 1	φ8 Lead 2
	Guide	Linear Ball Guide					
Main materials-Finishing		Stainless—Electroless nickel plating					
Weight	Uncovered	1.27kg		1.37kg		1.53kg	
	Covered	1.33kg		1.43kg		1.59kg	
Resolution/Pulse	Full/Half	2μm/1μm	4μm/2μm	2μm/1μm	4μm/2μm	2μm/1μm	4μm/2μm
	Micro step	0.1μm(1/20 On resolution)	0.2μm(1/20 On resolution)	0.1μm(1/20 On resolution)	0.2μm(1/20 On resolution)	0.1μm(1/20 On resolution)	0.2μm(1/20 On resolution)
MAX speed		30mm/sec	35mm/sec	30mm/sec	35mm/sec	30mm/sec	35mm/sec
Uni-directional positioning accuracy		5μm				7μm	
Repeatability positioning accuracy		±0.5μm					
Load capacity		12kgf [117.6N]					
Moment stiffness		Pitch 0.05/yaw 0.05/roll 0.05 ["/N · cm]					
Lost motion		1μm					
Backlash		1μm					
Straightness		3μm					
Parallelism		15μm					
Motion parallelism		10μm					
Pitching/Yawing		20"/15"					
Limit sensor		Available					
Origin sensor		— *Can be installed with origin sensor option					
Slit origin sensor		—					
Provided screw (Hexagon-headed bolt)		8 of M4—14					

* The SPEC varies depending on the motor.

Resolution · MAX speed · Weight

Motor code		C		F		G		T	
Feature		Standard		High-torque		High resolution		—	
Type		5 phase stepping motor (0.75A/Phase)		5 phase stepping motor (0.75A/Phase)		5 phase stepping motor (0.75A/Phase)		2 phase stepping motor (0.67A/Phase)	
Motor model* 1		C005C-90215P-1		PK525HPB-C1		PK523HPMB-C1		SJA28N32-0674B-01	
Step angle		0.72°		0.72°		0.36°		1.8°	
Resolution	Read 1mm	Full/Half	2μm/1μm		1μm/0.5μm		5μm/2.5μm		
		Micro step (1/20 On resolution)	0.1μm		0.05μm		—		
	Read 2mm	Full/Half	4μm/2μm		2μm/1μm		10μm/5μm		
		Micro step (1/20 On resolution)	0.2μm		0.1μm		—		
MAX speed	Lead 1mm	30mm/sec		35mm/sec		25mm/sec		25mm/sec	
	Read 2mm	35mm/sec		45mm/sec		30mm/sec		40mm/sec	
Weight *4,5	KXL06030M-N	1.27kg		1.36kg		1.27kg		1.27kg	
	KXL06030M-C	1.33kg		1.42kg		1.33kg		1.33kg	
	KXL06050M-N	1.37kg		1.46kg		1.37kg		1.37kg	
	KXL06050M-C	1.43kg		1.52kg		1.43kg		1.43kg	
	KXL06075M-N	1.53kg		1.62kg		1.53kg		1.53kg	
	KXL06075M-C	1.59kg		1.68kg		1.59kg		1.59kg	
Motor code		MA · MB		PA		ZA		UA	
Feature		With electromagnetic brake		Small step-out ,absolute		Small step-out ,absolute		High speed	
Type		5 Phase stepping motor (With electromagnetic brake,0.35A/Phase)		αSTEP (AR Series)		αSTEP (AZ Series)		Servo motor	
Motor model* 1		PKE545MC-A1		ARM24SAK		AZM24AK		HG-KR053	
Step angle		0.72°		—		—		—	
Resolution	Read 1mm	Full/Half	2μm/1μm		1μm(Set to 1000P/R)		1μm(Set to 1000P/R)		22 Bit encoder (4194304P/R)**2,3
		Micro step (1/20 On resolution)	0.1μm		2μm(Set to 1000P/R)		2μm(Set to 1000P/R)		
	Read 2mm	Full/Half	4μm/2μm		—		—		
		Micro step (1/20 On resolution)	0.2μm		—		—		
MAX speed	Lead 1mm	25mm/sec		40mm/sec		40mm/sec		50mm/sec	
	Read 2mm	40mm/sec		80mm/sec		80mm/sec		100mm/sec	
Weight *4,5	KXL06030M-N	1.71kg		1.32		1.32kg		1.54kg	
	KXL06030M-C	1.77kg		1.38		1.38kg		1.60kg	
	KXL06050M-N	1.81kg		1.42		1.42kg		1.64kg	
	KXL06050M-C	1.87kg		1.48		1.48kg		1.70kg	
	KXL06075M-N	1.97kg		1.58		1.58kg		1.80kg	
	KXL06075M-C	2.03kg		1.64		1.64kg		1.86kg	

*1 Model numbers include Suruga Seiki's proprietary management codes.

*2 When constructing an absolute system, it is necessary to install a battery in the amplifier.

*3 Optional encoder cable : for incremental system.

*4 Sensor Option Selection: Not Used.

*5 Origin sensor option [1~6]+0.03kg, [7]+0.01kg.

Motorized Stage

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT

Linear Ball

PG

Linear Ball

KXG/KXL

Linear Ball

Cross

Roller

Slide

Guide

40

50

60

70

80

100

120

180

Ohter

1

084

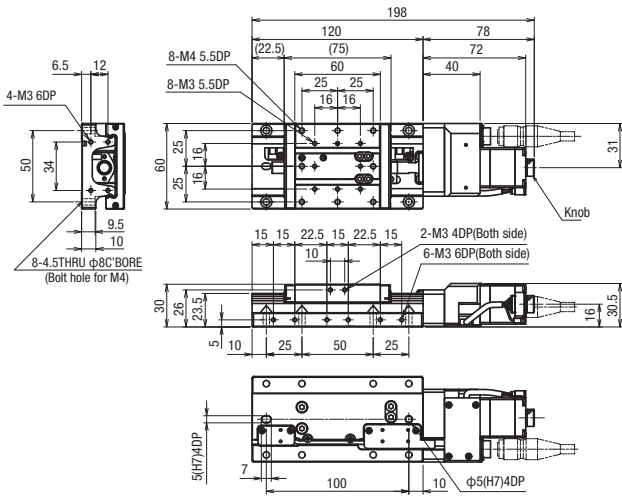
Motorized Stage

CAVE-X POSITIONER

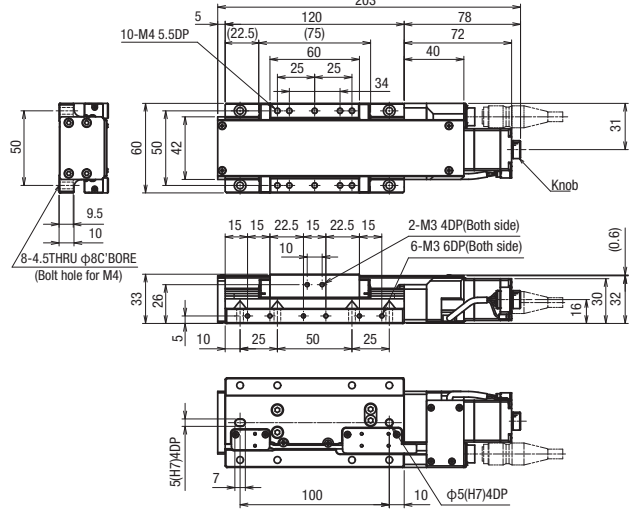
X-axis Linear Ball Guide: KXL06030/KXL06050/KXL06075

Dimensions

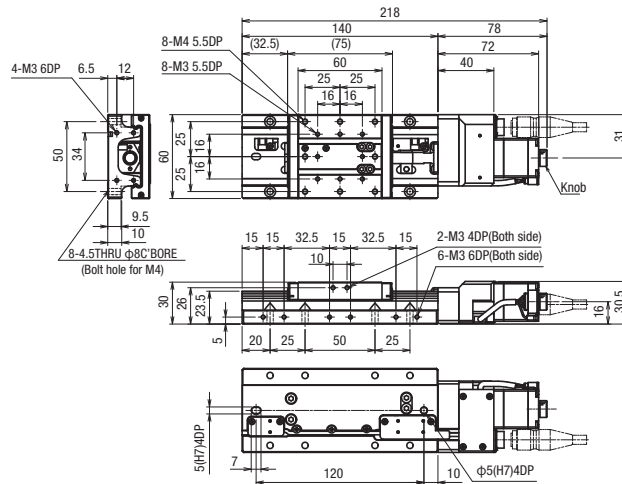
KXL06030M-N1-C(KXL06030M-N2-C)



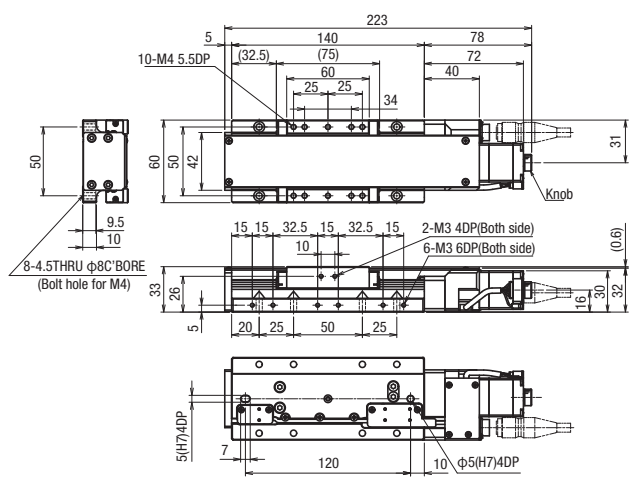
KXL06030M-C1-C(KXL06030M-C2-C)



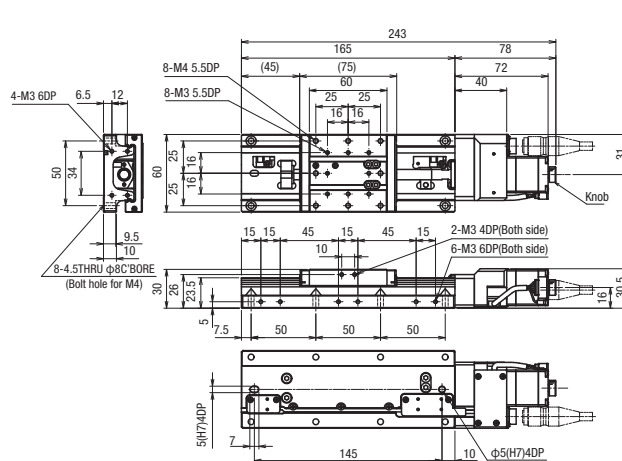
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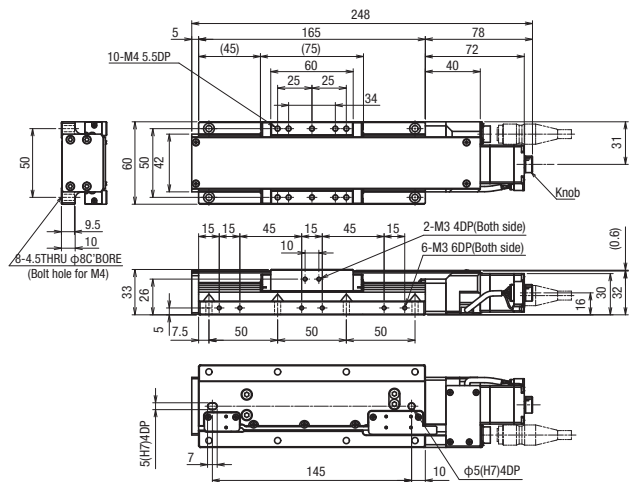
KXL06050M-C1-C(KXL06050M-C2-C)



KXL06075M-N1-C(KXL06075M-N2-C)



KXL06075M-C1-C(KXL06075M-C2-C)



Motorized Stage

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT
Linear Ball

PG
Linear Ball

KXG/KXL
Linear Ball

Cross
Roller

Slide
Guide

40

50

60

70

80

100

120

180

Other

Dimensions

C Standard

Motor model C005C-90215P-1

F High-torque

Motor model PK525HPB-C1

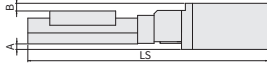
G High resolution

Motor model PK523HPMB-C1

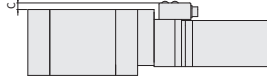
T 2 phase motor

Motor model SJA28N32-0674B-01

Side View



Top View



Uncover

Model	C / F / G / T			C (mm)	C	F	G	T
	Motor size	A(mm)	B(mm)					
KXL06030M-N□-C,F,G,T	□ 28	—	0.5	—	198	218	198	198
KXL06050M-N□-C,F,G,T					218	238	218	218
KXL06075M-N□-C,F,G,T					243	263	243	243

Cover

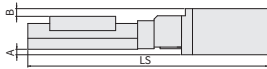
Model	C / F / G / T			C (mm)	C	F	G	T
	Motor size	A(mm)	B(mm)					
KXL06030M-C□-C,F,G,T	□ 28	—	—	—	203	223	203	203
KXL06050M-C□-C,F,G,T					223	243	223	223
KXL06075M-C□-C,F,G,T					248	268	248	248

MA MB With electromagnetic brake

*Included driver: MA selected: 100V, MB selected: 200V

Motor model PKE545MC-A1

Side View



Top View



Uncover

Model	MA, MA (With electromagnetic brake) common				C (Standard)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06030M-N-MA, MB	□ 42	5	7	6	245	198
KXL06050M-N-MA, MB					265	218
KXL06075M-N-MA, MB					290	243

Cover

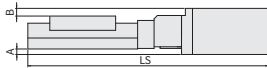
Model	MA, MA (With electromagnetic brake) common				C (Standard)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06030M-C□-MA,MB	□ 42	5	4	6	250	203
KXL06050M-C□-MA,MB					270	223
KXL06075M-C□-MA,MB					295	248

PA αSTEP (AR Series) ZA αSTEP (AZ Series)

Motor model ARM24SAK

Motor model AZM24AK

Side View



Top View



Uncover

Model	PA αSTEP (AR Series)/ZA αSTEP (AZ Series)			C (mm)	PA (αSTEP)	ZA (αSTEP)	C (Standard)
	Motor size	A(mm)	B(mm)				
KXL06030M-N□-PA,ZA	□ 28	—	0.5	6	211	220.5	198
KXL06050M-N□-PA,ZA					231	240.5	218
KXL06075M-N□-PA,ZA					256	265.5	243

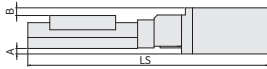
Cover

Model	PA αSTEP (AR Series)/ZA αSTEP (AZ Series)			C (mm)	PA (αSTEP)	ZA (αSTEP)	C (Standard)
	Motor size	A(mm)	B(mm)				
KXL06030M-C□-PA,ZA	□ 28	—	—	6	216	225.5	203
KXL06050M-C□-PA,ZA					236	245.5	223
KXL06075M-C□-PA,ZA					261	270.5	248

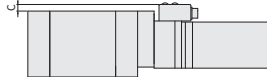
UA AC servo motor(J4)

Motor model HG-KR053

Side View



Top View



Uncover

Model	UA (AC servo motor)			C (mm)	C (Standard)	
	Motor size	A(mm)	B(mm)			LS(mm)
KXL06030M-N□-UA	□ 40	4.7	6.5	6	240.4	198
KXL06050M-N□-UA					260.4	218
KXL06075M-N□-UA					285.4	243

Cover

Model	UA (AC servo motor)			C (mm)	C (Standard)	
	Motor size	A(mm)	B(mm)			LS(mm)
KXL06030M-C□-UA	□ 40	4.7	3.5	6	245.4	203
KXL06050M-C□-UA					265.4	223
KXL06075M-C□-UA					290.4	248

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT

Linear Ball

PG

Linear Ball

KXG/KXL

Linear Ball

Cross

Roller

Slide

Guide

□ 40

□ 50

□ 60

□ 70

□ 80

□ 100

□ 120

□ 180

Ohter

1

086

Motorized Stage

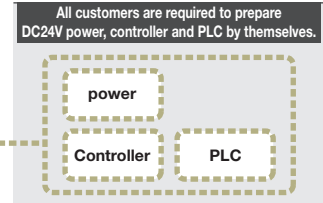
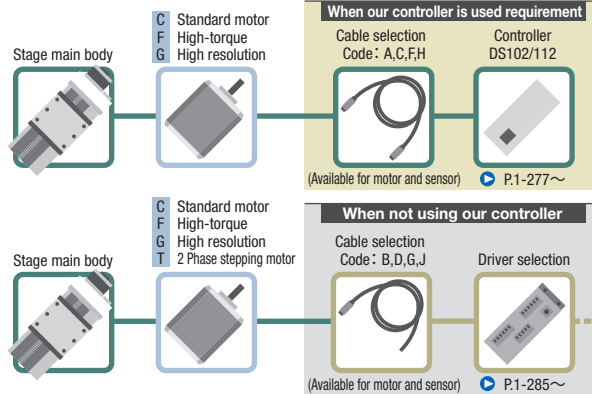
CAVE-X POSITIONER

X-axis Linear Ball Guide:KXL06030/KXL06050/KXL06075

Motorized Stage

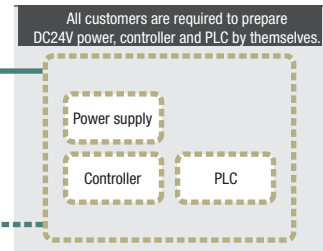
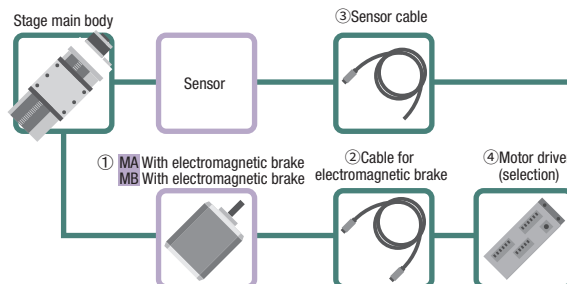
Motor option

- C** **Standard motor**
Motor model
C005C-90215P-1
- F** **High-torque**
Motor model
PK525HPB-C1
- G** **High resolution**
Motor model
PK523HPMB-C1
- T** **2 Phase stepping motor**
Motor model
SJA28N32-0674B-01



Motor option

- MA** With electromagnetic brake
Motor model
PKE545MC-A1
*Driver
MA: 100V
MB: 200V
- MB**

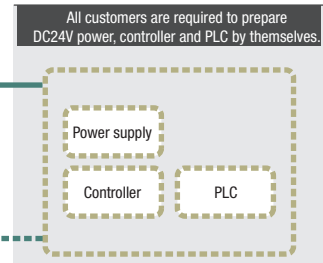
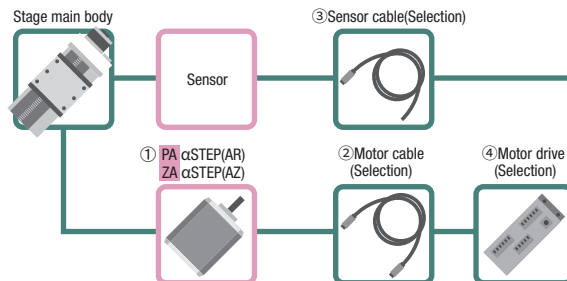


Code	① Motor model	② Electromagnetic Brake Cable set ^(*)	③ Sensor cable selection	④ Driver selection
MA MB	PKE545MC-A1	3A : CC030VPFB 5A : CC050VPFB Blank · 3 · 5 : Not included	3A · 3 : HR10AP-S-SB-6-3 5A · 5 : HR10AP-S-SB-6-5 Blank : HR10AP-S-SB-6-2	[MA]3A · 5A : RKSD503M-A [MB]3A · 5A : RKSD503M-C Blank · 3 · 5 : Not included

※ Motor cable, Electromagnetic Brake Cable.

Motor option

- PA** αSTEP (AR Series)
Motor model
ARM24SAK
- ZA** αSTEP (AZ Series)
Motor model
AZM24AK



Code	① Motor model	② Motor cable selection	③ Sensor cable selection	④ Driver selection
PA	ARM24SAK	3A : CC030VA2R2 5A : CC050VA2R2 Blank · 3 · 5 : Not included	3A · 3 : HR10AP-S-SB-6-3 5A · 5 : HR10AP-S-SB-6-5 Blank : HR10AP-S-SB-6-2	3A · 5A : ARD-K Blank · 3 · 5 : Not included
ZA	AZM24AK	3A : CC030VZ2R2 5A : CC050VZ2R2 Blank · 3 · 5 : Not included		3A · 5A : AZD-K Blank · 3 · 5 : Not included

X

XY

Z

Horizontal Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT

Linear Ball

PG

Linear Ball

KXG/KXL

Linear Ball

Cross

Roller

Slide

Guide

40

50

60

70

80

100

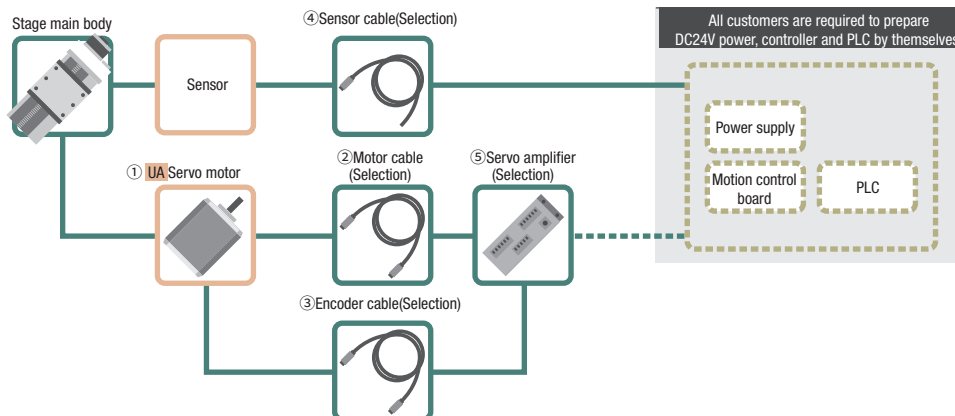
120

180

Other

Motor option

UA Servo motor
 Motor model
 HG-KR053



Code	① Motor model	② Motor cable selection	③ Encoder cable selection	④ Sensor cable selection	⑤ servo amplifier selection
UA	HG-KR053	3A : SVPM-J3HF1-B-3-02S 5A : SVPM-J3HF1-B-5-02S Blank · 3 · 5 : Not included	3A : SVEM-J3HF1-B-3 5A : SVEM-J3HF1-B-5 Blank · 3 · 5 : Not included	3A · 3 : HR10AP-S-SB-6-3 5A · 5 : HR10AP-S-SB-6-5 Blank : HR10AP-S-SB-6-2	3A · 5A : MR-J4-10A Blank · 3 · 5 : Not included

Motorized Stage

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT
Linear Ball

PG
Linear Ball

KXG/KXL
Linear Ball

Cross
Rolleer

Slide
Guide

40

50

60

70

80

100

120

180

Other

Motorized Stage

CAVE-X POSITIONER

X-axis Linear Ball Guide: KXL06100/KXL06150

Motorized Stage

KXL06100M-N



KXL06150M-N



KXL06100M-C



KXL06150M-C



* Clean grease is applied to the drive parts of the KXL series.

