

Slide Guide KXS Series Guidance



Functions

● Cover type

- Anti-drop foreign material
- Grease antiscattering

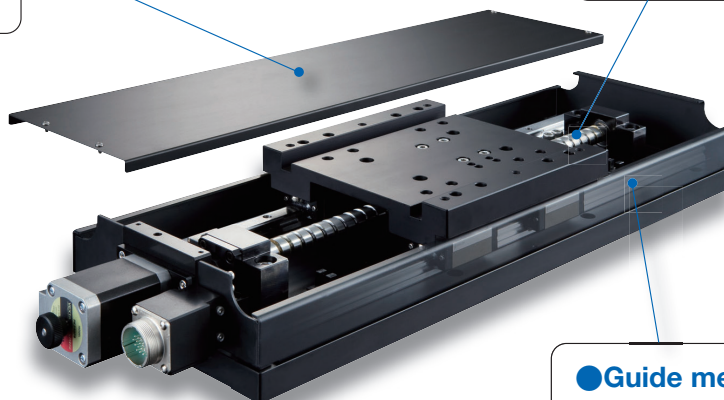
● Motor option

- Servo motor
- α Step motor
- Electromagnetic brake

▶ P.1-135~

● Ball screw lead option

- High resolution (5mm)
- High speed (10mm)



● Guide mechanism

Slide guide



Features

■ Long stroke

Slide guide allows long stroke.

■ Low price

Realize low price in in-house production ball screws.

■ High quality

Provide stable high quality by internally parts.

■ Compact

Place the sensor inside body. No projection on any side.

■ Stroke line-up

Axis	Cover	Ball screw	Travel				
		lead	100mm	200mm	300mm	400mm	500mm
X-axis	Installed	5mm	●	●	●	●	●
		10mm	●	●	●	●	●
	Uncovered	5mm	●	●	●	●	●
		10mm	●	●	●	●	●
XY-axis	Installed	5mm	●	●	●	—	—
		10mm	●	●	●	—	—
	Uncovered	5mm	●	●	●	—	—
		10mm	●	●	●	—	—
Z-axis	Installed	5mm	●	●	●	—	—
	Uncovered		●	●	●	—	—

For proper operation

▽How to mount

Fix with supplied screws

▽About the object that mounted on upper/bottom of stage.

When a stage is mounted on uneven or an object that is uneven, the stage table may deformed, and may also affected the accuracy.

[Approximate flatness: up to 10μm]

▽Positioning

■ Position of stage mounting

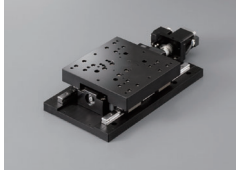
All products SPEC shows must be shown flat setting condition.

Pay attention to mount such as up side down, vertical on the side and horizontal on the side.

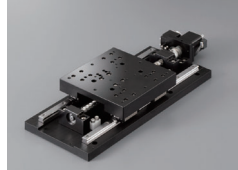
Load capacity and accuracy might be changed by the positioning.

X-axis Slide Guide: KXS18100/KXS18200/KXS18300

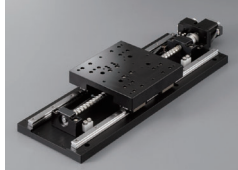
KXS18100-N



KXS18200-N



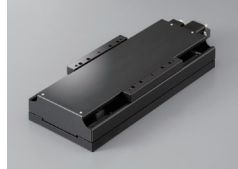
KXS18300-N



KXS18100-C



KXS18200-C



KXS18300-C



Model Selection code Option code
KXS18100-N5-JA
 1 2 3 4 5

▶ Cable P.1-207~
 ▶ Electrical specification P.1-135~

1 Travel length

100	100mm
200	200mm
300	300mm

2 Cover type

N	Uncovered	
C	Covered	

3 Ball screw lead selection

5	lead 5mm
10	lead 10mm

4 Motor option

Code	Specification
J	Standard
SA	With electromagnetic brake (Driver set)
QA	α Step (Driver set)
WA	Servo motor (Amplifier set)

* SA-QA-WA included driver and cable.
 * See page ▶ P.1-135~ for details of Motor option.
 [S]: Please see our web site for more details about motors.

5 Cable option

Code	Specification	Cable type
A	2m	D214-1-2E
B	2m One end loose	D214-1-2EK
C	4m	D214-1-4E
D	4m One end loose	D214-1-4EK
E	Connector	—
F	Robot cable 2m	D214-1-2R
G	Robot cable 2m one end loose	D214-1-2RK
H	Robot cable 4m	D214-1-4R
J	Robot cable 4m one end loose	D214-1-4RK
M	Cable for electromagnetic brake	—
P	Cable for α step	
U	Cable for servo motor	
Blank	Cable is not included (Standard)	—

* One end loose position to only stage opposite side.
 * The price includes M, P and U.
 Not available non-cable. See page ▶ P.1-207~ for details of cable.
 * See page ▶ P.1-207, 209~ for more cable details.
 * Please select "Code A, C, F or H" when connect with stepping motor controller(DS102/112).

[Note]
 Please check available cable from compatibility list.
 Not included cable for a main body. Please choose the code as below.

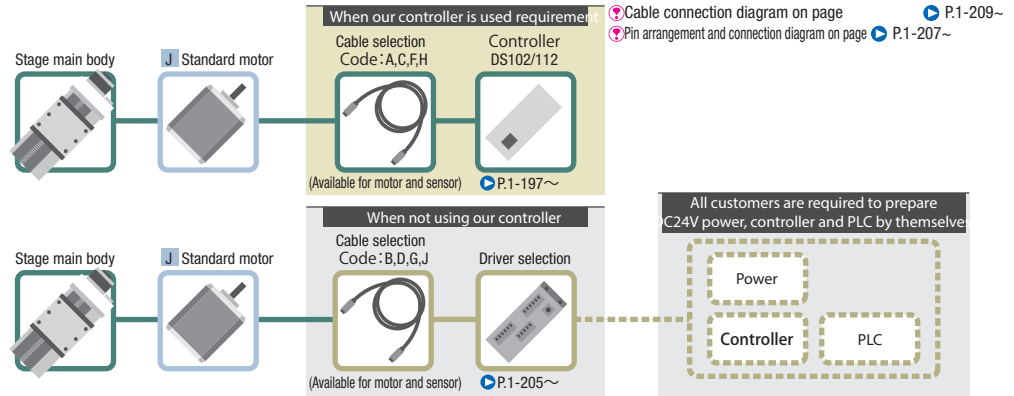
Motor/cable products list	Motor code	Cable code
	J	Blank, A~H, J
	SA	M
	QA	P
	WA	U

SPEC								
Model		Uncovered	KXS18100-N5-J	KXS18100-N10-J	KXS18200-N5-J	KXS18200-N10-J	KXS18300-N5-J	KXS18300-N10-J
		Covered	KXS18100-C5-J	KXS18100-C10-J	KXS18200-C5-J	KXS18200-C10-J	KXS18300-C5-J	KXS18300-C10-J
Mechanical specification	Travel length		100mm		200mm		300mm	
	Table size		180×180mm					
	Feed screw (Ball screw)		φ15 lead 5	φ15 lead 10	φ15 lead 5	φ15 lead 10	φ15 lead 5	φ15 lead 10
	Guide		Slide guide					
	Main materials-Finishing		Aluminum-Black almite finishing					
	Weight	Uncovered	8.32kg		9.48kg		10.72kg	
Covered		8.12kg		9.37kg		10.70kg		
Accuracy specification	Resolution (Pulse)	Full/Half	lead 5: 10μm/5μm		lead 10: 20μm/10μm			
		Microstep	lead 5: 0.5μm (1/20 on resolution)		lead 10: 1μm (1/20 on resolution)			
	MAX speed	lead 5mm	30mm/sec					
		lead 10mm	50mm/sec					
	Uni-directional positioning accuracy		Within 15μm		Within 20μm		Within 30μm	
	Repeatability positioning accuracy		Within ±1μm					
	Load capacity		30kgf [294N]					
	Moment stiffness		Pitch 0.005/yaw 0.008/roll 0.003[°/N・cm]					
	Backlash		Within 2μm					
	Straightness		Within 10μm		Within 15μm		Within 20μm	
Sensor	Parallelism		Within 50μm					
	Motion parallelism		Within 20μm				Within 30μm	
	Pitching/Yawing		Within 30°/Within 20°		Within 50°/Within 20°		Within 60°/Within 30°	
	Limit sensor		Installed					
	Origin sensor		Installed					
	Slit origin sensor		Installed					
Provided screw (Hexagon-headed bolt)			8 of M6—20					

* Might be changed specification due to motors. See page ▶ P.1-213~ for details.