KXL06100M-N2-F

1 2 3 4 4 5 6 6

☉Cables P.1-287~
☉Electrical specification P.1-121~

1 Travel distance

100	100mm
150	150mm

2 Cover type

N	Uncovered	
C	Covered	

3 Ball screw lead

2	2mm
---	-----

4 Motor Option

Code	Specification
F	High-torque
G	High resolution
T	2 Phase stepping motor

*For Code T, 2-phase stepping motor, our controller (DS102/112) cannot be used.

5 Origin sensor option

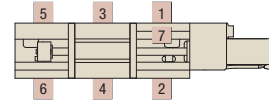
Code	Specification
Blank	None
1	CCW right side
2	CCW left side
3	Center right side
4	Center left side
5	CW right side
6	CW left side
7	Built-in

※ See page ☉P.1-121~ for details of origin sensor option.

4 Motor Option

Code	Specification
MA	With electromagnetic brake(☐42_100V)
MB	With electromagnetic brake(☐42_200V)
PA	αSTEP (AR Series)
ZA	αSTEP (AZ Series)
UA	Servo motor(J4)

Origin sensor option (Please select one location)



6 Cable Option (Motor-code: C/F/G)

Code	Specification	Cable type
Blank	Cable is not included (Standard)	—
A	2m	D214-2-2E
B	2m One end loose	D214-2-2EK
C	4m	D214-2-4E
D	4m One end loose	D214-2-4EK
E	4 Only connector (Cable is not included) —	—
F	Robot cable 2m	D214-2-2R
G	Robot cable 2m one end loose	D214-2-2RK
H	Robot cable 4m	D214-2-4R
J	Robot cable 4m one end loose	D214-2-4RK

* One end loose position to only stage opposite side.

* See page ☉P.1-287~ for details of cable.

* For connection with our controllers (DS102/112), please select from codes A, C, F, or H.

6 Cable Option (Motor-code: MA/MB/PA/ZA/UA)

Code	Specification
Blank	Sensor cable 2m One end loose wire
3	Sensor cable 3m One end loose wire
5	Sensor cable 5m One end loose wire
3A	Driver Amplifier (3m Cable Set)
5A	Driver Amplifier (5m Cable Set)

products list [4] Motor [6] Cable/Driver combination

Code	Driver (amplifier) cable	Blank			3A (5A)		
		Blank	3	5	MA • MB	PA • ZA	UA
Cable	Sensor	2m	3m	5m	3m (5m)		
	Motor	None			3m (5m)		
	Electromagnetic brake	None			3m (5m)	—	—
	Encoder	None			—	—	3m (5m)
Driver (Amplifier)		None			Available		

6 Cable Option (Motor-code: T)

Code	Specification	Cable type
Blank	Cable is not included (Standard)	—
B	2m One end loose	DS1-2C-2-2EK
D	4m One end loose	DS1-2C-2-4EK
G	Robot cable 2m one end loose	DS1-2C-2-2RK
J	Robot cable 4m one end loose	DS1-2C-2-4RK

Specification

SPEC			
Model	Uncovered	KXL06100M-N2-F	KXL06150M-N2-F
	Covered	KXL06100M-C2-F	KXL06150M-C2-F
Mechanical specification	Travel distance	100mm	
	Stage table size	60×60mm	
	Feed screw (Ball screw)	φ8 Lead 2	
	Guide	Linear Ball Guide	
	Main materials-Finishing	Stainless—Electroless nickel plating	
Weight	Uncovered	1.79kg	2.09kg
	Covered	1.85kg	2.15kg
Accuracy specification	Resolution/Pulse	4μm/2μm	
		0.2μm	
	MAX speed	45mm/sec	
	Uni-directional positioning accuracy	10μm	15μm
	Repeatability positioning accuracy	±0.5μm	
	Load capacity	12kgf [117.6N]	
	Moment stiffness	Pitch 0.05/yaw 0.05/roll 0.05 ["/N · cm]	
	Lost motion	1μm	
	Backlash	1μm	
	Straightness	5μm	
Sensor	Parallelism	15μm	
	Motion parallelism	10μm	15μm
	Pitching/Yawing	25"/20"	
	Limit sensor	Available	
Origin sensor	— *Can be installed with origin sensor option		
Slit origin sensor	—		
Provided screw (Hexagon-headed bolt)	8 of M4-14		14 of M4-14

* The SPEC varies depending on the motor.

Resolution · MAX speed · Weight

Motor code			F	G	T
Feature			High-torque	High resolution	—
Type			5 phase stepping motor (0.75A/Phase)		
Motor model* 1			PK525HPB-C1	PK523HPMB-C1	SJA28N32-0674B-01
Step angle			0.72°	0.36°	1.8°
Resolution	Lead 2mm	Full/Half	4μm/2μm	2μm/1μm	10μm/5μm
		Micro step (1/20 On resolution)	0.2μm	0.1μm	—
MAX speed	Lead 2mm		45mm/sec	30mm/sec	40mm/sec
Weight ^{4,5}	KXL06100M-N		1.79kg	1.70kg	1.70kg
	KXL06100M-C		1.85kg	1.76kg	1.76kg
	KXL06150M-N		2.09kg	2.00kg	2.00kg
	KXL06150M-C		2.15kg	2.06kg	2.06kg

Motor code			MA · MB	PA	ZA	UA
Feature			With electromagnetic brake	Small step-out ,absolute	Small step-out ,absolute	High speed
Type			5 Phase stepping motor (With electromagnetic brake,0.35A/Phase)			
Motor model* 1			PKE545MC-A1	ARM24SAK	AZM24AK	HG-KR053
Step angle			0.72°	—	—	—
Resolution	Lead 2mm	Full/Half	4μm/2μm	2μm(Set to 1000P/R)	2μm(Set to 1000P/R)	22 Bit encoder (4194304P/R) ^{※2,3}
		Micro step (1/20 On resolution)	0.2μm			
MAX speed	Lead 2mm		40mm/sec	80mm/sec	80mm/sec	100mm/sec
Weight ^{4,5}	KXL06100M-N		2.14kg	1.75kg	1.75kg	1.97kg
	KXL06100M-C		2.20kg	1.81kg	1.81kg	2.03kg
	KXL06150M-N		2.44kg	2.05kg	2.05kg	2.27kg
	KXL06150M-C		2.50kg	2.11kg	2.11kg	2.33kg

*1 Model numbers include Suruga Seiki's proprietary management codes.

*2 When constructing an absolute system, it is necessary to install a battery in the amplifier.

*3 Optional encoder cable : for incremental system.

*4 Sensor Option Selection: Not Used.

*5 Origin sensor option [1~6]+0.03kg, [7]+0.01kg.

Motorized Stage

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT

Linear Ball

PG

Linear Ball

KXG/KXL

Linear Ball

Cross

Rolleer

Slide

Guide

40

50

60

70

80

100

120

180

Other

1

090

Dimensions

F High-torque

Motor model PK525HPB-C1

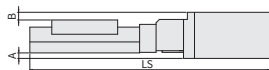
G High resolution

Motor model PK523HPMB-C1

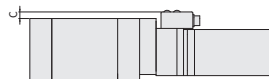
T 2 phase motor

Motor model SJA28N32-0674B-01

Side View



Top View



Uncoverd

Model	F (High-torque)/G (High-resolution)/T(2-phase) Common				F (High-torque)	G (High resolution)	T (2 phase)
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)		
KXL06100M-N2-F,G,T	□ 28	—	0.5	—	288	268	268
KXL06150M-N2-F,G,T					338	318	318

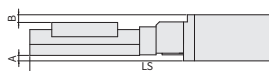
Coverd

Model	F (High-torque)/G (High-resolution)/T(2-phase) Common				F (High-torque)	G (High resolution)	T (2 phase)
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)		
KXL06100M-C2-F,G,T	□ 28	—	—	—	293	273	273
KXL06150M-C2-F,G,T					343	323	323

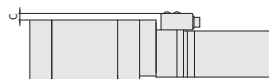
MA MB With electromagnetic brake *Included driver: MA selected: 100V, MB selected: 200V

Motor model PKE545MC-A1

Side View



Top View



Uncoverd

Model	MA,MB (With electromagnetic brake motor)				F (High-torque)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06100M-N2-MA/MB	□ 42	5	7	6	315	288
KXL06150M-N2-MA,MB					365	338

Coverd

Model	MA,MB (With electromagnetic brake motor)				F (High-torque)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06100M-C2-MA,MB	□ 42	5	4	6	320	293
KXL06150M-C2-MA,MB					370	343

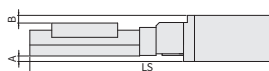
PA αSTEP (AR Series)

Motor model ARM24SAK

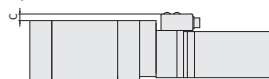
ZA αSTEP (AZ Series)

Motor model AZM24AK

Side View



Top View



Uncoverd

Model	PA αSTEP (AR Series)/ZA αSTEP (AZ Series)				PA	ZA	F (High-torque)
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)		
KXL06100M-N2-PA,ZA	□ 28	—	0.5	6	281	290.5	288
KXL06150M-N2-PA,ZA					331	340.5	338

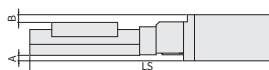
Coverd

Model	PA αSTEP (AR Series)/ZA αSTEP (AZ Series)				PA	ZA	F (High-torque)
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)		
KXL06100M-C2-PA,ZA	□ 28	—	—	6	286	295.5	293
KXL06150M-C2-PA,ZA					336	345.5	343

UA Servo motor (J4 [Mitsubishi Electric corporation])

Motor model HG-KR053

Side View



Top View



Uncoverd

Model	UA (AC servo motor)				F (High-torque)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06100M-N2-UA	□ 40	4.7	6.5	6	310.4	288
KXL06150M-N2-UA					360.4	338

Coverd

Model	UA (AC servo motor)				F (High-torque)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06100M-C2-UA	□ 40	4.7	3.5	6	315.4	293
KXL06150M-C2-UA					365.4	343

Motorized Stage

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT

Linear Ball

PG

Linear Ball

KXG/KXL

Linear Ball

Cross

Roller

Slide

Guide

□ 40

□ 50

□ 60

□ 70

□ 80

□ 100

□ 120

□ 180

Ohter

1

092

Motorized Stage

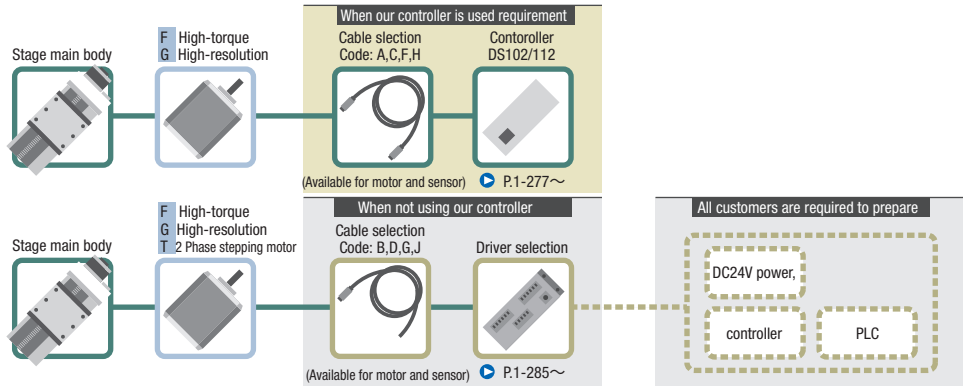
CAVE-X POSITIONER

X-axis Linear Ball Guide:KXL06100/KXL06150

Motorized Stage

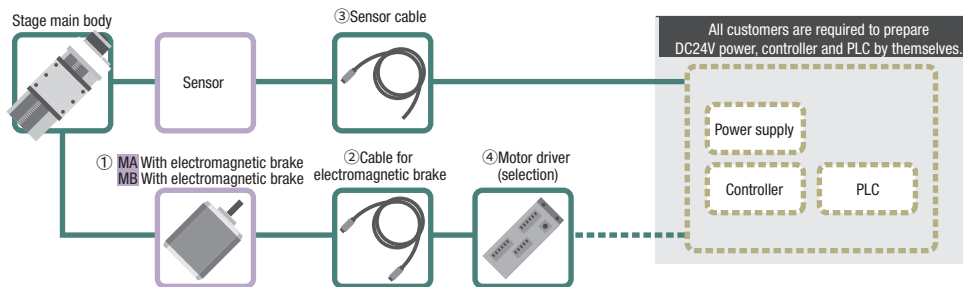
Motor option

- F** High-torque
Motor Model
PK525HPB-C1
- G** High-resolution
Motor Model
PK523HPMB-C1
- T** 2 Phase stepping motor
Motor Model
SJA28N32-0674B-01



Motor option

- MA** With electromagnetic brake
Motor model
PKE545MC-A1
 - MB** With electromagnetic brake
Motor model
PKE545MC-A1
- *Driver
MA: 100V
MB: 200V

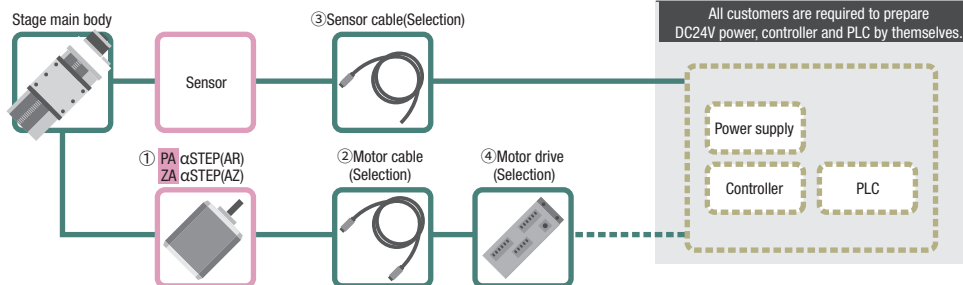


Code	①Motor model	②Electromagnetic Brake Cable set	③Sensor cable selection	④Driver selection
MA •MB	PKE545MC-A1	3A : CC030VPFB 5A : CC050VPFB Blank • 3 • 5 : Not included	3A • 3 : HR10AP-S-SB-6-3 5A • 5 : HR10AP-S-SB-6-5 Blank : HR10AP-S-SB-6-2	[MA]3A • 5A : RKSD503M-A [MB]3A • 5A : RKSD503M-C Blank • 3 • 5 : Not included

※モーター用ケーブル・電磁ブレーキ用ケーブル

Motor option

- PA** αSTEP (AR Series)
Motor model
ARM24SAK
- ZA** αSTEP (AZ Series)
Motor model
AZM24AK



Code	①Motor model	②Motor cable selection	③Sensor cable selection	④Driver selection
PA	ARM24SAK	3A : CC030VA2R2 5A : CC050VA2R2 Blank • 3 • 5 : Not included	3A • 3 : HR10AP-S-SB-6-3 5A • 5 : HR10AP-S-SB-6-5 Blank : HR10AP-S-SB-6-2	3A • 5A : ARD-K Blank • 3 • 5 : Not included
ZA	AZM24AK	3A : CC030VZ2R2 5A : CC050VZ2R2 Blank • 3 • 5 : Not included		3A • 5A : AZD-K Blank • 3 • 5 : Not included

X

XY

Z

Horizontal Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT
Linear Ball

PG
Linear Ball

KXG/KXL
Linear Ball

Cross
Roller

Slide
Guide

40

50

60

70

80

100

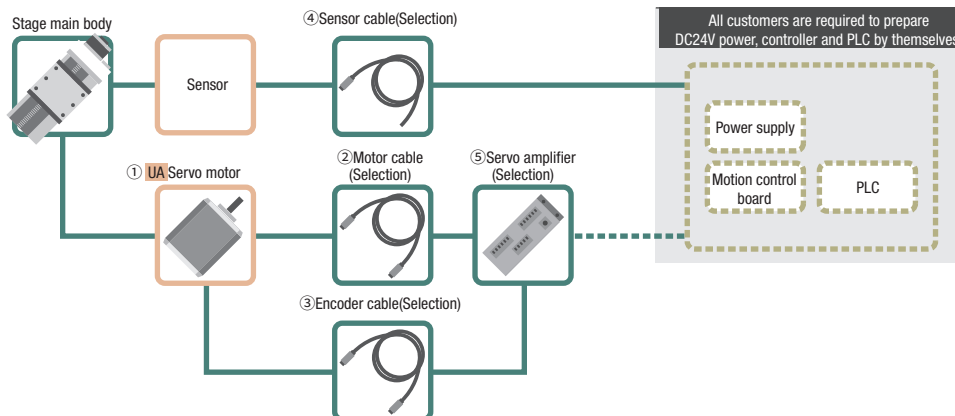
120

180

Other

Motor option

UA Servo motor
 Motor model
 HG-KR053



Code	①Motor model	②Motor cable selection	③Encoder cable selection	④Sensor cable selection	⑤servo amplifier selection
UA	HG-KR053	3A : SVPM-J3HF1-B-3-02S 5A : SVPM-J3HF1-B-5-02S Blank · 3 · 5 : Not included	3A : SVEM-J3HF1-B-3 5A : SVEM-J3HF1-B-5 Blank · 3 · 5 : Not included	3A · 3 : HR10AP-S-SB-6-3 5A · 5 : HR10AP-S-SB-6-5 Blank : HR10AP-S-SB-6-2	3A · 5A : MR-J4-10A Blank · 3 · 5 : Not included

Motorized Stage

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT
Linear Ball

PG
Linear Ball

KXG/KXL
Linear Ball

Cross
Rolleer

Slide
Guide

40

50

60

70

80

100

120

180

Other

Motorized Stage

CAVE-X POSITIONER

X-axis Linear Ball Guide: KXL06200/KXL06300

Motorized Stage

KXL06100M-N



KXL06150M-N



KXL06100M-C



KXL06150M-C



* Clean grease is applied to the drive parts of the KXL series.

KXL06200M-N2-F

1 2 3 4 4 5 6 6

▶ Cables P.1-287~
▶ Electrical specification P.1-121~

1 Travel distance

200	200mm
300	300mm

2 Cover type

N	Uncovered	
C	Covered	

3 Ball screw lead

2	2mm
---	-----

4 Motor Option

Code	Specification
F	High-torque
G	High resolution
T	2 Phase stepping motor

*For Code T, 2-phase stepping motor, our controller (DS102/112) cannot be used.

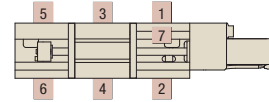
4 Motor Option

Code	Specification
MA	With electromagnetic brake(□42_100V)
MB	With electromagnetic brake(□42_200V)
PA	αSTEP (AR Series)
ZA	αSTEP (AZ Series)
UA	Servo motor(J4)

5 Origin sensor option

Code	Specification
Blank	None
1	CCW right side
2	CCW left side
3	Center right side
4	Center left side
5	CW right side
6	CW left side
7	Built-in

Origin sensor option (Please select one location)



※ See page P.1-121~ for details of origin sensor option.

6 Cable Option (Motor-code: C/F/G)

Code	Specification	Cable type
Blank	Cable is not included (Standard)	—
A	2m	D214-2-2E
B	2m One end loose	D214-2-2EK
C	4m	D214-2-4E
D	4m One end loose	D214-2-4EK
E	4 Only connector (Cable is not included) —	—
F	Robot cable 2m	D214-2-2R
G	Robot cable 2m one end loose	D214-2-2RK
H	Robot cable 4m	D214-2-4R
J	Robot cable 4m one end loose	D214-2-4RK

* One end loose position to only stage opposite side.
* See page P.1-287~ for details of cable.
* For connection with our controllers (DS102/112), please select from codes A, C, F, or H.