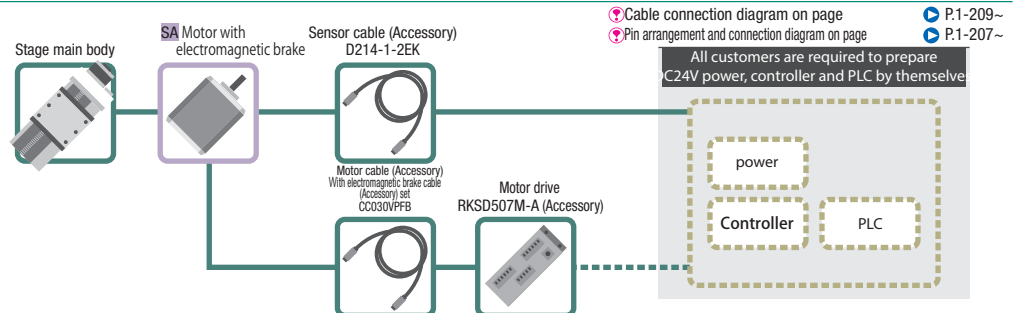
Motor option

J Standard motor
Motor model
PK546PB



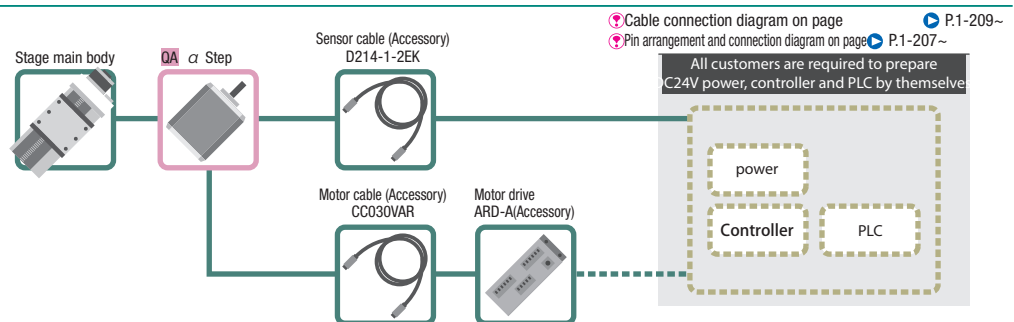
Motor option

SA With electromagnetic brake
Motor model
PKE566MC



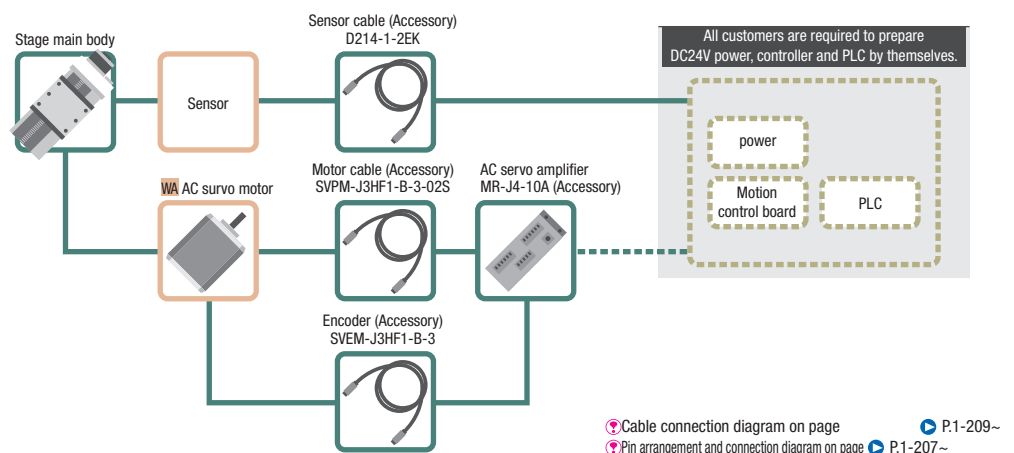
Motor option

QA α Step
Motor model
ARM46AC



Motor option

WA AC servo motor
Motor model
HG-KR13



Motor code			J	SA	QA	WA
Feature			Standard	With electromagnetic brake	Small step-out	High speed
Type			5 phase stepping motor 0.75A/Phase	5 phase stepping motor 0.75A/Phase	α step motor	AC servo motor
Motor model※			PK546PB	PKE566MC	ARM46AC	HG-KR13
Resolution	lead 5mm	Full/Half	10μm/5μm		5μm (Set to 1000P/R)	22 bits encoder (4194304P/R)
		Micro step (1/20 split)	0.5μm		—	
	lead 10mm	Full/Half	20μm/10μm		10μm (Set to 1000P/R)	
		Micro step (1/20 split)	1μm		—	
MAX speed	lead 5mm		30mm/sec	140mm/sec	100mm/sec	200mm/sec
	lead 10mm		50mm/sec	215mm/sec	125mm/sec	400mm/sec

※Model is our own management model.

Motorized Stage

X

XY

Z

Horizontal Z

XYZ

Goniometer

Rotary

Unit

Controller

Linear Ball

CAVE-X Linear ball

Cross Roller

Slide Guide

□ 40

□ 50

□ 60

□ 70

□ 80

□ 100

□ 120

Other

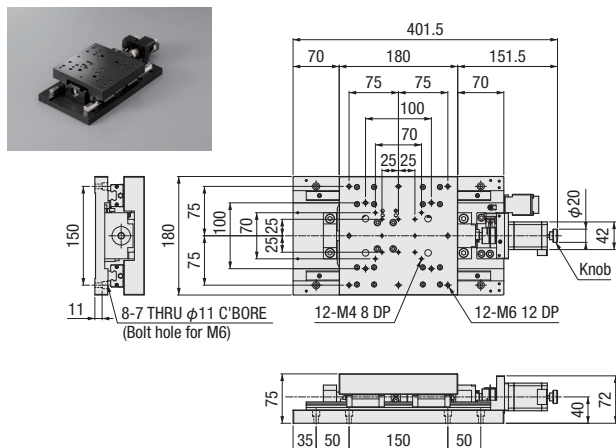
1

124

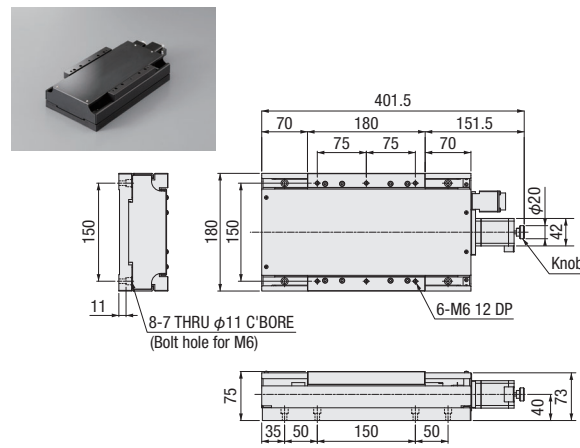
X-axis Slide Guide: KXS18100/KXS18200/KXS18300

Dimensional outline drawings

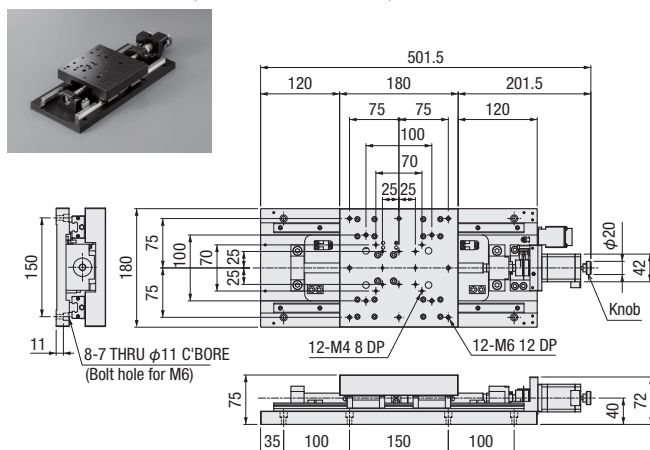
KXS18100-N5-J (KXS18100-N10-J)



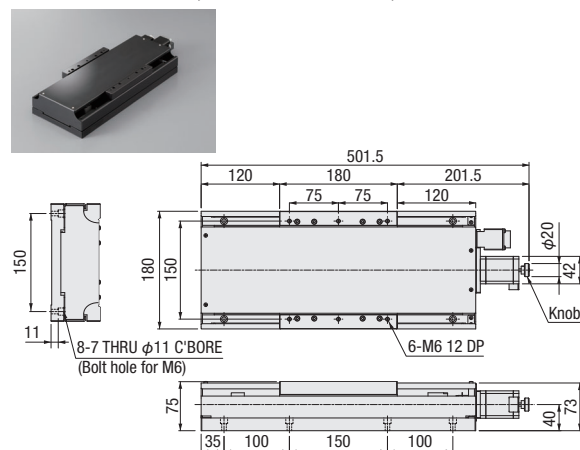
KXS18100-C5-J (KXS18100-C10-J)