6 Cable Option (Motor-code: T)

Code	Specification	Cable type
Blank	Cable is not included (Standard)	—
B	2m One end loose	DS1-2C-2-2EK
D	4m One end loose	DS1-2C-2-4EK
G	Robot cable 2m one end loose	DS1-2C-2-2RK
J	Robot cable 4m one end loose	DS1-2C-2-4RK

6 Cable Option (Motor-code: MA/MB/PA/ZA/UA)

Code	Specification
Blank	Sensor cable 2m One end loose wire
3	Sensor cable 3m One end loose wire
5	Sensor cable 5m One end loose wire
3A	Driver Amplifier (3m Cable Set)
5A	Driver Amplifier (5m Cable Set)

products list [4] Motor [6] Cable/Driver combination

Code	Driver (amplifier) cable	Blank			3A (5A)		
		MA • MB/PA • ZA/UA	MA • MB	PA • ZA	UA		
Cable	Sensor	2m	3m	5m	3m (5m)		
	Motor				3m (5m)		
	Electromagnetic brake	None			3m (5m)	—	—
	Encoder				—	—	3m (5m)
Driver (Amplifier)		None			Available		

X

XY

Z

Horizontal Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT Linear Ball

PG Linear Ball

KXG/KXL Linear Ball

Cross Roller

Slide Guide

40

50

60

70

80

100

120

180

Other

Specification

SPEC			
Model	Uncovered	KXL06200M-N2-F	KXL06300M-N2-F
	Covered	KXL06200M-C2-F	KXL06300M-C2-F
Mechanical specification	Travel distance	200mm	
	Stage table size	60×60mm	
	Feed screw (Ball screw)	φ8 Lead 2	
	Guide	Linear Ball Guide	
	Main materials-Finishing	Stainless—Electroless nickel plating	
Weight	Uncovered	2.41kg	3.01kg
	Covered	2.47kg	3.11kg
Accuracy specification	Resolution/Pulse	4μm/2μm	
		0.2μm	
	MAX speed	45mm/sec	
	Uni-directional positioning accuracy	15μm	25μm
	Repeatability positioning accuracy	±0.5μm	
	Load capacity	12kgf [117.6N]	
	Moment stiffness	Pitch 0.05/yaw 0.05/roll 0.05 ["/N · cm]	
	Lost motion	1μm	
	Backlash	1μm	
	Straightness	7μm	
Sensor	Parallelism	15μm	
	Motion parallelism	20μm	25μm
	Pitching/Yawing	30"/20"	35"/20"
	Limit sensor	Available	
Origin sensor	— *Can be installed with origin sensor option		
Slit origin sensor	—		
Provided screw (Hexagon-headed bolt)	12 of M4–14		16 of M4–14

* The SPEC varies depending on the motor.

Resolution · MAX speed · Weight

Motor code			F	G	T	
Feature			High-torque	High resolution	—	
Type			5 phase stepping motor (0.75A/Phase)		2 phase stepping motor (0.67A/Phase)	
Motor model* 1			PK525HPB-C1	PK523HPMB-C1	SJA28N32-0674B-01	
Step angle			0.72°	0.36°	1.8°	
Resolution	Lead 2mm	Full/Half	4μm/2μm	2μm/1μm	10μm/5μm	
		Micro step (1/20 On resolution)	0.2μm	0.1μm	—	
MAX speed	Lead 2mm		45mm/sec	30mm/sec	40mm/sec	
Weight*4,5	KXL06200M-N		2.41kg	2.32kg	2.32kg	
	KXL06200M-C		2.47kg	2.38kg	2.38kg	
	KXL06300M-N		3.01kg	2.92kg	2.92kg	
	KXL06300M-C		3.11kg	3.02kg	3.02kg	
Motor code			MA · MB	PA	ZA	UA
Feature			With electromagnetic brake	Small step-out ,absolute	Small step-out ,absolute	High speed
Type			5 Phase stepping motor (With electromagnetic brake,0.35A/Phase)	αSTEP (AR Series)	αSTEP (AZ Series)	Servo motor
Motor model* 1			PKE545MC-A1	ARM24SAK	AZM24AK	HG-KR053
Step angle			0.72°	—	—	—
Resolution	Lead 2mm	Full/Half	4μm/2μm	2μm(Set to 1000P/R)	2μm(Set to 1000P/R)	22 Bit encoder (4194304P/R)**2,3
		Micro step (1/20 On resolution)	0.2μm			
MAX speed	Lead 2mm		40mm/sec	80mm/sec	80mm/sec	100mm/sec
Weight*4,5	KXL06200M-N		2.76kg	2.37kg	2.37kg	2.59kg
	KXL06200M-C		2.82kg	2.43kg	2.43kg	2.65kg
	KXL06300M-N		3.36kg	2.97kg	2.97kg	3.19kg
	KXL06300M-C		3.46kg	3.07kg	3.07kg	3.29kg

*1 Model numbers include Suruga Seiki's proprietary management codes.

*2 When constructing an absolute system, it is necessary to install a battery in the amplifier.

*3 Optional encoder cable : for incremental system.

*4 Sensor Option Selection: Not Used.

*5 Origin sensor option [1~6]+0.03kg, [7]+0.01kg.

Motorized Stage

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT

Linear Ball

PG

Linear Ball

KXG/KXL

Linear Ball

Cross

Rolleer

Slide

Guide

40

50

60

70

80

100

120

180

Ohter

1

096

Motorized Stage

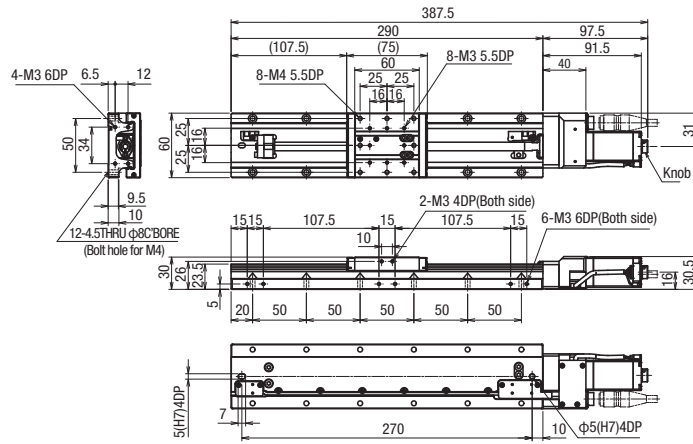
CAVE-X POSITIONER

X-axis Linear Ball Guide: KXL06200/KXL06300

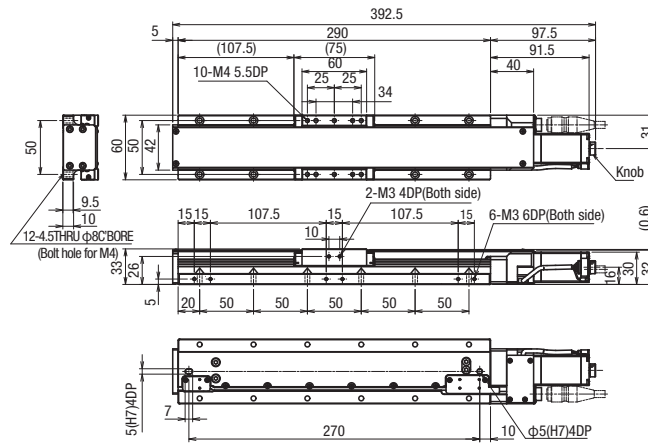
Motorized Stage

Dimensions

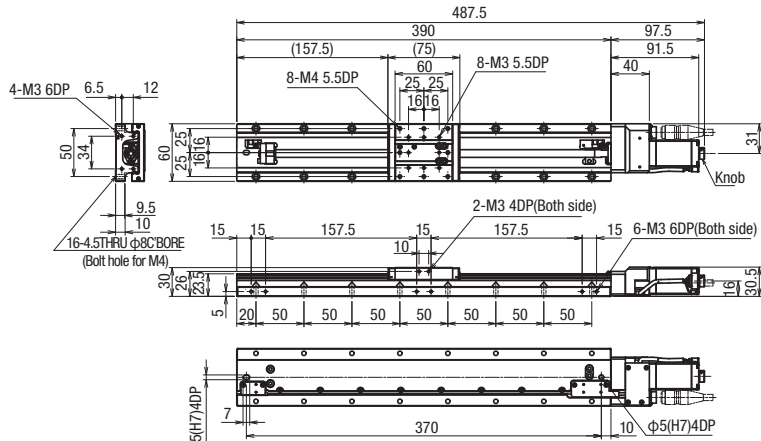
KXL06200M-N2-F



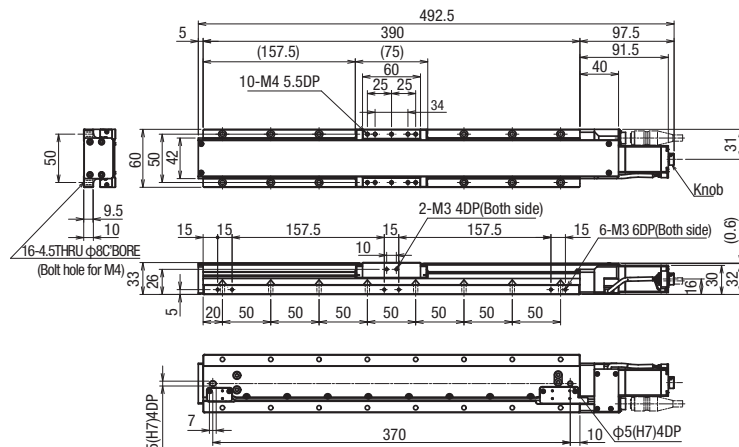
KXL06200M-C2-F



KXL06300M-N2-F



KXL06300M-C2-F



KXT
Linear Ball

PG
Linear Ball

KXG/KXL
Linear Ball

Cross
Roller

Slide
Guide

40

50

60

70

80

100

120

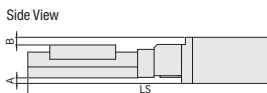
180

Other

Dimensions

F High-torque

Motor model PK525HPB-C1



G High resolution

Motor model PK523HPMB-C1

T 2 phase motor

Motor model SJA28N32-0674B-01

Uncoverd

Model	F(High-torque)/G(High resolution)/T(2-phase)共通				F (High-torque)	G (High resolution)	T (2 phase)
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)		
KXL06200M-N2-F,G,T	□ 28	—	0.5	—	388	368	368
KXL06300M-N2-F,G,T					488	468	468

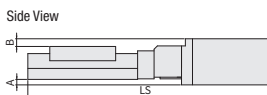
Coverd

Model	F(High-torque)/G(High resolution)/T(2-phase) Common				F (High-torque)	G (High resolution)	T (2 phase)
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)		
KXL06200M-C2-F,G,T	□ 28	—	—	—	393	373	373
KXL06300M-C2-F,G,T					493	473	473

MA MB With electromagnetic brake

*Included driver: MA selected: 100V, MB selected: 200V

Motor model PKE545MC-A1



Uncoverd

Model	MA,MB(With electromagnetic brake) common				F (High-torque)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06200M-N2-MA,MB	□ 42	5	7	6	415	388
KXL06300M-N2-MA,MB					515	488

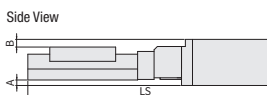
Coverd

Model	MA,MB(With electromagnetic brake) common				F (High-torque)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06200M-C2-MA,MB	□ 42	5	4	6	420	393
KXL06300M-C2-MA,MB					520	493

PA αSTEP (AR Series) ZA αSTEP (AZ Series)

Motor model ARM24SAK

Motor model AZM24AK



Uncoverd

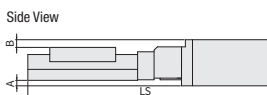
Model	PA αSTEP (AR Series)/ZA αSTEP (AZ Series)				PA	ZA	F (High-torque)
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)		
KXL06200M-N2-PA,ZA	□ 28	—	0.5	6	381	390.5	388
KXL06300M-N2-PA,ZA					481	490.5	488

Coverd

Model	PA αSTEP (AR Series)/ZA αSTEP (AZ Series)				PA	ZA	F (High-torque)
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)		
KXL06200M-C2-PA,ZA	□ 28	—	—	6	386	395.5	393
KXL06300M-C2-PA,ZA					486	495.5	493

UA AC servo motor(J4)

Motor model HG-KR053



Uncoverd

Model	UA (AC servo motor)				F (High-torque)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06200M-N2-UA	□ 40	4.7	6.5	6	410.4	388
KXL06300M-N2-UA					510.4	488

Coverd

Model	UA (AC servo motor)				F (High-torque)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06200M-C2-UA	□ 40	4.7	3.5	6	415.4	393
KXL06300M-C2-UA					515.4	493

Motorized Stage

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT

Linear Ball

PG

Linear Ball

KXG/KXL

Linear Ball

Cross

Roller

Slide

Guide

□ 40

□ 50

□ 60

□ 70

□ 80

□ 100

□ 120

□ 180

Ohter

1

098

Motorized Stage

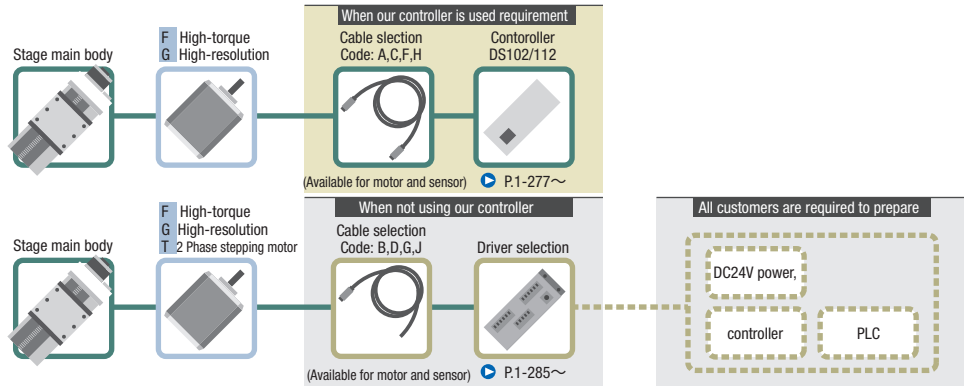
CAVE-X POSITIONER

X-axis Linear Ball Guide: KXL06200/KXL06300

Motorized Stage

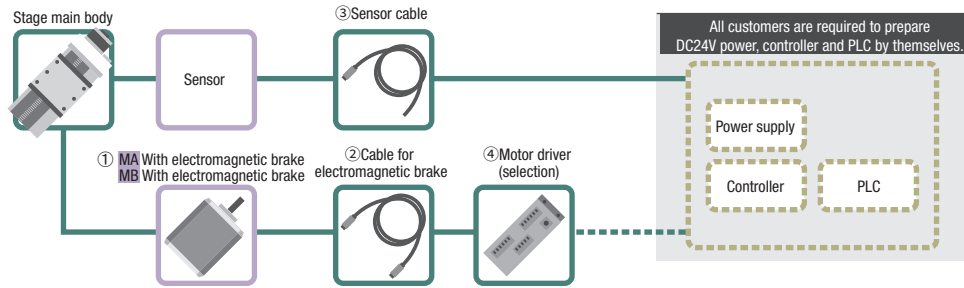
Motor option

- F** High-torque
Motor Model
PK525HPB-C1
- G** High-resolution
Motor Model
PK523HPMB-C1
- T** 2 Phase stepping motor
Motor Model
SJA28N32-0674B-01



Motor option

- MA** With electromagnetic brake
Motor model
PKE545MC-A1
 - MB** With electromagnetic brake
Motor model
PKE545MC-A1
- *Driver
MA: 100V
MB: 200V

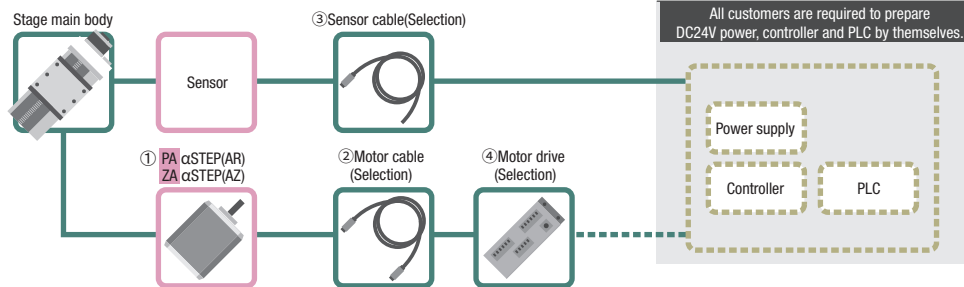


Code	①Motor model	②Electromagnetic Brake Cable set ^(*)	③Sensor cable selection	④Driver selection
MA MB	PKE545MC-A1	3A : CC030VPFB 5A : CC050VPFB Blank · 3 · 5 : Not included	3A · 3 : HR10AP-S-SB-6-3 5A · 5 : HR10AP-S-SB-6-5 Blank : HR10AP-S-SB-6-2	[MA]3A · 5A : RKSD503M-A [MB]3A · 5A : RKSD503M-C Blank · 3 · 5 : Not included

※モーター用ケーブル・電磁ブレーキ用ケーブル

Motor option

- PA** αSTEP (AR Series)
Motor model
ARM24SAK
- ZA** αSTEP (AZ Series)
Motor model
AZM24AK



Code	①Motor model	②Motor cable selection	③Sensor cable selection	④Driver selection
PA	ARM24SAK	3A : CC030VA2R2 5A : CC050VA2R2 Blank · 3 · 5 : Not included	3A · 3 : HR10AP-S-SB-6-3 5A · 5 : HR10AP-S-SB-6-5 Blank : HR10AP-S-SB-6-2	3A · 5A : ARD-K Blank · 3 · 5 : Not included
ZA	AZM24AK	3A : CC030VZ2R2 5A : CC050VZ2R2 Blank · 3 · 5 : Not included		3A · 5A : AZD-K Blank · 3 · 5 : Not included

X

XY

Z

Horizontal Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT
Linear Ball

PG
Linear Ball

KXG/KXL
Linear Ball

Cross
Roller

Slide
Guide

40

50

60

70

80

100

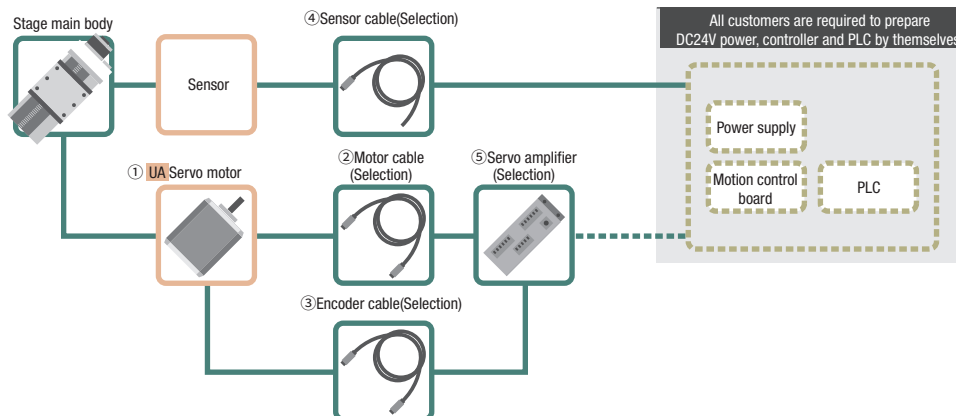
120

180

Other

Motor option

UA Servo motor
 Motor model
 HG-KR053



Code	① Motor model	② Motor cable selection	③ Encoder cable 3m	④ Sensor cable selection	⑤ servo amplifier
UA	HG-KR053	3A : SVPM-J3HF1-B-3-02S 5A : SVPM-J3HF1-B-5-02S Blank · 3 · 5 : Not included	3A : SVEM-J3HF1-B-3 5A : SVEM-J3HF1-B-5 Blank · 3 · 5 : Not included	3A · 3 : HR10AP-S-SB-6-3 5A · 5 : HR10AP-S-SB-6-5 Blank : HR10AP-S-SB-6-2	3A · 5A : MR-J4-10A Blank · 3 · 5 : Not included

Motorized Stage

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT
Linear Ball

PG
Linear Ball

KXG/KXL
Linear Ball

Cross
Rolleer

Slide
Guide

40

50

60

70

80

100

120

180

Other

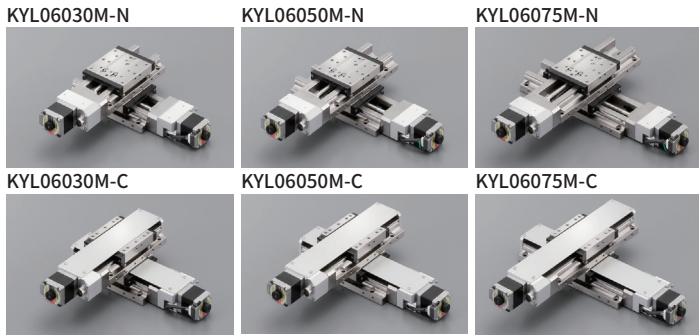
Motorized Stage

CAVE-X POSITIONER

XY-axis Linear Ball Guide: KYL06030/KYL06050/KYL06075

Motorized Stage

RoHS



* Clean grease is applied to the drive parts of the KXL series.

KYL06030M-N1-C

1 2 3 4 4 5 6 6

▶ Cables P.1-287~
▶ Electrical specification P.1-121~

1 Travel distance

030	30mm
050	50mm
075	75mm

2 Cover type

N	Uncovered	
C	Covered	

3 Ball screw lead

1	1mm
2	2mm

4 Motor Option

Code	Specification
C	Standard
F	High-torque
G	High resolution
T	2 Phase stepping motor

*For Code T, 2-phase stepping motor, our controller (DS102/112) cannot be used.

5 Origin sensor option

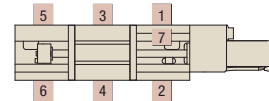
Code	Specification
Blank	None
1	CCW right side
2	CCW left side
3	Center right side
4	Center left side
5	CW right side
6	CW left side
7	Built-in

※ See page P.1-121~ for details of origin sensor option.

4 Motor Option

Code	Specification
MA	With electromagnetic brake(□42_100V)
MB	With electromagnetic brake(□42_200V)
PA	αSTEP (AR Series)
ZA	αSTEP (AZ Series)
UA	Servo motor(J4)

Origin sensor option (Please select one location)



6 Cable Option (Motor-code: C/F/G)

Code	Specification	Cable type
Blank	Cable is not included (Standard)	—
A	2m	D214-2-2E
B	2m One end loose	D214-2-2EK
C	4m	D214-2-4E
D	4m One end loose	D214-2-4EK
E	4 Only connector (Cable is not included) —	—
F	Robot cable 2m	D214-2-2R
G	Robot cable 2m one end loose	D214-2-2RK
H	Robot cable 4m	D214-2-4R
J	Robot cable 4m one end loose	D214-2-4RK

* One end loose position to only stage opposite side.

* See page P.1-287~ for details of cable.

* For connection with our controllers (DS102/112), please select from codes A, C, F, or H.

6 Cable Option (Motor-code: T)

Code	Specification	Cable type
Blank	Cable is not included (Standard)	—
B	2m One end loose	DS1-2C-2-2EK
D	4m One end loose	DS1-2C-2-4EK
G	Robot cable 2m one end loose	DS1-2C-2-2RK
J	Robot cable 4m one end loose	DS1-2C-2-4RK

6 Cable Option (Motor-code: MA/MB/PA/ZA/UA)

Code	Specification
Blank	Sensor cable 2m One end loose wire
3	Sensor cable 3m One end loose wire
5	Sensor cable 5m One end loose wire
3A	Driver Amplifier (3m Cable Set)
5A	Driver Amplifier (5m Cable Set)

products list [4] Motor [6] Cable/Driver combination

Code	Driver (amplifier) cable	Blank			3A (5A)		
		Blank	3	5	MA • MB	PA • ZA	UA
Cable	Sensor	2m	3m	5m	3m (5m)		
	Motor				3m (5m)		
	Electromagnetic brake	None			3m (5m)	—	—
	Encoder				—	—	3m (5m)
Driver (Amplifier)		None			Available		

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT
Linear Ball

PG
Linear Ball

KXG/KXL
Linear Ball

Cross
Roller

Slide
Guide

40

50

60

70

80

100

120

180

Other

Specification

SPEC								
Model	Uncovered	KYL06030M-N1-C	KYL06030M-N2-C	KYL06050M-N1-C	KYL06050M-N2-C	KYL06075M-N1-C	KYL06075M-N2-C	
	Covered	KYL06030M-C1-C	KYL06030M-C2-C	KYL06050M-C1-C	KYL06050M-C2-C	KYL06075M-C1-C	KYL06075M-C2-C	
Mechanical specification	Travel distance	30mm			50mm		75mm	
	Stage table size	60×60mm						
	Feed screw (Ball screw)	φ8 Lead 1	φ8 Lead 2	φ8 Lead 1	φ8 Lead 2	φ8 Lead 1	φ8 Lead 2	
	Guide	Linear Ball Guide						
	Main materials-Finishing	Stainless—Electroless nickel plating						
Weight	Uncovered	2.54kg			2.74kg		3.06kg	
	Covered	2.66kg			2.86kg		3.18kg	
Accuracy specification	Resolution/Pulse	Full/Half	2μm/1μm	4μm/2μm	2μm/1μm	4μm/2μm	2μm/1μm	4μm/2μm
		Micro step	0.1μm(1/20 On resolution)	0.2μm(1/20 On resolution)	0.1μm(1/20 On resolution)	0.2μm(1/20 On resolution)	0.1μm(1/20 On resolution)	0.2μm(1/20 On resolution)
	MAX speed		30mm/sec	35mm/sec	30mm/sec	35mm/sec	30mm/sec	35mm/sec
	Load capacity		10kgf [98N]					
Sensor	Squareness	15μm/Full stroke			25μm/Full stroke		37.5μm/Full stroke	
	Limit sensor	Available						
	Origin sensor	— *Can be installed with origin sensor option						
	Slit origin sensor	—						
Provided screw (Hexagon-headed bolt)		8 of M4—14						
Stage axis accuracy specification	Uni-directional positioning accuracy	5μm				7μm		
	Repeatability positioning accuracy	±0.5μm						
	Lost motion	1μm						
	Backlash	1μm						
	Straightness	3μm						
	Pitching/Yawing	20"/15"						

* The SPEC varies depending on the motor.

Resolution • MAX speed • Weight

Motor code	C		F		G		T		
Feature	Standard		High-torque		High resolution		—		
Type	5 phase stepping motor (0.75A/Phase)								
Motor model* 1	C005C-90215P-1		PK525HPB-C1		PK523HPMB-C1		SJA28N32-0674B-01		
Step angle	0.72°		0.72°		0.36°		1.8°		
Resolution	Lead 1mm	Full/Half	2μm/1μm			1μm/0.5μm		5μm/2.5μm	
		Micro step (1/20 On resolution)	0.1μm			0.05μm		—	
	Lead 2mm	Full/Half	4μm/2μm			2μm/1μm		10μm/5μm	
		Micro step (1/20 On resolution)	0.2μm			0.1μm		—	
MAX speed	Lead 1mm	30mm/sec	35mm/sec		25mm/sec		25mm/sec		
	Lead 2mm	35mm/sec	45mm/sec		30mm/sec		40mm/sec		
Weight ^{4,5}	KYL06030M-N	2.54	2.72		2.54		2.54		
	KYL06030M-C	2.66	2.84		2.66		2.66		
	KYL06050M-N	2.74	2.92		2.74		2.74		
	KYL06050M-C	2.86	3.04		2.86		2.86		
	KYL06075M-N	3.06	3.24		3.06		3.06		
	KYL06075M-C	3.18	3.36		3.18		3.18		
Motor code	MA • MB		PA		ZA		UA		
Feature	With electromagnetic brake		Small step-out, absolute		Small step-out, absolute		High speed		
Type	5 Phase stepping motor (With electromagnetic brake, 0.35A/Phase)		αSTEP (AR Series)		αSTEP (AZ Series)		Servo motor		
Motor model* 1	PKE545MC-A1		ARM24SAK		AZM24AK		HG-KR053		
Step angle	0.72°		—		—		—		
Resolution	Lead 1mm	Full/Half	2μm/1μm			1μm(Set to 1000P/R)		22 Bit encoder (4194304P/R) ^{2,3}	
		Micro step (1/20 On resolution)	0.1μm			1μm(Set to 1000P/R)			
	Lead 2mm	Full/Half	4μm/2μm			2μm(Set to 1000P/R)			
		Micro step (1/20 On resolution)	0.2μm			2μm(Set to 1000P/R)			
MAX speed	Lead 1mm	25mm/sec	40mm/sec		40mm/sec		50mm/sec		
	Lead 2mm	40mm/sec	80mm/sec		80mm/sec		100mm/sec		
Weight ^{4,5}	KYL06030M-N	3.42	2.64		2.64		3.09		
	KYL06030M-C	3.54	2.76		2.76		3.21		
	KYL06050M-N	3.62	2.84		2.84		3.29		
	KYL06050M-C	3.74	2.96		2.96		3.41		
	KYL06075M-N	3.94	3.16		3.16		3.61		
	KYL06075M-C	4.06	3.28		3.28		3.73		

*1 Model numbers include Suruga Seiki's proprietary management codes.

*2 When constructing an absolute system, it is necessary to install a battery in the amplifier.

*3 Optional encoder cable : for incremental system.

*4 Sensor Option Selection: Not Used.

*5 Origin sensor option [1~6]+0.06kg, [7]+0.02kg.

Motorized Stage

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT

Linear Ball

PG

Linear Ball

KXG/KXL

Linear Ball

Cross Roller

Slide Guide

40

50

60

70

80

100

120

180

Ohter

1

102

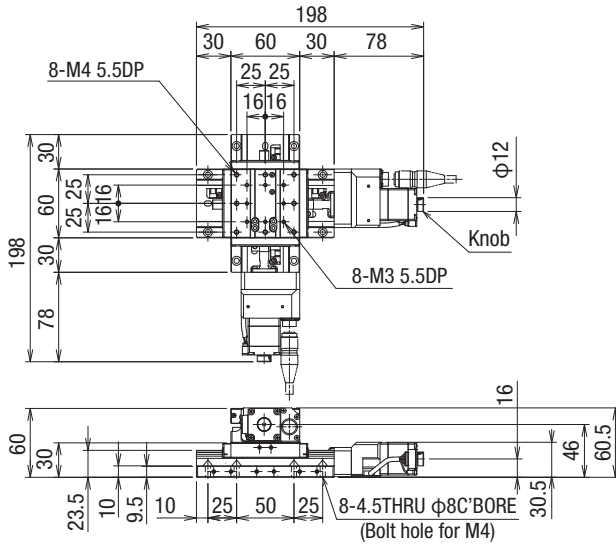
Motorized Stage

CAVE-X POSITIONER

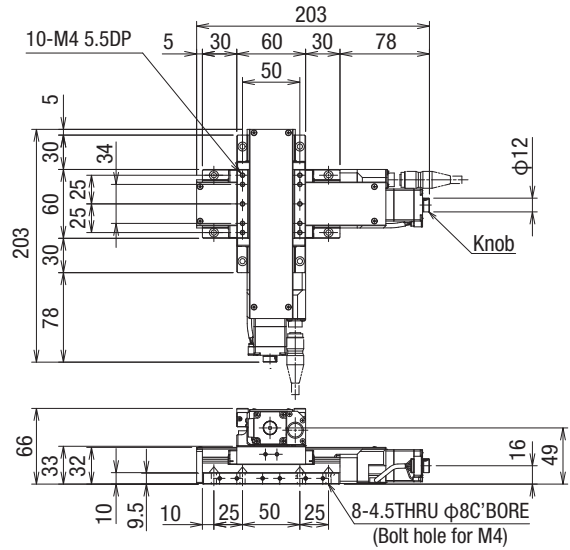
XY-axis Linear Ball Guide: KYL06030/KYL06050/KYL06075

Dimensions

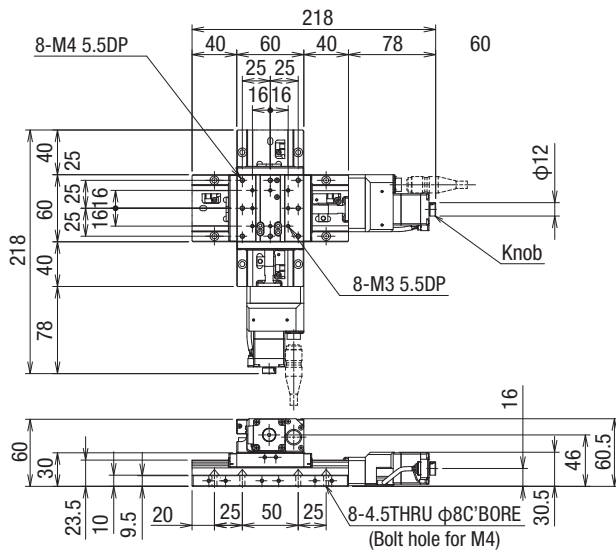
KYL06030M-N1-C(KYL06030M-N2-C)



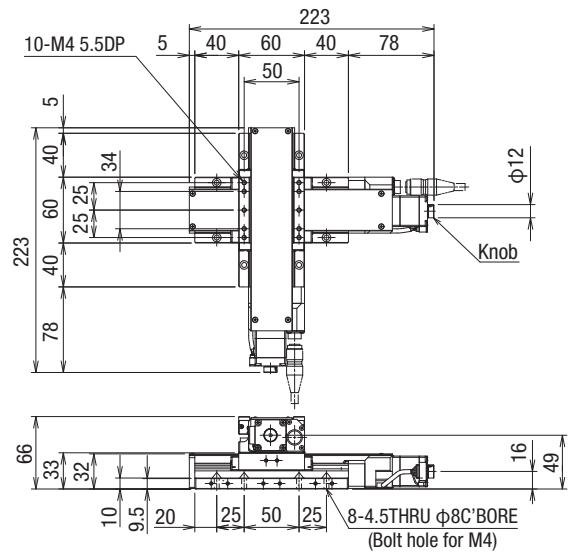
KYL06030M-C1-C(KYL06030M-C2-C)



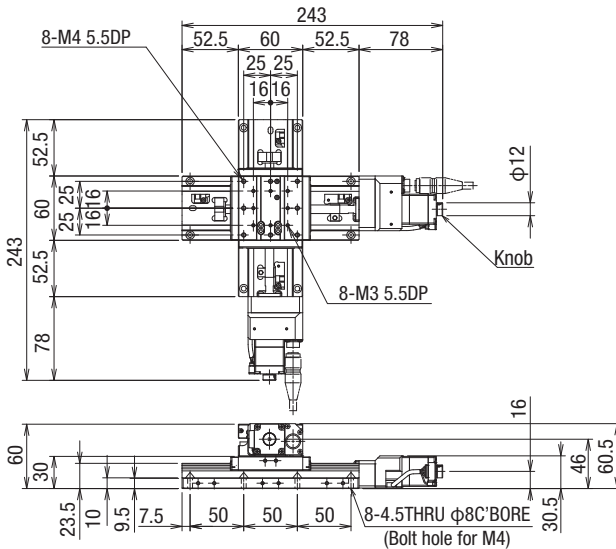
KYL06050M-N1-C(KYL06050M-N2-C)



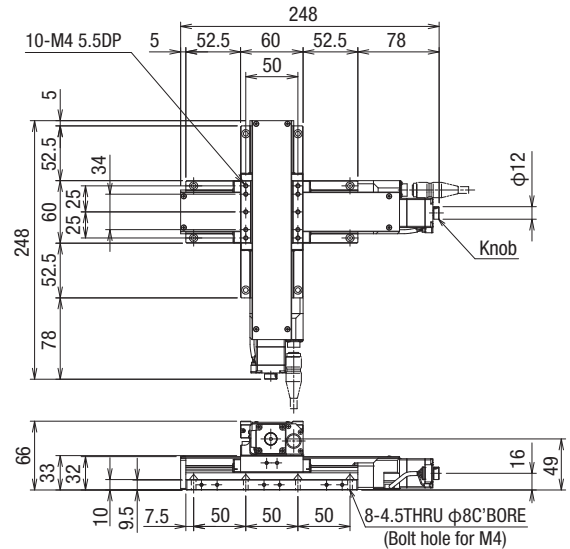
KYL06050M-C1-C(KYL06050M-C2-C)



KYL06075M-N1-C(KYL06075M-N2-C)



KYL06075M-C1-C(KYL06075M-C2-C)



Motorized Stage

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT

Linear Ball

PG

Linear Ball

KXG/KXL

Linear Ball

Cross

Roller

Slide

Guide

40

50

60

70

80

100

120

180

Other

Dimensions

C Standard

Motor model C005C-90215P-1

F High-torque

Motor model PK525HPB-C1

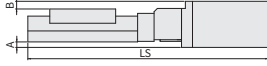
G High resolution

Motor model PK523HPMB-C1

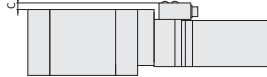
T 2 phase motor

Motor model SJA28N32-0674B-01

Side View



Top View



Uncover

Model	C / F / G / T				C	F	G	T
	Motor size	A(mm)	B(mm)	C(mm)				
KXL06030M-N□-C,F,G,T	□ 28	—	0.5	—	198	218	198	198
KXL06050M-N□-C,F,G,T					218	238	218	218
KXL06075M-N□-C,F,G,T					243	263	243	243

Cover

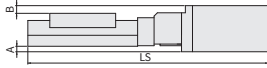
Model	C / F / G / T				C	F	G	T
	Motor size	A(mm)	B(mm)	C(mm)				
KXL06030M-C□-C,F,G,T	□ 28	—	—	—	203	223	203	203
KXL06050M-C□-C,F,G,T					223	243	223	223
KXL06075M-C□-C,F,G,T					248	268	248	248

MA MB With electromagnetic brake

*Included driver: MA selected: 100V, MB selected: 200V

Motor model PKE545MC-A1

Side View



Top View



Uncover

Model	MA, MA (With electromagnetic brake) common				C (Standard)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06030M-N- MA, MB	□ 42	5	7	6	245	198
KXL06050M-N- MA, MB					265	218
KXL06075M-N- MA, MB					290	243

Cover

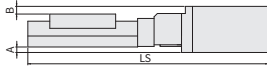
Model	MA, MA (With electromagnetic brake) common				C (Standard)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06030M-C□-MA,MB	□ 42	5	4	6	250	203
KXL06050M-C□-MA,MB					270	223
KXL06075M-C□-MA,MB					295	248

PA αSTEP (AR Series) ZA αSTEP (AZ Series)

Motor model ARM24SAK

Motor model AZM24AK

Side View



Top View



Uncover

Model	PA αSTEP (AR Series)/ZA αSTEP (AZ Series)				PA (αSTEP)	ZA (αSTEP)	C (Standard)
	Motor size	A(mm)	B(mm)	C(mm)			
KXL06030M-N□-PA,ZA	□ 28	—	0.5	6	211	220.5	198
KXL06050M-N□-PA,ZA					231	240.5	218
KXL06075M-N□-PA,ZA					256	265.5	243

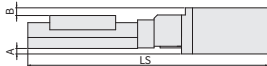
Cover

Model	PA αSTEP (AR Series)/ZA αSTEP (AZ Series)				PA (αSTEP)	ZA (αSTEP)	C (Standard)
	Motor size	A(mm)	B(mm)	C(mm)			
KXL06030M-C□-PA,ZA	□ 28	—	—	6	216	225.5	203
KXL06050M-C□-PA,ZA					236	245.5	223
KXL06075M-C□-PA,ZA					261	270.5	248

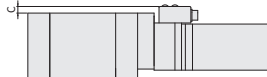
UA AC servo motor(J4)

Motor model HG-KR053

Side View



Top View



Uncover

Model	UA (AC servo motor)				C (Standard)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06030M-N□-UA	□ 40	4.7	6.5	6	240.4	198
KXL06050M-N□-UA					260.4	218
KXL06075M-N□-UA					285.4	243

Cover

Model	UA (AC servo motor)				C (Standard)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06030M-C□-UA	□ 40	4.7	3.5	6	245.4	203
KXL06050M-C□-UA					265.4	223
KXL06075M-C□-UA					290.4	248

Motorized Stage

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT

Linear Ball

PG

Linear Ball

KXG/KXL

Linear Ball

Cross

Roller

Slide

Guide

□ 40

□ 50

□ 60

□ 70

□ 80

□ 100

□ 120

□ 180

Ohter

1

104

Motorized Stage

CAVE-X POSITIONER

XY-axis Linear Ball Guide: KYL06100/KYL06150

Motorized Stage

KXL06100M-N



KXL06150M-N



KXL06100M-C



KXL06150M-C



RoHS

* Clean grease is applied to the drive parts of the KXL series.

KYL06100M-N2-F

1 2 3 4 4 5 6 6

▶ Cables P.1-207~
▶ Electrical specification P.1-121~

1 Travel distance

100	100mm
150	150mm

2 Cover type

N	Uncovered	
C	Covered	

3 Ball screw lead

2	2mm
---	-----

4 Motor Option

Code	Specification
F	High-torque
G	High resolution
T	2 Phase stepping motor

*For Code T, 2-phase stepping motor, our controller (DS102/112) cannot be used.

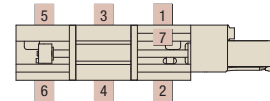
4 Motor Option

Code	Specification
MA	With electromagnetic brake(□42_100V)
MB	With electromagnetic brake(□42_200V)
PA	αSTEP (AR Series)
ZA	αSTEP (AZ Series)
UA	Servo motor(J4)

5 Origin sensor option

Code	Specification
Blank	None
1	CCW right side
2	CCW left side
3	Center right side
4	Center left side
5	CW right side
6	CW left side
7	Built-in

Origin sensor option (Please select one location)



※ See page P.1-121~ for details of origin sensor option.

6 Cable Option (Motor-code: C/F/G)

Code	Specification	Cable type
Blank	Cable is not included (Standard)	—
A	2m	D214-2-2E
B	2m One end loose	D214-2-2EK
C	4m	D214-2-4E
D	4m One end loose	D214-2-4EK
E	4 Only connector (Cable is not included) —	—
F	Robot cable 2m	D214-2-2R
G	Robot cable 2m one end loose	D214-2-2RK
H	Robot cable 4m	D214-2-4R
J	Robot cable 4m one end loose	D214-2-4RK

* One end loose position to only stage opposite side.

* See page P.1-287~ for details of cable.

* For connection with our controllers (DS102/112), please select from codes A, C, F, or H.

6 Cable Option (Motor-code: MA/MB/PA/ZA/UA)

Code	Specification
Blank	Sensor cable 2m One end loose wire
3	Sensor cable 3m One end loose wire
5	Sensor cable 5m One end loose wire
3A	Driver Amplifier (3m Cable Set)
5A	Driver Amplifier (5m Cable Set)

products list [4] Motor [6] Cable/Driver combination

Code	Driver (amplifier) cable	Blank			3A (5A)		
		Blank	3	5	MA • MB	PA • ZA	UA
Cable	Sensor	2m	3m	5m	3m (5m)		
	Motor	None			3m (5m)		
	Electromagnetic brake	None			3m (5m)	—	—
	Encoder	None			—	—	3m (5m)
Driver (Amplifier)		None			Available		

6 Cable Option (Motor-code: T)

Code	Specification	Cable type
Blank	Cable is not included (Standard)	—
B	2m One end loose	DS1-2C-2-2EK
D	4m One end loose	DS1-2C-2-4EK
G	Robot cable 2m one end loose	DS1-2C-2-2RK
J	Robot cable 4m one end loose	DS1-2C-2-4RK

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT
Linear Ball

PG
Linear Ball

KXG/KXL
Linear Ball

Cross
Roller

Slide
Guide

40

50

60

70

80

100

120

180

Other

Specification

SPEC			
Model	Uncovered Covered	KYL06100M-N2-F KYL06100M-C2-F	KYL06150M-N2-F KYL06150M-C2-F
Mechanical specification	Travel distance	100mm	
	Stage table size	60×60mm	
	Feed screw (Ball screw)	φ8 Lead 2	
	Guide	Linear Ball Guide	
	Main materials-Finishing	Stainless—Electroless nickel plating	
Weight	Uncovered	3.58kg	4.18kg
	Covered	3.70kg	4.30kg
Accuracy specification	Resolution/Pulse	4μm/2μm	
		0.2μm	
	MAX speed	45mm/sec	
	Load capacity	10kgf [98N]	
Sensor	Squareness	50μm/Full stroke	75μm/Full stroke
	Limit sensor	Available	
	Origin sensor	— *Can be installed with origin sensor option	
	Slit origin sensor	—	
Provided screw (Hexagon-headed bolt)	8 of M4—14		14 of M4—14
Stage axis accuracy specification	Uni-directional positioning accuracy	10μm	15μm
	Repeatability positioning accuracy	±0.5μm	
	Lost motion	1μm	
	Backlash	1μm	
	Straightness	5μm	
	Pitching/Yawing	25"/20"	

* The SPEC varies depending on the motor.