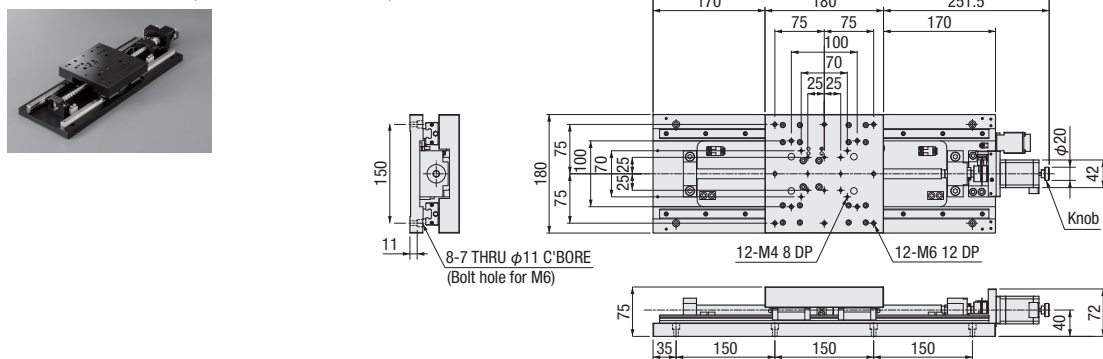
KXS18200-N5-J (KXS18200-N10-J)



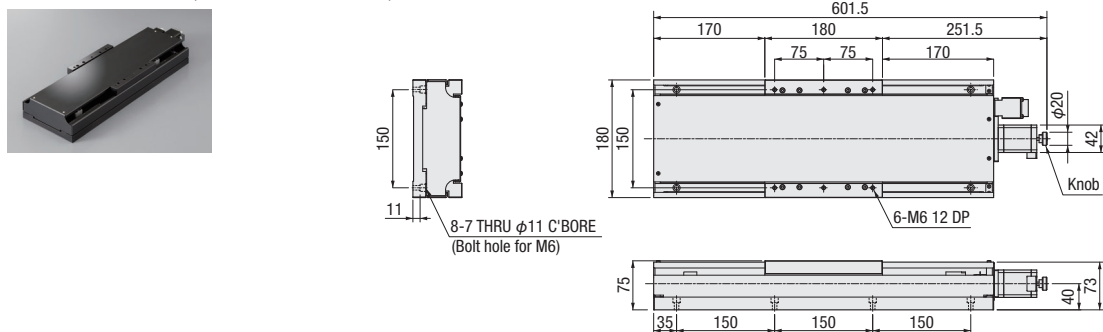
KXS18200-C5-J (KXS18200-C10-J)



KXS18300-N5-J (KXS18300-N10-J)



KXS18300-C5-J (KXS18300-C10-J)

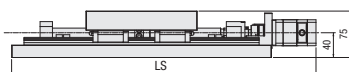


PART
COMMUNITYCAD
DATASURUGA
SEIKICAD
3D・2D

Dimensional outline drawings

J Standard motor

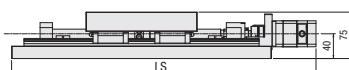
Motor model PK546PB

That is applicable to
uncovered and covered

Model	J (Standard)	
	Motor size	LS
KXS18100-□□-J□	□42	402
KXS18200-□□-J□		502
KXS18300-□□-J□		602

SA With electromagnetic brake

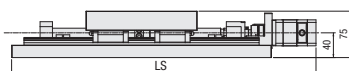
Motor model PKE566MC

That is applicable to
uncovered and covered

Model	SA (Electromagnetic brake)		J (Standard)
	Motor size	LS	LS
KXS18100-□□-SAM	□60	425.5	402
KXS18200-□□-SAM		525.5	502
KXS18300-□□-SAM		625.5	602

QA α step

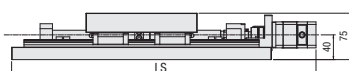
Motor model ARM46AC

That is applicable to
uncovered and covered

Model	QA (α step)		J (Standard)
	Motor size	LS	LS
KXS18100-□□-QAP	□42	395	402
KXS18200-□□-QAP		495	502
KXS18300-□□-QAP		595	602

WA AC servo motor

Motor model HG-KR13

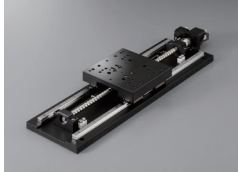
That is applicable to
uncovered and covered