Resolution • MAX speed • Weight

Motor code	F	G	T
Feature	High-torque	High resolution	—
Type	5 phase stepping motor (0.75A/Phase)		2 phase stepping motor (0.67A/Phase)
Motor model* 1	PK525HPB-C1	PK523HPMB-C1	SJA28N32-0674B-01
Step angle	0.72°	0.36°	1.8°
Resolution	Lead 2mm	4μm/2μm	10μm/5μm
	Full/Half Micro step (1/20 On resolution)	0.2μm	0.1μm
MAX speed	Lead 2mm	45mm/sec	30mm/sec
Weight ^{4,5}	KYL06100M-N	3.58kg	3.40kg
	KYL06100M-C	3.70kg	3.52kg
	KYL06150M-N	4.18kg	4.00kg
	KYL06150M-C	4.30kg	4.12kg

Motor code	MA • MB	PA	ZA	UA
Feature	With electromagnetic brake	Small step-out ,absolute	Small step-out ,absolute	High speed
Type	5 Phase stepping motor (With electromagnetic brake,0.35A/Phase)	αSTEP (AR Series)	αSTEP (AZ Series)	Servo motor
Motor model* 1	PKE545MC-A1	ARM24SAK	AZM24AK	HG-KR053
Step angle	0.72°	—	—	—
Resolution	Lead 2mm	4μm/2μm	2μm(Set to 1000P/R)	2μm(Set to 1000P/R)
	Full/Half Micro step (1/20 On resolution)	0.2μm	2μm(Set to 1000P/R)	22 Bit encoder (4194304P/R)** ^{2,3}
MAX speed	Lead 2mm	40mm/sec	80mm/sec	80mm/sec
Weight ^{4,5}	KYL06100M-N	4.28kg	3.50kg	3.50kg
	KYL06100M-C	4.40kg	3.62kg	3.62kg
	KYL06150M-N	4.88kg	4.10kg	4.10kg
	KYL06150M-C	5.00kg	4.22kg	4.22kg

*1 Model numbers include Suruga Seiki's proprietary management codes.

*2 When constructing an absolute system, it is necessary to install a battery in the amplifier.

*3 Optional encoder cable : for incremental system.

*4 Sensor Option Selection: Not Used.

*5 Origin sensor option [1~6]+0.06kg, [7]+0.02kg.

Motorized Stage

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT

Linear Ball

PG

Linear Ball

KXG/KXL

Linear Ball

Cross

Roller

Slide

Guide

40

50

60

70

80

100

120

180

Other

1

106

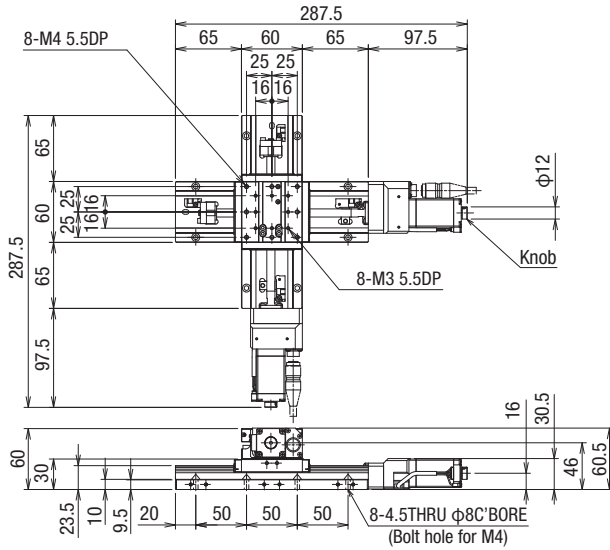
Motorized Stage

CAVE-X POSITIONER

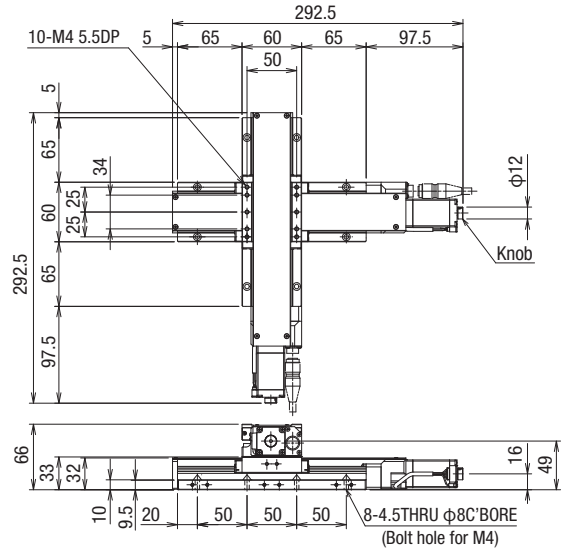
XY-axis Linear Ball Guide: KYL06100/KYL06150

Dimensions

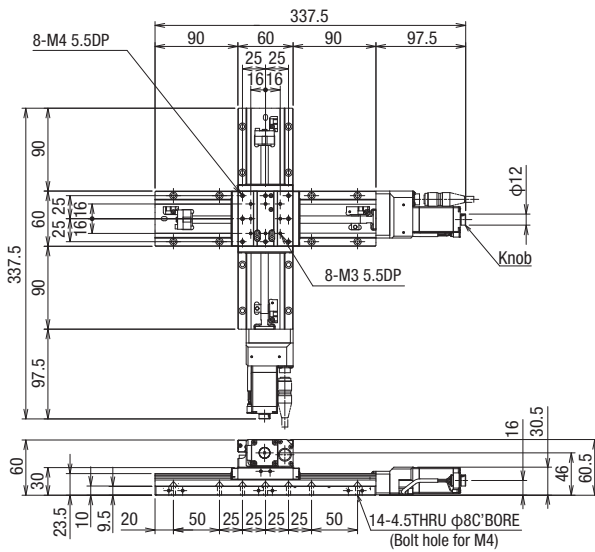
KYL06100M-N2-F



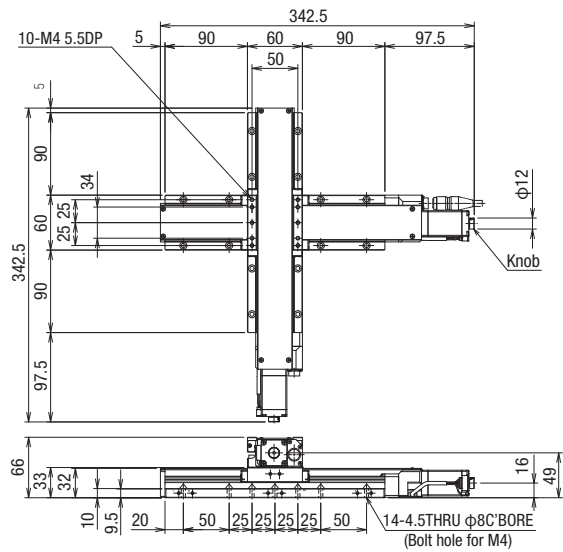
KYL06100M-C2-F



KYL06150M-N2-F



KYL06150M-C2-F



Motorized Stage

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT

Linear Ball

PG

Linear Ball

KXG/KXL

Linear Ball

Cross

Roller

Slide

Guide

40

50

60

70

80

100

120

180

Other

Dimensions

F High-torque

Motor model PK525HPB-C1

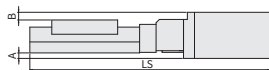
G High resolution

Motor model PK523HPMB-C1

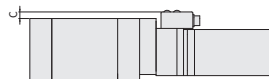
T 2 phase motor

Motor model SJA28N32-0674B-01

Side View



Top View



Uncoverd

Model	F (High-torque)/G (High-resolution)/T(2-phase) Common				F (High-torque)	G (High resolution)	T (2 phase)
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)		
KXL06100M-N2-F,G,T	□ 28	—	0.5	—	288	268	268
KXL06150M-N2-F,G,T					338	318	318

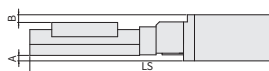
Coverd

Model	F (High-torque)/G (High-resolution)/T(2-phase) Common				F (High-torque)	G (High resolution)	T (2 phase)
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)		
KXL06100M-C2-F,G,T	□ 28	—	—	—	293	273	273
KXL06150M-C2-F,G,T					343	323	323

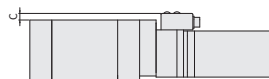
MA MB With electromagnetic brake *Included driver: MA selected: 100V, MB selected: 200V

Motor model PKE545MC-A1

Side View



Top View



Uncoverd

Model	MA,MB (With electromagnetic brake motor)				F (High-torque)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06100M-N2-MA/MB	□ 42	5	7	6	315	288
KXL06150M-N2-MA,MB					365	338

Coverd

Model	MA,MB (With electromagnetic brake motor)				F (High-torque)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06100M-C2-MA,MB	□ 42	5	4	6	320	293
KXL06150M-C2-MA,MB					370	343

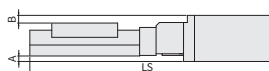
PA αSTEP (AR Series)

Motor model ARM24SAK

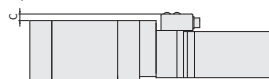
ZA αSTEP (AZ Series)

Motor model AZM24AK

Side View



Top View



Uncoverd

Model	PA αSTEP (AR Series)/ZA αSTEP (AZ Series)				PA	ZA	F (High-torque)
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)		
KXL06100M-N2-PA,ZA	□ 28	—	0.5	6	281	290.5	288
KXL06150M-N2-PA,ZA					331	340.5	338

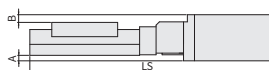
Coverd

Model	PA αSTEP (AR Series)/ZA αSTEP (AZ Series)				PA	ZA	F (High-torque)
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)		
KXL06100M-C2-PA,ZA	□ 28	—	—	6	286	295.5	293
KXL06150M-C2-PA,ZA					336	345.5	343

UA Servo motor (J4 [Mitsubishi Electric corporation])

Motor model HG-KR053

Side View



Top View



Uncoverd

Model	UA (AC servo motor)				F (High-torque)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06100M-N2-UA	□ 40	4.7	6.5	6	310.4	288
KXL06150M-N2-UA					360.4	338

Coverd

Model	UA (AC servo motor)				F (High-torque)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06100M-C2-UA	□ 40	4.7	3.5	6	315.4	293
KXL06150M-C2-UA					365.4	343

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT

Linear Ball

PG

Linear Ball

KXG/KXL

Linear Ball

Cross

Roller

Slide

Guide

□ 40

□ 50

□ 60

□ 70

□ 80

□ 100

□ 120

□ 180

Ohter

Motorized Stage

CAVE-X POSITIONER

XY-axis Linear Ball Guide : KYL06200/KYL06300

Motorized Stage

KYL06200M-N



KYL06300M-N



KYL06200M-C



KYL06300M-C



RoHS

* Clean grease is applied to the drive parts of the KXL series.

KYL06200M-N2-F

1 2 3 4 4 5 6 6

▶ Cables P.1-207~

▶ Electrical specification P.1-121~

1 Travel distance

200	200mm
300	300mm

2 Cover type

N	Uncovered	
C	Covered	

3 Ball screw lead

2	2mm
---	-----

4 Motor Option

Code	Specification
F	High-torque
G	High resolution
T	2 Phase stepping motor

*For Code T,2-phase stepping motor, our controller (DS102/112) cannot be used.

5 Origin sensor option

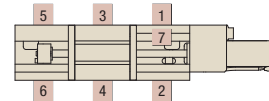
Code	Specification
Blank	None
1	CCW right side
2	CCW left side
3	Center right side
4	Center left side
5	CW right side
6	CW left side
7	Built-in

※ See page P.1-121~ for details of origin sensor option.

4 Motor Option

Code	Specification
MA	With electromagnetic brake(□42_100V)
MB	With electromagnetic brake(□42_200V)
PA	αSTEP (AR Series)
ZA	αSTEP (AZ Series)
UA	Servo motor(J4)

Origin sensor option (Please select one location)



6 Cable Option (Motor-code: C/F/G)

Code	Specification	Cable type
Blank	Cable is not included (Standard)	—
A	2m	D214-2-2E
B	2m One end loose	D214-2-2EK
C	4m	D214-2-4E
D	4m One end loose	D214-2-4EK
E	4 Only connector (Cable is not included) —	—
F	Robot cable 2m	D214-2-2R
G	Robot cable 2m one end loose	D214-2-2RK
H	Robot cable 4m	D214-2-4R
J	Robot cable 4m one end loose	D214-2-4RK

* One end loose position to only stage opposite side.

* See page P.1-287~ for details of cable.

* For connection with our controllers (DS102/112), please select from codes A, C, F, or H.

6 Cable Option (Motor-code: T)

Code	Specification	Cable type
Blank	Cable is not included (Standard)	—
B	2m One end loose	DS1-2C-2-2EK
D	4m One end loose	DS1-2C-2-4EK
G	Robot cable 2m one end loose	DS1-2C-2-2RK
J	Robot cable 4m one end loose	DS1-2C-2-4RK

6 Cable Option (Motor-code: MA/MB/PA/ZA/UA)

Code	Specification
Blank	Sensor cable 2m One end loose wire
3	Sensor cable 3m One end loose wire
5	Sensor cable 5m One end loose wire
3A	Driver Amplifier (3m Cable Set)
5A	Driver Amplifier (5m Cable Set)

products list [4] Motor [6] Cable/Driver combination

Code	Driver (amplifier) cable	Blank			3A (5A)		
		Blank	3	5	MA • MB	PA • ZA	UA
Cable	Sensor	2m	3m	5m	3m (5m)		
	Motor	None			3m (5m)		
	Electromagnetic brake	None			3m (5m)	—	—
	Encoder	None			—	—	3m (5m)
Driver (Amplifier)		None			Available		

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT
Linear Ball

PG
Linear Ball

KXG/KXL
Linear Ball

Cross
Roller

Slide
Guide

40

50

60

70

80

100

120

180

Other

Specification

SPEC			
Model	Uncovered	KYL06200M-N2-F KYL06200M-C2-F	KYL06300M-N2-F KYL06300M-C2-F
Mechanical specification	Travel distance	200mm	300mm
	Stage table size	60×60mm	
	Feed screw (Ball screw)	φ8 Lead 2	
	Guide	Linear Ball Guide	
	Main materials-Finishing	Stainless—Electroless nickel plating	
Weight	Uncovered	4.82kg	6.02kg
	Covered	4.94kg	6.22kg
Accuracy specification	Resolution/Pulse	4μm/2μm	
	Full/Half	0.2μm	
	Micro step	45mm/sec	
	MAX speed	10kgf [98N]	
Load capacity	100μm/Full stroke		150μm/Full stroke
Sensor	Squareness	100μm/Full stroke	
	Limit sensor	Available	
	Origin sensor	— *Can be installed with origin sensor option	
Slit origin sensor	—		
Provided screw (Hexagon-headed bolt)	12 of M4—14		16 of M4—14
Shape accuracy specification	Uni-directional positioning accuracy	15μm	25μm
	Repeatability positioning accuracy	±0.5μm	
	Lost motion	1μm	
	Backlash	1μm	
	Straightness	7μm	
	Pitching/Yawing	30"/20"	35"/20"

* The SPEC varies depending on the motor.

Resolution • MAX speed • Weight

Motor code	F	G	T
Feature	高トルク	高分解能	—
Type	5 phase stepping motor (0.75A/Phase)		2 phase stepping motor (0.67A/Phase)
Motor model* 1	PK525HPB-C1	PK523HPMB-C1	SJA28N32-0674B-01
Step angle	0.72°	0.36°	1.8°
Resolution	Lead 2mm	4μm/2μm	10μm/5μm
	Full/Half Micro step (1/20 On resolution)	0.2μm	0.1μm
MAX speed	Lead 2mm	45mm/sec	30mm/sec
		4.82kg	4.64
Weight※4,5	KYL06200M-N	4.82kg	4.64
	KYL06200M-C	4.94kg	4.76
	KYL06300M-N	6.02kg	5.84
	KYL06300M-C	6.22kg	6.04

Motor code	MA • MB	PA	ZA	UA
Feature	With electromagnetic brake	Small step-out ,absolute	Small step-out ,absolute	High speed
Type	5 Phase stepping motor (With electromagnetic brake,0.35A/Phase)	αSTEP (AR Series)	αSTEP (AZ Series)	Servo motor
Motor model* 1	PKE545MC-A1	ARM24SAK	AZM24AK	HG-KR053
Step angle	0.72°	—	—	—
Resolution	Lead 2mm	4μm/2μm	2μm(Set to 1000P/R)	2μm(Set to 1000P/R)
	Full/Half Micro step (1/20 On resolution)	0.2μm	2μm(Set to 1000P/R)	22 Bit encoder
MAX speed	Lead 2mm	40mm/sec	80mm/sec	80mm/sec
		5.52kg	4.74kg	4.74kg
Weight※4,5	KYL06200M-N	5.52kg	4.86kg	4.86kg
	KYL06200M-C	5.64kg	5.94kg	5.94kg
	KYL06300M-N	6.72kg	6.14kg	6.14kg
	KYL06300M-C	6.92kg	6.14kg	6.14kg

*1 Model numbers include Suruga Seiki's proprietary management codes.

*2 When constructing an absolute system, it is necessary to install a battery in the amplifier.

*3 Optional encoder cable : for incremental system.

*4 Sensor Option Selection: Not Used.

*5 Origin sensor option [1~6]+0.06kg, [7]+0.02kg.

Motorized Stage

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT

Linear Ball

PG

Linear Ball

KXG/KXL

Linear Ball

Cross

Roller

Slide

Guide

40

50

60

70

80

100

120

180

Other

1

110

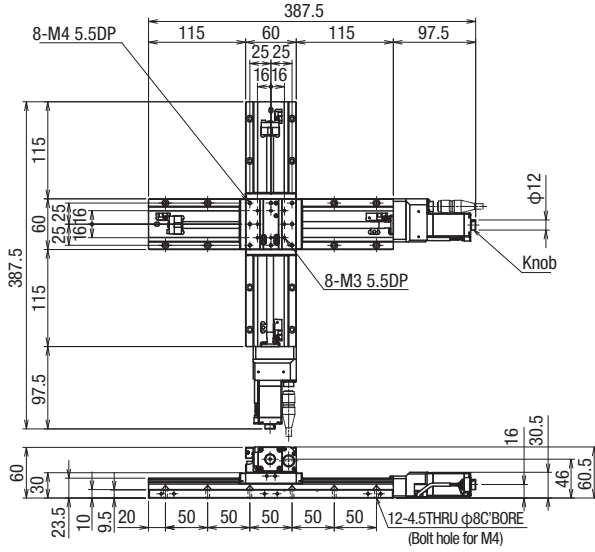
Motorized Stage

CAVE-X POSITIONER

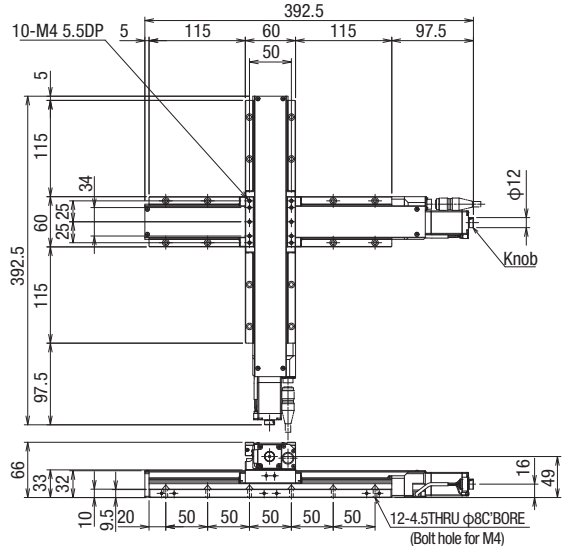
XY-axis Linear Ball Guide: KYL06200/KYL06300

Dimensions

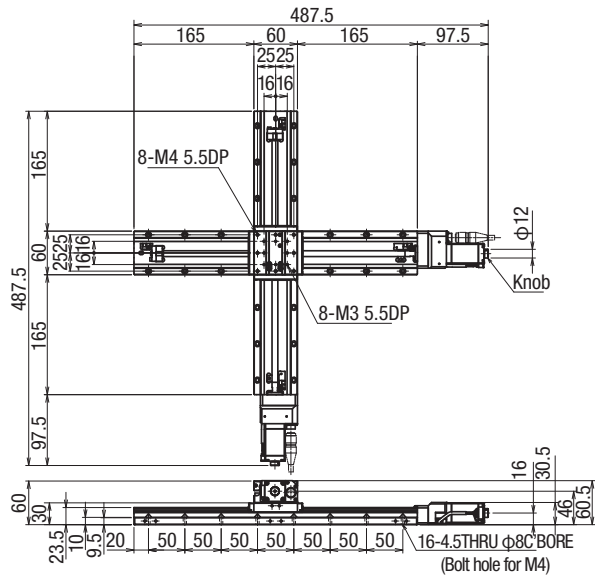
KYL06200M-N2-F



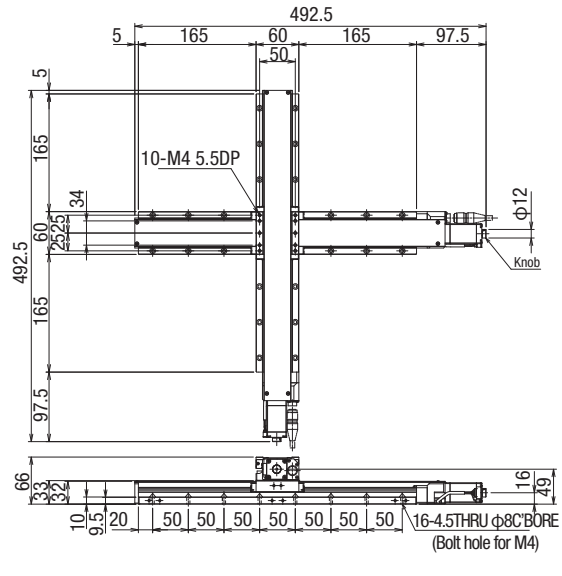
KYL06200M-C2-F



KYL06300M-N2-F



KYL06300M-C2-F



Support guide option

We have a support guide option for 200mm and 300mm. You can use safely in overhang.

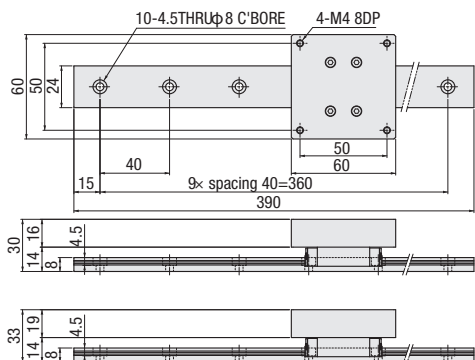
How to order

- For Uncovered model
- APW6016A-390A
- For covered model
- APW6019A-390A

Notes:

- Combination with slideguide, adaptor plate or CAVE-X POSITIONER should be selected customer side.
- ※ It is recommended to adjust in parallelism under 10μm and within 100mm.
- Slide guide materials: Stainless.
- Adaptor plate materials: Aluminum.
- Grease: Multemp PS2.
- If you have any questions, feel free to contact us.

[Dimensions] Slide guide model: SSEBW14-390(MISUMI)



• For Uncovered model
APW6016A-390A

• For covered model
APW6019A-390A

Motorized Stage

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT
Linear Ball

PG
Linear Ball

KXG/KXL
Linear Ball

Cross
Roller

Slide
Guide

40

50

60

70

80

100

120

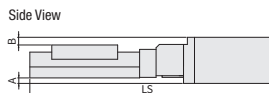
180

Other

Dimensions

F High-torque

Motor model PK525HPB-C1



G High resolution

Motor model PK523HPMB-C1

T 2 phase motor

Motor model SJA28N32-0674B-01

Uncoverd

Model	F(High-torque)/G(High resolution)/T(2-phase)共通				F (High-torque)	G (High resolution)	T (2 phase)
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)		
KXL06200M-N2-F,G,T	□ 28	—	0.5	—	388	368	368
KXL06300M-N2-F,G,T					488	468	468

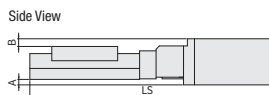
Coverd

Model	F(High-torque)/G(High resolution)/T(2-phase) Common				F (High-torque)	G (High resolution)	T (2 phase)
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)		
KXL06200M-C2-F,G,T	□ 28	—	—	—	393	373	373
KXL06300M-C2-F,G,T					493	473	473

MA MB With electromagnetic brake

*Included driver: MA selected: 100V, MB selected: 200V

Motor model PKE545MC-A1



Uncoverd

Model	MA,MB(With electromagnetic brake) common				F (High-torque)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06200M-N2-MA,MB	□ 42	5	7	6	415	388
KXL06300M-N2-MA,MB					515	488

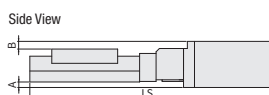
Coverd

Model	MA,MB(With electromagnetic brake) common				F (High-torque)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06200M-C2-MA,MB	□ 42	5	4	6	420	393
KXL06300M-C2-MA,MB					520	493

PA αSTEP (AR Series) ZA αSTEP (AZ Series)

Motor model ARM24SAK

Motor model AZM24AK



Uncoverd

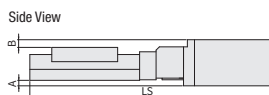
Model	PA αSTEP (AR Series)/ZA αSTEP (AZ Series)				PA	ZA	F (High-torque)
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)		
KXL06200M-N2-PA,ZA	□ 28	—	0.5	6	381	390.5	388
KXL06300M-N2-PA,ZA					481	490.5	488

Coverd

Model	PA αSTEP (AR Series)/ZA αSTEP (AZ Series)				PA	ZA	F (High-torque)
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)		
KXL06200M-C2-PA,ZA	□ 28	—	—	6	386	395.5	393
KXL06300M-C2-PA,ZA					486	495.5	493

UA AC servo motor(J4)

Motor model HG-KR053



Uncoverd

Model	UA (AC servo motor)				F (High-torque)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06200M-N2-UA	□ 40	4.7	6.5	6	410.4	388
KXL06300M-N2-UA					510.4	488

Coverd

Model	UA (AC servo motor)				F (High-torque)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06200M-C2-UA	□ 40	4.7	3.5	6	415.4	393
KXL06300M-C2-UA					515.4	493

Motorized Stage

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT

Linear Ball

PG

Linear Ball

KXG/KXL

Linear Ball

Cross

Roller

Slide

Guide

□ 40

□ 50

□ 60

□ 70

□ 80

□ 100

□ 120

□ 180

Ohter

Motorized Stage

CAVE-X POSITIONER

Z-axis Linear Ball Guide: KZL06030/KZL06050/KZL06075

KZL06030M-N

KZL06050M-N

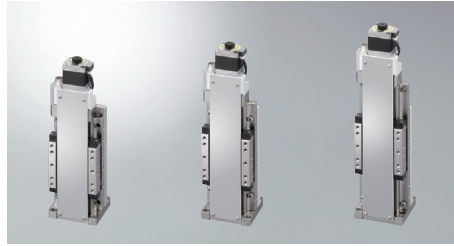
KZL06075M-N

KZL06030M-C

KZL06050M-C

KZL06075M-C

RoHS



* Clean grease is applied to the drive parts of the KXL series.

KZL06030M-N1-C

1

2

3

4

4

5

6

6

- ◉ Cables P.1-287~
- ◉ Electrical specification P.1-121~

1 Travel distance

030	30mm
050	50mm
075	75mm

2 Cover type

N	Uncovered	
C	Covered	

3 Ball screw lead

1	1mm
---	-----

4 Motor Option

Code	Specification
C	Standard
F	High-torque
G	High resolution
T	2 Phase stepping motor

*For Code T, 2-phase stepping motor, our controller (DS102/112) cannot be used.

5 Origin sensor option

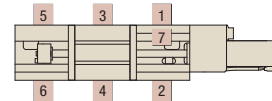
Code	Specification
Blank	None
1	CCW right side
2	CCW left side
3	Center right side
4	Center left side
5	CW right side
6	CW left side
7	Built-in

※ See page P.1-121~ for details of origin sensor option.

4 Motor Option

Code	Specification
MA	With electromagnetic brake(□42_100V)
MB	With electromagnetic brake(□42_200V)
PA	αSTEP (AR Series)
ZA	αSTEP (AZ Series)
UA	Servo motor(J4)

Origin sensor option (Please select one location)



6 Cable Option (Motor-code: C/F/G)

Code	Specification	Cable type
Blank	Cable is not included (Standard)	—
A	2m	D214-2-2E
B	2m One end loose	D214-2-2EK
C	4m	D214-2-4E
D	4m One end loose	D214-2-4EK
E	4 Only connector (Cable is not included) —	—
F	Robot cable 2m	D214-2-2R
G	Robot cable 2m one end loose	D214-2-2RK
H	Robot cable 4m	D214-2-4R
J	Robot cable 4m one end loose	D214-2-4RK

* One end loose position to only stage opposite side.

* See page P.1-287~ for details of cable.

* For connection with our controllers (DS102/112), please select from codes A, C, F, or H.

6 Cable Option (Motor-code: T)

Code	Specification	Cable type
Blank	Cable is not included (Standard)	—
B	2m One end loose	DS1-2C-2-2EK
D	4m One end loose	DS1-2C-2-4EK
G	Robot cable 2m one end loose	DS1-2C-2-2RK
J	Robot cable 4m one end loose	DS1-2C-2-4RK

6 Cable Option (Motor-code: MA/MB/PA/ZA/UA)

Code	Specification
Blank	Sensor cable 2m One end loose wire
3	Sensor cable 3m One end loose wire
5	Sensor cable 5m One end loose wire
3A	Driver Amplifier (3m Cable Set)
5A	Driver Amplifier (5m Cable Set)

products list [4] Motor [6] Cable/Driver combination

Code	Driver (amplifier) cable	Blank			3A (5A)		
		Blank	3	5	MA • MB	PA • ZA	UA
Cable	Motor	2m	3m	5m	3m (5m)		
	Sensor				3m (5m)		
	Electromagnetic brake	None			3m (5m)	—	—
	Encoder				—	—	3m (5m)
Driver (Amplifier)		None			Available		

Motorized Stage

X

XY

Z

Horizontal Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT Linear Ball

PG Linear Ball

KXG/KXL Linear Ball

Cross Roller

Slide Guide

40

50

60

70

80

100

120

180

Other

1
113

Specification

		SPEC					
Model		Uncovered			Covered		
		KZL06030M-N1-C	KZL06050M-N1-C	KZL06075M-N1-C	KZL06030M-C1-C	KZL06050M-C1-C	KZL06075M-C1-C
Mechanical specification	Travel distance	30mm	50mm	75mm	30mm	50mm	75mm
	Stage table size	60×60mm					
	Feed screw (Ball screw)	φ8 Lead 1					
	Guide	Linear Ball Guide					
	Main materials-Finishing	Stainless—Electroless nickel plating					
Accuracy specification	Weight	1.99kg	2.09kg	2.25kg	2.05kg	2.15kg	2.31kg
	Resolution/Pulse	Full/Half	2μm/1μm				
		Micro step	0.1μm				
	MAX speed	20mm/sec					
	Load capacity	7kgf [68.6N]					
Sensor	Perpendicularity	15μm Storke	25μm Storke	37.5μm Storke	15μm Storke	25μm Storke	37.5μm Storke
	Limit sensor	Available					
	Origin sensor	— *Can be installed with origin sensor option					
	Slit origin sensor	—					
Provided screw (Hexagon-headed bolt)		4 of M4—10					
Stage size accuracy specification	Uni-directional positioning accuracy	5μm		7μm	5μm		7μm
	Repeatability positioning accuracy	±0.5μm					
	Lost motion	1μm					
	Backlash	1μm					
	Straightness	3μm					
	Pitching/Yawing	20"/15"					

* The SPEC varies depending on the motor.

Resolution · MAX speed · Weight

Motor code			C	F	G	T
Feature			標準	高トルク	高分解能	—
Type			5 phase stepping motor (0.75A/Phase)			2 phase stepping motor (0.67A/Phase)
Motor model* 1			C005C-90215P-1	PK525HPB-C1	PK523HPMB-C1	SJA28N32-0674B-01
Step angle			0.72°	0.72°	0.36°	1.8°
Resolution	Lead 1mm	Full/Half	2μm/1μm			1μm/0.5μm
		Micro step (1/20 On resolution)	0.1μm			0.05μm
MAX speed			20mm/sec	30mm/sec	15mm/sec	15mm/sec
Weight* 5	KZL06030M-N		1.99kg	2.08kg	1.99kg	1.99kg
	KZL06030M-C		2.05kg	2.14kg	2.05kg	2.05kg
	KZL06050M-N		2.09kg	2.18kg	2.09kg	2.09kg
	KZL06050M-C		2.15kg	2.24kg	2.15kg	2.15kg
	KZL06075M-N		2.25kg	2.34kg	2.25kg	2.25kg
	KZL06075M-C		2.31kg	2.4kg	2.31kg	2.31kg
Motor code			MA · MB	PA	ZA	UA
Feature			With electromagnetic brake	Small step-out ,absolute	Small step-out ,absolute	High speed
Type			5 Phase stepping motor (With electromagnetic brake,0.35A/Phase)	αSTEP (AR Series)	αSTEP (AZ Series)	Servo motor
Motor model* 1			PKE545MC-A1	ARM24SAK	AZM24AK	HG-KR053
Step angle			0.72°	—	—	—
Resolution	Lead 1mm	Full/Half	2μm/1μm			22 Bit encoder (4194304P/R)※2,3
		Micro step (1/20 On resolution)	0.1μm			1μm(Set to 1000P/R)
MAX speed			25mm/sec	40mm/sec	40mm/sec	50mm/sec
Weight* 5	KZL06030M-N		2.43kg	2.04kg	2.04kg	2.26kg
	KZL06030M-C		2.49kg	2.10kg	2.10kg	2.32kg
	KZL06050M-N		2.53kg	2.14kg	2.14kg	2.36kg
	KZL06050M-C		2.59kg	2.20kg	2.20kg	2.42kg
	KZL06075M-N		2.69kg	2.30kg	2.30kg	2.52kg
	KZL06075M-C		2.75kg	2.36kg	2.36kg	2.58kg

*1 Model numbers include Suruga Seiki's proprietary management codes.

*2 When constructing an absolute system, it is necessary to install a battery in the amplifier.

*3 Optional encoder cable : for incremental system.

*4 Sensor Option Selection: Not Used.

*5 Origin sensor option [1~6]+0.03kg, [7]+0.01kg.

Motorized Stage

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT

Linear Ball

PG

Linear Ball

KXG/KXL

Linear Ball

Cross

Roller

Slide

Guide

40

50

60

70

80

100

120

180

Other

1

114

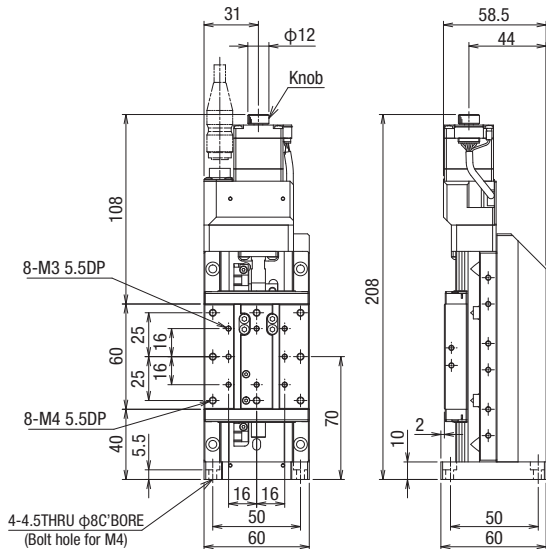
Motorized Stage

CAVE-X POSITIONER

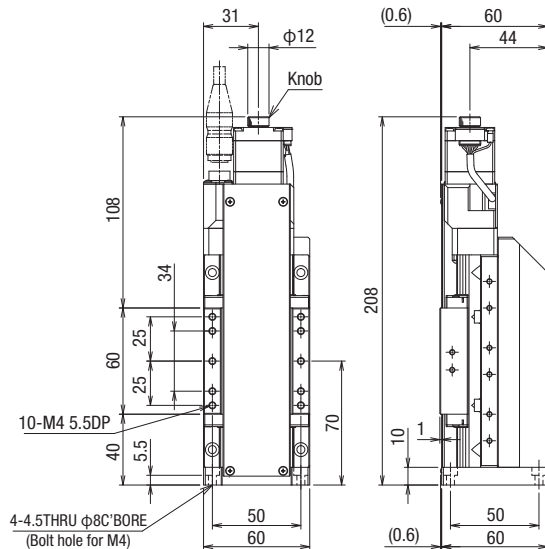
Z-axis Linear Ball Guide: KZL06030/KZL06050/KZL06075

Dimensions

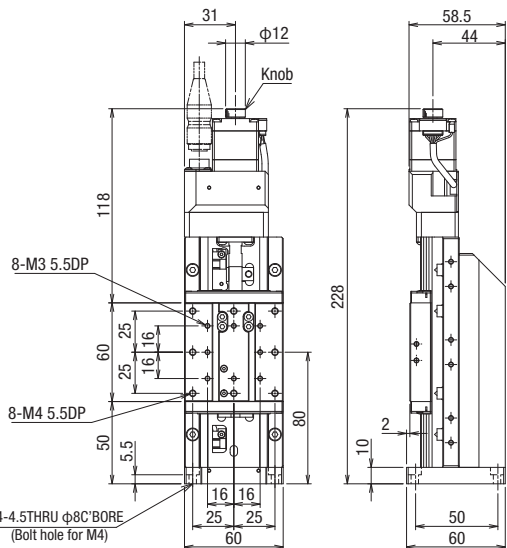
KZL06030M-N1-C



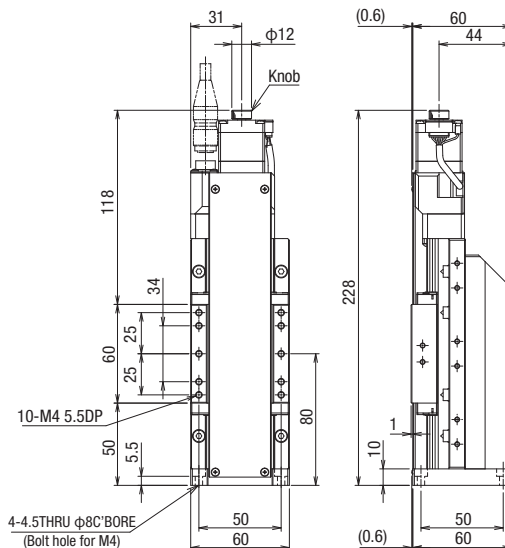
KZL06030M-C1-C



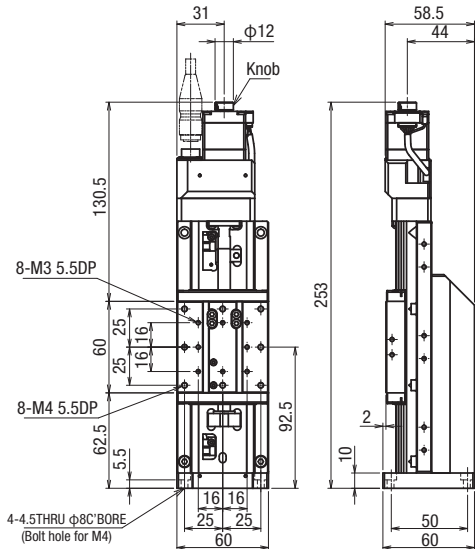
KZL06050M-N1-C



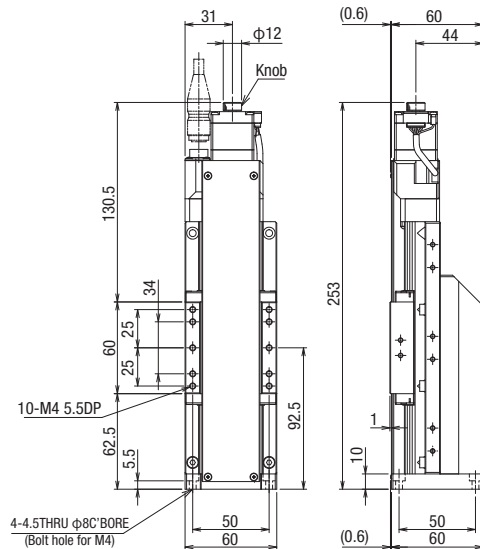
KZL06050M-C1-C



KZL06075M-N1-C



KZL06075M-C1-C



Motorized Stage

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT

Linear Ball

PG

Linear Ball

KXG/KXL

Linear Ball

Cross

Roller

Slide

Guide

40

50

60

70

80

100

120

180

Other

Dimensions

C Standard

Motor model C005C-90215P-1

F High-torque

Motor model PK525HPB-C1

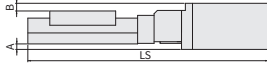
G High resolution

Motor model PK523HPMB-C1

T 2 phase motor

Motor model SJA28N32-0674B-01

Side View



Top View



Uncover

Model	C / F / G / T			C (mm)	C	F	G	T
	Motor size	A(mm)	B(mm)					
KXL06030M-N□-C,F,G,T	□ 28	—	0.5	—	198	218	198	198
KXL06050M-N□-C,F,G,T					218	238	218	218
KXL06075M-N□-C,F,G,T					243	263	243	243

Cover

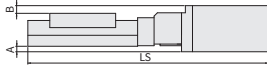
Model	C / F / G / T			C (mm)	C	F	G	T
	Motor size	A(mm)	B(mm)					
KXL06030M-C□-C,F,G,T	□ 28	—	—	—	203	223	203	203
KXL06050M-C□-C,F,G,T					223	243	223	223
KXL06075M-C□-C,F,G,T					248	268	248	248

MA MB With electromagnetic brake

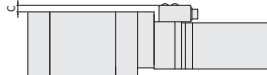
*Included driver: MA selected: 100V, MB selected: 200V

Motor model PKE545MC-A1

Side View



Top View



Uncover

Model	MA, MA (With electromagnetic brake) common				C (Standard)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06030M-N- MA, MB	□ 42	5	7	6	245	198
KXL06050M-N- MA, MB					265	218
KXL06075M-N- MA, MB					290	243

Cover

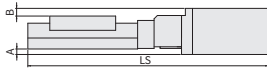
Model	MA, MA (With electromagnetic brake) common				C (Standard)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06030M-C□-MA,MB	□ 42	5	4	6	250	203
KXL06050M-C□-MA,MB					270	223
KXL06075M-C□-MA,MB					295	248

PA αSTEP (AR Series) ZA αSTEP (AZ Series)

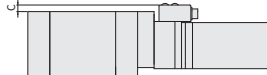
Motor model ARM24SAK

Motor model AZM24AK

Side View



Top View



Uncover

Model	PA αSTEP (AR Series)/ZA αSTEP (AZ Series)			C (mm)	PA (αSTEP)	ZA (αSTEP)	C (Standard)
	Motor size	A(mm)	B(mm)				
KXL06030M-N□-PA,ZA	□ 28	—	0.5	6	211	220.5	198
KXL06050M-N□-PA,ZA					231	240.5	218
KXL06075M-N□-PA,ZA					256	265.5	243

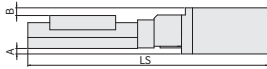
Cover

Model	PA αSTEP (AR Series)/ZA αSTEP (AZ Series)			C (mm)	PA (αSTEP)	ZA (αSTEP)	C (Standard)
	Motor size	A(mm)	B(mm)				
KXL06030M-C□-PA,ZA	□ 28	—	—	6	216	225.5	203
KXL06050M-C□-PA,ZA					236	245.5	223
KXL06075M-C□-PA,ZA					261	270.5	248

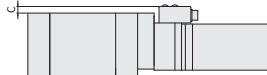
UA AC servo motor(J4)

Motor model HG-KR053

Side View



Top View



Uncover

Model	UA (AC servo motor)			C (mm)	PA (αSTEP)	ZA (αSTEP)	C (Standard)
	Motor size	A(mm)	B(mm)				
KXL06030M-N□-UA	□ 40	4.7	6.5	6	240.4	198	198
KXL06050M-N□-UA					260.4	218	218
KXL06075M-N□-UA					285.4	243	243

Cover

Model	UA (AC servo motor)			C (mm)	PA (αSTEP)	ZA (αSTEP)	C (Standard)
	Motor size	A(mm)	B(mm)				
KXL06030M-C□-UA	□ 40	4.7	3.5	6	245.4	203	203
KXL06050M-C□-UA					265.4	223	223
KXL06075M-C□-UA					290.4	248	248

Motorized Stage

X

XY

Z

Horizontal Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT

Linear Ball

PG

Linear Ball

KXG/KXL

Linear Ball

Cross

Roller

Slide

Guide

□ 40

□ 50

□ 60

□ 70

□ 80

□ 100

□ 120

□ 180

Ohter

1

116

Motorized Stage

CAVE-X POSITIONER

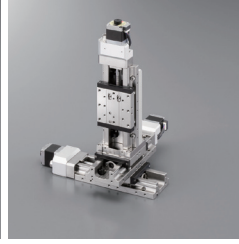
XYZ-axis Linear Ball Guide:KWL06030/KWL06050

Motorized Stage

KWL06030M-N



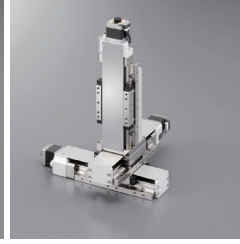
KWL06050M-N



KWL06030M-C



KWL06050M-C



RoHS

* Clean grease is applied to the drive parts of the KXL series.

KWL06030M-N1-C

1

2

3

4

5

6

☉ Cables P.1-287~

☉ Electrical specification P.1-121~

1 Travel distance

030	30mm
050	50mm

2 Cover type

N	Uncovered	
C	Covered	

3 Ball screw lead

1	1mm
---	-----

4 Motor Option

Code	Specification
C	Standard
F	High-torque
G	High resolution
T	2 Phase stepping motor

*For Code T,2-phase stepping motor, our controller (DS102/112) cannot be used.

5 Origin sensor option

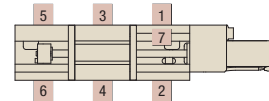
Code	Specification
Blank	None
1	CCW right side
2	CCW left side
3	Center right side
4	Center left side
5	CW right side
6	CW left side
7	Built-in

※ See page ☉ P.1-121~for details of origin sensor option.

4 Motor Option

Code	Specification
MA	With electromagnetic brake(□42_100V)
MB	With electromagnetic brake(□42_200V)
PA	αSTEP (AR Series)
ZA	αSTEP (AZ Series)
UA	Servo motor(J4)

Origin sensor option (Please select one location)



6 Cable Option (Motor-code: C/F/G)

Code	Specification	Cable type
Blank	Cable is not included (Standard)	—
A	2m	D214-2-2E
B	2m One end loose	D214-2-2EK
C	4m	D214-2-4E
D	4m One end loose	D214-2-4EK
E	4 Only connector (Cable is not included) —	—
F	Robot cable 2m	D214-2-2R
G	Robot cable 2m one end loose	D214-2-2RK
H	Robot cable 4m	D214-2-4R
J	Robot cable 4m one end loose	D214-2-4RK

* One end loose position to only stage opposite side.

* See page ☉ P.1-287~ for details of cable.

* For connection with our controllers (DS102/112), please select from codes A, C, F, or H.

6 Cable Option (Motor-code: T)

Code	Specification	Cable type
Blank	Cable is not included (Standard)	—
B	2m One end loose	DS1-2C-2-2EK
D	4m One end loose	DS1-2C-2-4EK
G	Robot cable 2m one end loose	DS1-2C-2-2RK
J	Robot cable 4m one end loose	DS1-2C-2-4RK

6 Cable Option (Motor-code: MA/MB/PA/ZA/UA)

Code	Specification
Blank	Sensor cable 2m One end loose wire
3	Sensor cable 3m One end loose wire
5	Sensor cable 5m One end loose wire
3A	Driver Amplifier (3m Cable Set)
5A	Driver Amplifier (5m Cable Set)

products list [4] Motor [6] Cable/Driver combination

Code	Driver (amplifier) cable	Blank			3A (5A)		
		Blank	3	5	MA · MB	PA · ZA	UA
Cable	Sensor	2m	3m	5m	3m (5m)		
	Motor	None			3m (5m)		
	Electromagnetic brake	None			3m (5m)	—	—
	Encoder	None			—	—	3m (5m)
Driver (Amplifier)		None			Available		

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT
Linear Ball

PG
Linear Ball

KXG/KXL
Linear Ball

Cross
Roller

Slide
Guide

40

50

60

70

80

100

120

180

Other

Specification

		SPEC			
Model		Uncovered		Covered	
		KWL06030M-N1-C	KWL06050M-N1-C	KWL06030M-C1-C	KWL06050M-C1-C
Mechanical specification	Travel distance	30mm		50mm	
	Stage table size	60×60mm			
	Feed screw (Ball screw)	φ8 Lead 1			
	Guide	Linear Ball Guide			
	Main materials-Finishing	Stainless—Electroless nickel plating			
Accuracy specification	Weight	4.53kg	4.83kg	4.71kg	5.01kg
	Resolution/Pulse	Full/Half		2μm/1μm	
		Micro step		0.1μm	
	MAX speed	20mm/sec			
	Load capacity	7kgf [68.6N]			
Sensor	Perpendicularity	15μm/Full stroke	25μm/Full stroke	15μm/Full stroke	25μm/Full stroke
	Limit sensor	Available			
	Origin sensor	— *Can be installed with origin sensor option			
	Slit origin sensor	—			
	Provided screw (Hexagon-headed bolt)	8 of M4—14			
Stage axis accuracy specification	Uni-directional positioning accuracy	5μm			
	Repeatability positioning accuracy	±0.5μm			
	Lost motion	1μm			
	Backlash	1μm			
	Straightness	3μm			
	Pitching/Yawing	20"/15"			

* The SPEC varies depending on the motor.

Resolution · MAX speed · Weight

Motor code		C	F	G	T
Feature		Standard	High-torque	Hig resorution	—
Type		5 phase stepping motor (0.75A/Phase)			2 phase stepping motor (0.67A/Phase)
Motor model* 1		C005C-90215P-1	PK525HPB-C1	PK523HPMB-C1	SJA28N32-0674B-01
Step angle		0.72°	0.72°	0.36°	1.8°
Resolution	Lead 1mm	2μm/1μm		1μm/0.5μm	5μm/2.5μm
	Full/Half Micro step (1/20 On resolution)	0.1μm		0.05μm	—
MAX speed	Lead 1mm	20mm/sec	30mm/sec	15mm/sec	15mm/sec
自重※4,5	KWL06030M-N	4.53kg	4.80kg	4.53kg	4.53kg
	KWL06030M-C	4.71kg	4.98kg	4.71kg	4.71kg
	KWL06050M-N	4.83kg	5.10kg	4.83kg	4.83kg
	KWL06050M-C	5.01kg	5.28kg	5.01kg	5.01kg
Motor code		MA · MB	PA	ZA	UA
Feature		With electromagnetic brake	Small step-out ,absolute	Small step-out ,absolute	High speed
Type		5 Phase stepping motor (With electromagnetic brake,0.35A/Phase)	αSTEP (AR Series)	αSTEP (AZ Series)	Servo motor
Motor model* 1		PKE545MC-A1	ARM24SAK	AZM24AK	HG-KR053
Step angle		0.72°	—	—	—
Resolution	Lead 1mm	2μm/1μm	1μm(Set to 1000P/R)	1μm(Set to 1000P/R)	22 Bit encoder
	Full/Half Micro step (1/20 On resolution)	0.1μm			
MAX speed	Lead 1mm	25mm/sec	40mm/sec	40mm/sec	50mm/sec
自重※4,5	KWL06030M-N	5.85kg	4.68kg	4.68kg	5.35kg
	KWL06030M-C	6.03kg	4.86kg	4.86kg	5.53kg
	KWL06050M-N	6.15kg	4.98kg	4.98kg	5.65kg
	KWL06050M-C	6.33kg	5.16kg	5.16kg	5.83kg

*1 Model numbers include Suruga Seiki's proprietary management codes.

*2 When constructing an absolute system, it is necessary to install a battery in the amplifier.

*3 Optional encoder cable : for incremental system.

*4 Sensor Option Selection: Not Used.

*5 Origin sensor option [1~6]+0.09kg, [7]+0.03kg.

Motorizec Stage

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT

Linear Ball

PG

Linear Ball

KXG/KXL

Linear Ball

Cross

Roller

Slide

Guide

40

50

60

70

80

100

120

180

Other

1

118

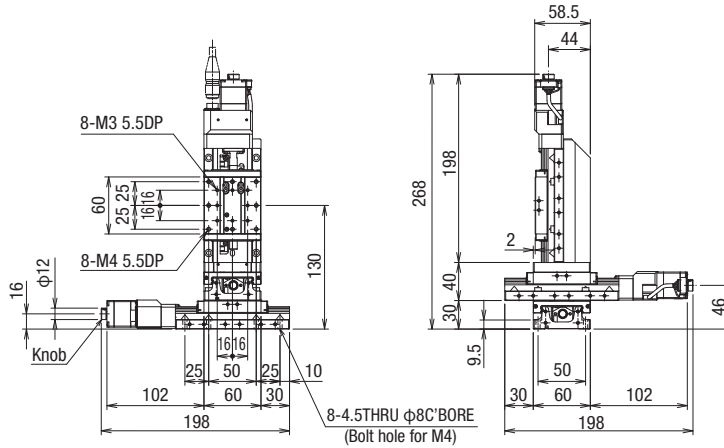
Motorized Stage

CAVE-X POSITIONER

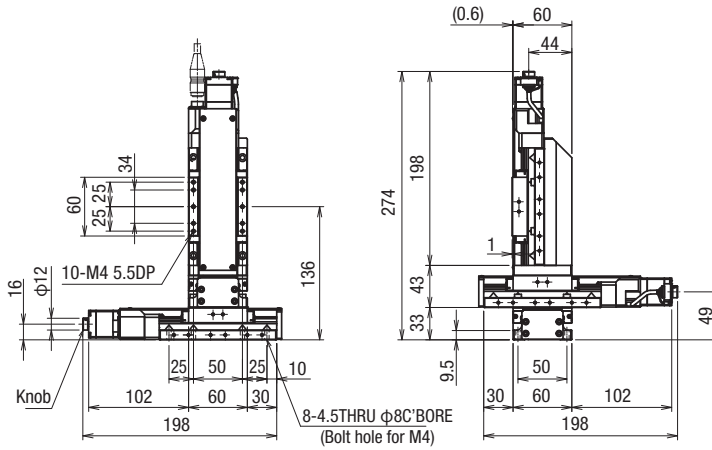
XYZ-axis Linear Ball Guide:KWL06030/KWL06050

Dimensions

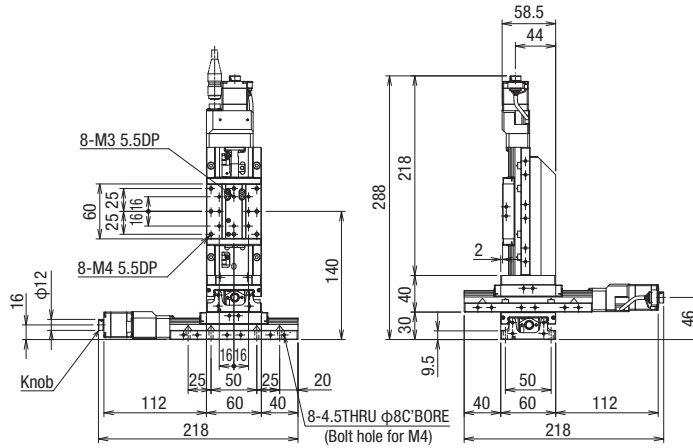
KWL06030M-N1-C



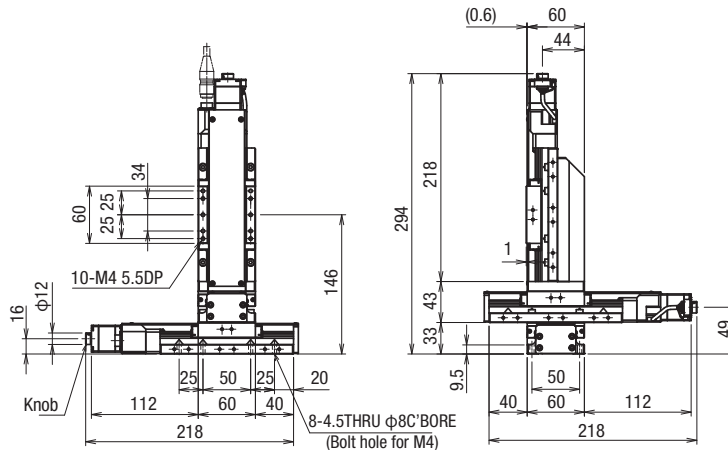
KWL06030M-C1-C



KWL06050M-N1-C



KWL06050M-C1-C



Motorized Stage

X

XY

Z

Horizontal

Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT

Linear Ball

PG

Linear Ball

KXG/KXL

Linear Ball

Cross

Roller

Slide

Guide

40

50

60

70

80

100

120

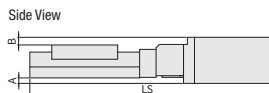
180

Other

Dimensions

C Standard

Motor model C005C-90215P-1



F High-torque

Motor model PK525HPB-C1

G High-resolution

Motor model PK523HPMB-C1

T 2 phase motor

Motor model SJA28N32-0674B-01

Uncover

Model	C/F/G/T			C	F	G	T
	Motor size	A(mm)	B(mm)				
KXL06030M-N□-C,F,G,T	□ 28	—	0.5	—	198	218	198
KXL06050M-N□-C,F,G,T					218	238	218

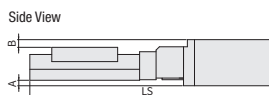
Cover

Model	C/F/G/T			C	F	G	T
	Motor size	A(mm)	B(mm)				
KXL06030M-C□-C,F,G,T	□ 28	—	—	—	203	223	203
KXL06050M-C□-C,F,G,T					223	243	223

MA MB With electromagnetic brake

*Included driver: MA selected: 100V, MB selected: 200V

Motor model PKE545MC-A1



Uncover

Model	MA, MA (With electromagnetic brake) common				C (Standard)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06030M-N-MA, MB	□ 42	5	7	6	245	198
KXL06050M-N-MA, MB					265	218

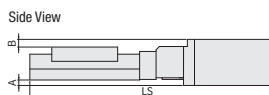
Cover

Model	MA, MA (With electromagnetic brake) common				C (Standard)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06030M-C□-MA, MB	□ 42	5	4	6	250	203
KXL06050M-C□-MA, MB					270	223

PA αSTEP (AR Series) ZA αSTEP (AZ Series)

Motor model ARM24SAK

Motor model AZM24AK



Uncover

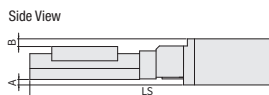
Model	PA αSTEP (AR Series)/ZA αSTEP (AZ Series)			PA (αSTEP)	ZA (αSTEP)	C (Standard)
	Motor size	A(mm)	B(mm)			
KXL06030M-N□-PA,ZA	□ 28	—	0.5	6	211	220.5
KXL06050M-N□-PA,ZA					231	240.5

Cover

Model	PA αSTEP (AR Series)/ZA αSTEP (AZ Series)			PA (αSTEP)	ZA (αSTEP)	C (Standard)
	Motor size	A(mm)	B(mm)			
KXL06030M-C□-PA,ZA	□ 28	—	—	6	216	225.5
KXL06050M-C□-PA,ZA					236	245.5

UA AC servo motor(J4)

Motor model HG-KR053



Uncover

Model	UA (AC servo motor)				C (Standard)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06030M-N□-UA	□ 40	4.7	6.5	6	240.4	198
KXL06050M-N□-UA					260.4	218

Cover

Model	UA (AC servo motor)				C (Standard)	
	Motor size	A(mm)	B(mm)	C(mm)	LS(mm)	
KXL06030M-C□-UA	□ 40	4.7	3.5	6	245.4	203
KXL06050M-C□-UA					265.4	223

- Motorizec Stage
- X
- XY
- Z
- Horizontal Z
- XYZ
- Goniometer
- Rotary
- Unit
- Controller
- KXT Linear Ball
- PG Linear Ball
- KXG/KXL Linear Ball
- Cross Roller
- Slide Guide
- 40
- 50
- 60
- 70
- 80
- 100
- 120
- 180
- Ohter

Electrical Specification: KXL Series

Electrical Specification

Motor code	C	F	G	T	
Stage model	KXL06030 / KXL06050 / KXL06075				
	KXL06100 / KXL06150 / KXL06200 / KXL06300				
Motor Specification (*1)	Type	5 phase stepping motor (0.75A/Phase)			2 phase stepping motor (0.67A/Phase)
	Feature	Standard	High-torque	High resolution	-
	Model*1	C005C-90215P-1	PK525HPB-C1	PK523HPMB-C1	SJA28N32-0674B-01
	With electromagnetic brake	-			
	Manufacturer	Oriental Motor Co., Ltd.			SURUGA SEIKI
	Step angle Position detector	0.72°		0.36°	1.8°
	Motor size	28mm			
	Excitation (moment) maximum torque	0.048N · m	0.073N · m	0.038N · m	0.059N · m
	Driver model	CVD507-K-A9			
	Driver power input	DC24V±10% 1.4A(MAX)			
Connector	Motor	HR10A-10R-12P(73) (HRS)			HR10A-10R-10P(73) (HRS)
	Receiving connector	HR10A-10P-12S(73) (HRS)			HR10A-10P-10S(73) (HRS)
Sensor	Limit sensor	Available			
	Origin sensor	- *Can be installed with origin sensor option			
	Slit origin sensor	-			
	Sensor	Micro Photoelectric Sensor PM-L25 (Panasonic Industry Co., Ltd.)			
	Power-supply voltage	DC5~24V±10%			
	Current consumption	Total 45mA or less (15mA or less per 1 sensor)			
	Control output	NPN open collector output DC30V 50mA or less Residual voltage 2V or less when the load current is 50mA Residual voltage 1V or less when the load current is 16mA			
	Output logic	On detection (light shield condition): Output transistor OFF (Non-continuity)			

*1 P.1-297~ for details of single motor specification.

*2 Model numbers include Suruga Seiki's proprietary management codes. Model numbers include Suruga Seiki's proprietary management codes.

* The electric specification of XY (KYL), Z (KZL), XYZ (KWL) are the same.

Pin allocation · Connection diagram

C • F • G	Available for motor and sensor	<p>【 Connection diagram (common) 】 Connector: HR10A-10R-12P(73) (Hirose Electric Co., Ltd.)</p>	<p>【 Connection diagram (common) 】</p> <p>----- When the origin sensor option is selected.</p>
	Available for motor and sensor	<p>【 Connection diagram (common) 】 Connector: HR10A-10R-10P(73) (Hirose Electric Co., Ltd.)</p>	<p>【 Connection diagram (common) 】</p> <p>【 Motor and sensor connection diagram (the same) 】</p> <p>----- When the origin sensor option is selected.</p>

* See page P.1-87~ for details of cable.

Electrical Specification (With electromagnetic brake motor)		
Motor code	MA	MB
Stage model	KXL06030 / KXL06050 / KXL06075 KXL06100 / KXL06150 / KXL06200 / KXL06300	
Motor Specification (*1)	Type	5 phase stepping motor (0.35A/Phase)
	Feature	With electromagnetic brake
	Model*1	PKE545MC-A1
	With electromagnetic brake	Available
	Manufacturer	Oriental Motor Co., Ltd.
	Step angle	0.72°
	Position detector	
	Motor size	□ size: 42mm L size: 75mm
	Excitation (moment) maximum torque	0.27N · m
	Driver model	RKSD503M-A
Driver power input	Single phase AC100-120V 50/60Hz	Single phase AC200-240V 50/60Hz
Brake power input	DC24V±5% 0.08A	
Connector	Motor	Motor: 5557-06R-210 (Molex) Electromagnetic brake side: 5557-02R-210 (MOLEX) Sensor: HR10A-7R-6P(73) (Hirose Electric Co., Ltd.)
	Receiving connector	Motor: 5559-06P-210 (Molex) Electromagnetic brake side: 5559-02P-210 (MOLEX) Sensor: HR10A-7P-6S(73) (Hirose Electric Co., Ltd.)
Sensor	Limit sensor	Available
	Origin sensor	— *Can be installed with origin sensor option
	Slit origin sensor	—
	Sensor	Micro Photoelectric Sensor PM-L25 (Panasonic Industry)
	Power-supply voltage	DC5~24V±10%
	Current consumption	Total 45mA or less (15mA or less per 1 sensor)
	Control output	NPN open collector output DC30V 50mA or less Residual voltage 2V or less when the load current is 50mA Residual voltage 1V or less when the load current is 16mA
	Output logic	On detection (light shield condition): Output transistor OFF (Non-continuity)

*1 P.1-208~ for details of single motor specification.

* The electric specification of XY (KYL), Z (KZL), XYZ (KWL) are the same.

Pin allocation · Connection diagram

Motor · Electromagnetic brake	<p>【Receiver cable】Model : CC0□0VPFB (□ is the length.) * Fixed cable</p>													
	<p>【Receiver cable】 Model: HR10AP-S-SB-6-□ (□ is the length.) * Fixed cable</p> <p>Sensor side Connector (Female): HR10A-7P-6S (73) (HRS)</p> <p>ULAWM20276 AWG28 3P Black</p> <table border="1"> <thead> <tr> <th>Pin</th> <th>Signals</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CWLS</td> </tr> <tr> <td>2</td> <td>CCWLS</td> </tr> <tr> <td>3</td> <td>ORG</td> </tr> <tr> <td>4</td> <td>NORG</td> </tr> <tr> <td>5</td> <td>V+</td> </tr> <tr> <td>6</td> <td>V-</td> </tr> </tbody> </table>	Pin	Signals	1	CWLS	2	CCWLS	3	ORG	4	NORG	5	V+	6
Pin	Signals													
1	CWLS													
2	CCWLS													
3	ORG													
4	NORG													
5	V+													
6	V-													
MA · MB	<p>【Connection diagram(Sensor)】 Panel mount specification Connector model : HR10A-7R-6P(73) (Hirose Electric Co., Ltd.)</p> <p>----- When the origin sensor option is selected.</p>													

Electrical Specification: KXL Series

Electrical Specification (αSTEP)

Motor code		PA	ZA
Stage model		KXL06030 / KXL06050 / KXL06075	
		KXL06100 / KXL06150 / KXL06200 / KXL06300	
Motor Specification (*1)	Type	αSTEP (AR Series)	
	Feature	Small step-out ,incremental	Small step-out ,absolute
	Model*2	ARM24SAK	AZM24AK
	With electromagnetic brake	—	
	Manufacturer	Oriental Motor Co., Ltd.	
	Step angle Position detector	0.36°(1000P/R設定時)	
	Motor size	28mm 45mm	
	Excitation (moment) maximum torque	0.055N · m	0.095N · m
	Driver model	ARD-K	AZD-K
	Driver power input	DC24V±10%	DC24V±5%
Brake power input	—		
Connector	Motor	Motor: 43025-1000 (Molex) or 1-794617-0 (TE Connectivity) Sensor: HR10A-7R-6P(73) (Hirose Electric Co., Ltd.)	
	Receiving connector	Motor: 43020-1000 (Molex) or 1-794615-0 (TE Connectivity) Sensor: HR10A-7P-6S(73) (Hirose Electric Co., Ltd.)	
Sensor	Limit sensor	Available	
	Origin sensor	— *Can be installed with origin sensor option	
	Slit origin sensor	—	
	Sensor	Micro Photoelectric Sensor PM-L25 (Panasonic Industry Co., Ltd.)	
	Power-supply voltage	DC5~24V±10%	
	Current consumption	Total 45mA or less (15mA or less per 1 sensor)	
	Control output	NPN open collector output DC30V 50mA or less Residual voltage 2V or less when the load current is 50mA Residual voltage 1V or less when the load current is 16mA	
	Output logic	On detection (light shield condition): Output transistor OFF (Non-continuity)	

*1 OP.1-297~ for details of single motor specification.

* The electric specification of XY (KYL), Z (KZL), XYZ (KWL) are the same.

Pin allocation · Connection diagram

		PA	ZA												
KXT Linear Ball	Motor	<p>【 Receiver cable 】 Model: CC0□0VA2R2 (□ is the length.) *Flexible cable</p>	<p>【 Receiver cable 】 Model : CC0□0VZ2R2 (□ is the length) *Flexible cable</p>												
		<p>【 Receiver cable 】 Model: HR10AP-S-SB-6-□ (□ is the length.) * Fixed cable</p> <p>Sensor side Connector (Female): HR10A-7P-6S (73) (HRS) ULAWM20276 AWG28 3P Black</p> <table border="1"> <thead> <tr> <th>Pin</th> <th>Signals</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CWLS</td> </tr> <tr> <td>2</td> <td>CCWLS</td> </tr> <tr> <td>3</td> <td>ORG</td> </tr> <tr> <td>4</td> <td>NORG</td> </tr> <tr> <td>5</td> <td>V+</td> </tr> <tr> <td>6</td> <td>V-</td> </tr> </tbody> </table>	Pin	Signals	1	CWLS	2	CCWLS	3	ORG	4	NORG	5	V+	6
Pin	Signals														
1	CWLS														
2	CCWLS														
3	ORG														
4	NORG														
5	V+														
6	V-														
PG Linear Ball	Sensor														
KXG/KXL Linear Ball															
Cross Roller	PA · ZA														
Slide Guide															
□40															
□50															
□60															
□70															
□80															
□100															
□120															
□180															
Ohter															

Electrical Specification (Servo motor)

Motor code	UA	
Stage model	KXL06030 / KXL06050 / KXL06075 KXL06100 / KXL06150 / KXL06200 / KXL06300	
Motor Specification (*1)	Type	Servo motor Motor J4(Mitsubishi Electric corporation)
	Feature	High speed
	Model	HG-KR053
	With electromagnetic brake	—
	Manufacturer	Mitsubishi Electric corporation
	Step angle Position detector	22 Bit encoder (4194304P/R) *2
	Motor size	<input type="checkbox"/> size 40mm <input type="checkbox"/> L size 66.4mm
	Excitation (moment) maximum torque	0.56N · m
	Driver model	MR-J4-10A
	Driver power input Brake power input	Three and Single phase AC200-240V 50/60Hz —
Connector	Motor	Motor: Manufacturer standard Encoder: Manufacturer standard Sensor: HR10A-7R-6P(73) (Hirose Electric Co., Ltd.)
	Receiving connector	Motor: JN4FT04SJ1-R (JAE) Encoder: 1674320-1 (TE Connectivity) Sensor: HR10A-7P-6S(73) (Hirose Electric Co., Ltd.)
Sensor	Limit sensor	Available
	Origin sensor	— *Can be installed with origin sensor option
	Slit origin sensor	—
	Sensor	Micro Photoelectric Sensor PM-L25 (Panasonic Industry Co., Ltd.)
	Power-supply voltage	DC5~ 24V±10%
	Current consumption	Total 45mA or less (15mA or less per 1 sensor)
	Control output	NPN open collector output DC30V 50mA or less Residual voltage 2V or less when the load current is 50mA Residual voltage 1V or less when the load current is 16mA
	Output logic	On detection (light shield condition): Output transistor OFF (Non-continuity)

*1 P.1-297~ for details of single motor specification.
 *2 When constructing an absolute system, it is necessary to install a battery in the amplifier.
 * The electric specification of XY (KYL), Z (KZL), XYZ (KWL) are the same.

Pin allocation · Connection diagram

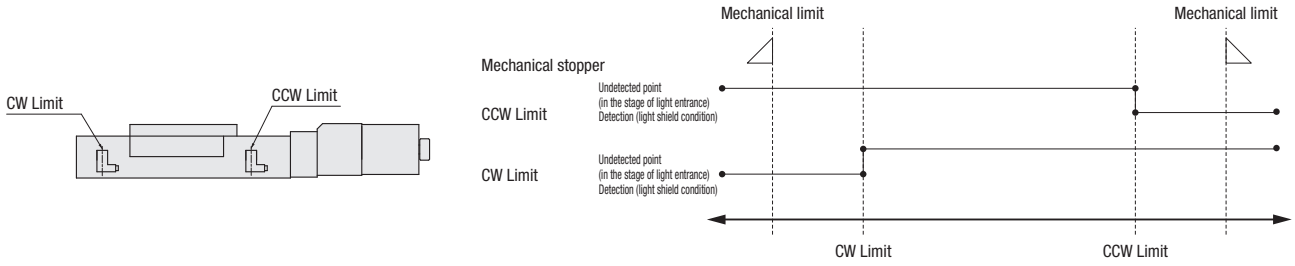
Motor · Encoder	<p>【 Receiver cable 】 Model: SVPM-J3HF1-B-□ (□ is the length.) *Flexible cable</p> <p>【 Receiver cable 】 Model: SVEM-J3HF1-B-3-□ (□ is the length.) *Flexible cable</p>														
	<p>【 Motor Cable 】 Motor side Connector: JN4FT04SJ1-R (JAE) Loose wire on the servo amplifier side NA3CTR-18-4(MISUMI) ULAWM2517 AWG18 200mm +30 3m -0 mm, +150 5m -0 mm</p> <p>【 Encoder Cable 】 Motor (encoder)side Connector:1674320-1 (TE Connectivity) Servo amplifier side Receptacle : 36210-0100FD (3M) ShellKit : 36310-3200-008 (3M) NAMFSB-23-3P (MISUMI) ULAWM2576 AWG23 3m +50 -0 mm, 5m +150 -0 mm * The load drawer</p>														
UA	<p>【 Receiver cable 】 Model: HR10AP-S-SB-6-□ (□ is the length.) * Fixed cable</p> <p>【 Connection diagram(Sensor)】 Panel mount specification Connector model : HR10A-7R-6P(73) (HRS)</p> <p>Sensor side Connector (Female): HR10A-7P-6S (73) (HRS) ULAWM20276 AWG28 3P Black 2m +50 -0 mm, 3m +50 -0 mm, 5m +150 -0 mm</p> <table border="1"> <thead> <tr> <th>Pin</th> <th>Signals</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CWLS</td> </tr> <tr> <td>2</td> <td>CCWLS</td> </tr> <tr> <td>3</td> <td>ORG</td> </tr> <tr> <td>4</td> <td>NORG</td> </tr> <tr> <td>5</td> <td>V+</td> </tr> <tr> <td>6</td> <td>V-</td> </tr> </tbody> </table> <p>1 CWLS output 2 CCWLS output 3 ORG output 4 N.C. 5 Power input (+) 6 Power input (-)</p> <p>⊕ (Brown) CWLS ⊖ (Black) OUT1 (Black) ⊖ (White) OUT2 (White) ⊖ (Blue)</p> <p>⊕ (Brown) CCWLS ⊖ (Black) OUT1 (Black) ⊖ (White) OUT2 (White) ⊖ (Blue)</p> <p>⊕ (Brown) ORG ⊖ (Black) OUT1 (Black) ⊖ (White) OUT2 (White) ⊖ (Blue)</p> <p>----- When the origin sensor option is selected.</p>	Pin	Signals	1	CWLS	2	CCWLS	3	ORG	4	NORG	5	V+	6	V-
Pin	Signals														
1	CWLS														
2	CCWLS														
3	ORG														
4	NORG														
5	V+														
6	V-														

- X
- XY
- Z
- Horizontal Z
- XYZ
- Goniometer
- Rotary
- Unit
- Controller

- KXT Linear Ball
- PG Linear Ball
- KXG/KXL Linear Ball
- Cross Roller
- Slide Guide
- 40
- 50
- 60
- 70
- 80
- 100
- 120
- 180
- Ohter

Electrical Specification: KXL Series

Timing chart

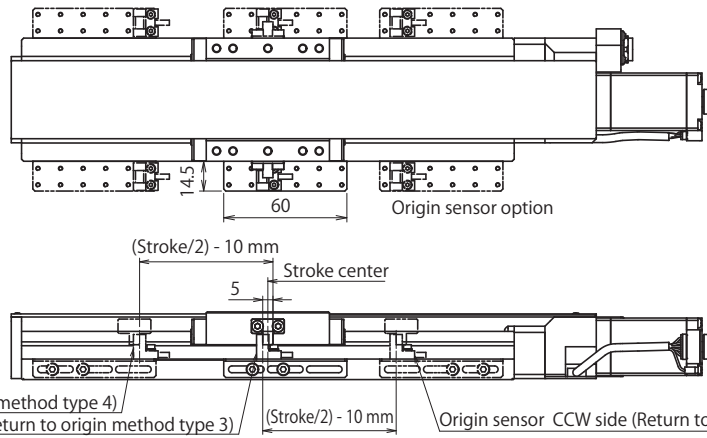


Unit [mm]	Reference coordinate	Mechanical limit	CW Limit	CCW Limit	Mechanical limit
X	Storke center	17.5	15.5	15.5	17.5
XY	Storke center	27.5	25.5	25.5	27.5
Z	Storke center	40	38	38	40
Horizontal Z	Storke center	52.5	50.5	50.5	52.5
XYZ	Storke center	77.5	75.5	75.5	77.5
Goniometer	Storke center	102.5	100.5	100.5	102.5
Rotary	Storke center	152.5	150.5	150.5	152.5

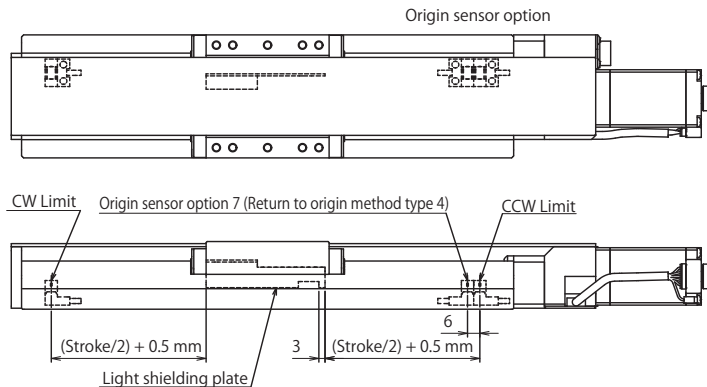
* The coordinate is a basis of design value. Dimension error may occur about plus or minus 0.5 mm.

Note: The timing chart shows only timing of sensor, it is not for output signal logic.
Refer to ON/OFF display of output transistor that shows on electrical specifications-sensor-output logic for output signal logic.

Sensor option dimensions (Sensor option 1~6)



Sensor option dimensions (Sensor option 7)



KXT
Linear Ball

PG
Linear Ball

KXG/KXL
Linear Ball

Cross
Roller

Slide
Guide

40

50

60

70

80

100

120

180

Other

Origin sensor option 1~2

Unit [mm]	Direction of CW ←						→ Direction of CCW	
	Reference coordinate	Mechanical limit	CW Limit	Storke center	Opposite end face to origin	The origin end face	CCW Limit	Mechanical limit
KXL06030	Return to origin	22.5	20.5	5	5	0	10.5	12.5
KXL06050	Return to origin	42.5	40.5	15	5	0	10.5	12.5
KXL06075	Return to origin	67.5	65.5	27.5	5	0	10.5	12.5
KXL06100	Return to origin	92.5	90.5	40	5	0	10.5	12.5
KXL06150	Return to origin	142.5	140.5	65	5	0	10.5	12.5
KXL06200	Return to origin	192.5	190.5	90	5	0	10.5	12.5
KXL06300	Return to origin	292.5	290.5	140	5	0	10.5	12.5

* Return to origin means that is performed return to origin type 3 using DS102/DS112 series.

* The coordinate is a basis of design value. Dimension error may occur about plus or minus 0.5 mm.

Origin sensor option 3~4

Unit [mm]	Direction of CW ←						→ Direction of CCW	
	Reference coordinate	Mechanical limit	CW Limit	Opposite end face to origin	The origin end face Storke center	CCW Limit	Mechanical limit	
KXL06030	Return to origin	17.5	15.5	5	0	15.5	17.5	
KXL06050	Return to origin	27.5	25.5	5	0	25.5	27.5	
KXL06075	Return to origin	40	38	5	0	38	40	
KXL06100	Return to origin	52.5	50.5	5	0	50.5	52.5	
KXL06150	Return to origin	77.5	75.5	5	0	75.5	77.5	
KXL06200	Return to origin	102.5	100.5	5	0	100.5	102.5	
KXL06300	Return to origin	152.5	150.5	5	0	150.5	152.5	

* Return to origin means that is performed return to origin type 3 using DS102/DS112 series.

* The coordinate is a basis of design value. Dimension error may occur about plus or minus 0.5 mm.

Origin sensor option 5~6

Unit [mm]	Direction of CW ←						→ Direction of CCW	
	Reference coordinate	Mechanical limit	CW Limit	The origin end face	Opposite end face to origin	Storke center	CCW Limit	Mechanical limit
KXL06030	Return to origin	12.5	10.5	0	5	5	20.5	22.5
KXL06050	Return to origin	12.5	10.5	0	5	15	40.5	42.5
KXL06075	Return to origin	12.5	10.5	0	5	27.5	65.5	67.5
KXL06100	Return to origin	12.5	10.5	0	5	40	90.5	92.5
KXL06150	Return to origin	12.5	10.5	0	5	65	140.5	142.5
KXL06200	Return to origin	12.5	10.5	0	5	90	190.5	192.5
KXL06300	Return to origin	12.5	10.5	0	5	140	290.5	292.5

* Return to origin means that is performed return to origin type 4 using DS102/DS112 series.

* The coordinate is a basis of design value. Dimension error may occur about plus or minus 0.5 mm.

Origin sensor option 7

Unit [mm]	Direction of CW ←						→ Direction of CCW	
	Reference coordinate	Mechanical limit	CW Limit	Storke center	The origin end face	Opposite end face to origin	CCW Limit	Mechanical limit
KXL06030	Return to origin	27	25	9.5	0	3	6	8
KXL06050	Return to origin	47	45	19.5	0	3	6	8
KXL06075	Return to origin	72	70	32	0	3	6	8
KXL06100	Return to origin	97	95	44.5	0	3	6	8
KXL06150	Return to origin	147	145	69.5	0	3	6	8
KXL06200	Return to origin	197	195	94.5	0	3	6	8
KXL06300	Return to origin	297	295	144.5	0	3	6	8

* Return to origin means that is performed return to origin type 4 using DS102/DS112 series.

* The coordinate is a basis of design value. Dimension error may occur about plus or minus 0.5 mm.

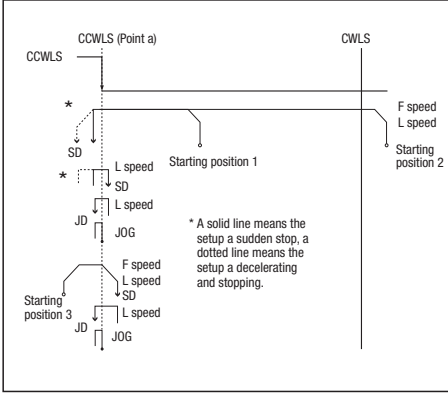
Electrical Specification: KXL Series

KXL series recommendation return to origin method

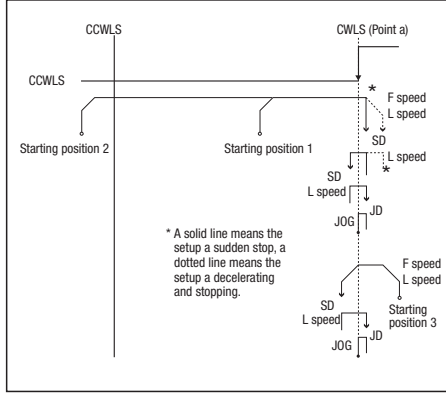
Suruga's motorized stages are different from the specification depending on the models. Therefore return to origin method other than recommendation may not be work correctly. Set to the way of recommendation return origin when using our controller.

Origin sensor option when not use

[Type5] Detect in the direction of CCW and perform detected process for CW edge (point a) of CWLS signal.



[Type6] Detect in the direction of CW and perform detected process for CCW edge (point a) of CWLS signal.

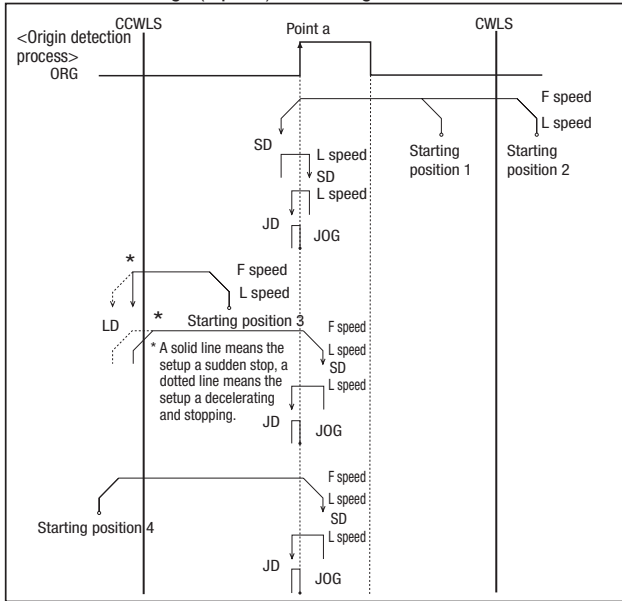


[Type11]
After finished type5, perform detected process for CCW edge of TIMING signal.

[Type12]
After finished type6, perform detected process for CW edge of TIMING signal.

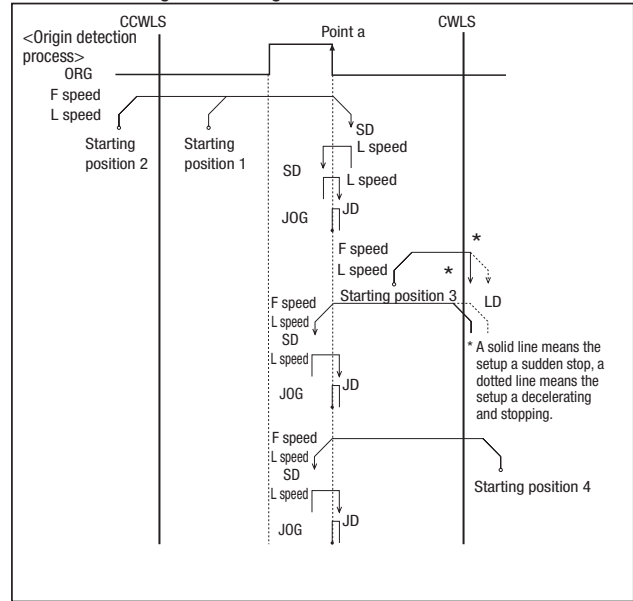
Origin sensor option when use

[Type3] Detect in the direction of CCW and perform detected process for CCW edge (a point) of ORG signal.



[Type9] After finished Type3, perform detected process for CCW edge of TIMING signal.

[Type4] Detect in the direction of CW and perform detected process for CW edge of ORG signal.



[Type10] After finished Type4, perform detected process for CW edge of TIMING signal.

Return to sequence ▶ P.1-281~

X

XY

Z

Horizontal Z

XYZ

Goniometer

Rotary

Unit

Controller

KXT

Linear Ball

PG

Linear Ball

KXG/KXL

Linear Ball

Cross

Roller

Slide

Guide

□40

□50

□60

□70

□80

□100

□120

□180

Other