Model	WA (Servo motor)		J (Standard)
	Motor size	LS	LS
KXS18100-□□-WAU	□40	414.4	402
KXS18200-□□-WAU		514.4	502
KXS18300-□□-WAU		614.4	602

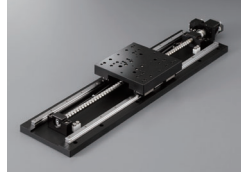
Motorized Stage

X-axis Slide Guide: KXS18400/KXS18500

KXS18400-N



KXS18500-N



KXS18400-C



KXS18500-C



RoHS

Model Selection code Option code
KXS18400-N5-JA
1 2 3 4 5

▶ Cable P.1-207~
▶ Electrical specification P.1-135~

1 Travel length

400	400mm
500	500mm

2 Cover type

N	Uncovered	
C	Covered	

3 Ball screw lead selection

5	lead 5mm
10	lead 10mm

4 Motor option

Code	Specification
J	Standard
SA	With electromagnetic brake (Driver set)
QA	α Step (Driver set)
WA	Servo motor (Amplifier set)

* SA-QA-WA included driver and cable.
* See page ▶ P.1-135~ for details of Motor option.
[S]; Please see our web site for more details about motors.

5 Cable option

Code	Specification	Cable type
A	2m	D214-1-2E
B	2m One end loose	D214-1-2EK
C	4m	D214-1-4E
D	4m One end loose	D214-1-4EK
E	Only connector (Cable is not included)	—
F	Robot cable 2m	D214-1-2R
G	Robot cable 2m one end loose	D214-1-2RK
H	Robot cable 4m	D214-1-4R
J	Robot cable 4m one end loose	D214-1-4RK
M	Cable for electromagnetic brake	—
P	Cable for α step	
U	Cable for servo motor	
Blank	Cable is not included (Standard)	—

* One end loose position to only stage opposite side.
* The price includes M, P and U.
Not available non-cable. See page ▶ P.1-207~ for details of cable.
* See page ▶ P.1-207, 209~ for more cable details.
* Please select "Code A, C, F or H" when connect with stepping motor controller(DS102/112).

[Note]
Please check available cable from compatibility list.
Not included cable for a main body. Please choose the code as below.

Motor/cable products list	Motor code	Cable code
	J	Blank, A~H, J
	SA	M
	QA	P
	WA	U

SPEC						
Model		Uncovered	KXS18400-N5-J	KXS18400-N10-J	KXS18500-N5-J	KXS18500-N10-J
		Covered	KXS18400-C5-J	KXS18400-C10-J	KXS18500-C5-J	KXS18500-C10-J
Mechanical specification	Travel length		400mm		500mm	
	Table size		180×180mm			
	Feed screw (Ball screw)		φ15 lead 5	φ15 lead 10	φ15 lead 5	φ15 lead 10
	Guide		Slide guide			
	Main materials-Finishing		Aluminum-Black almite finishing			
	Weight	Uncovered	11.92kg		13.10kg	
		Covered	11.99kg		13.26kg	
Accuracy specification	Resolution (Pulse)	Full/Half	lead 5: 10μm/5μm		lead 10: 20μm/10μm	
		Microstep	lead 5: 0.5μm (1/20 on resolution)		lead 10: 1μm (1/20 on resolution)	
	MAX speed	lead 5mm	30mm/sec			
		lead 10mm	50mm/sec			
	Uni-directional positioning accuracy		Within 35μm		Within 40μm	
	Repeatability positioning accuracy		Within ±1μm			
	Load capacity		30kgf [294N]			
	Moment stiffness		Pitch 0.005/yaw 0.008/roll 0.003 [°/N・cm]			
	Backlash		Within 2μm			
	Straightness		Within 25μm		Within 30μm	
Sensor	Parallelism		Within 50μm			
	Motion parallelism		Within 30μm			
	Pitching/Yawing		Within 60°/Within 30°		Within 70°/Within 30°	
	Limit sensor		Installed			
	Origin sensor		Installed			
		Slit origin sensor		Installed		
Provided screw (Hexagon-headed bolt)		8 of M6—20			12 of M6—20	

* Might be changed specification due to motors. See page ▶ P.1-213~ for details.

Motorized Stage

X

XY

Z

Horizontal
Z

XYZ

Goniometer

Rotary

Unit

Controller

Linear
Ball

CAVE-X
Linear ball

Cross
Roller

Slide
Guide

40

50

60

70

80

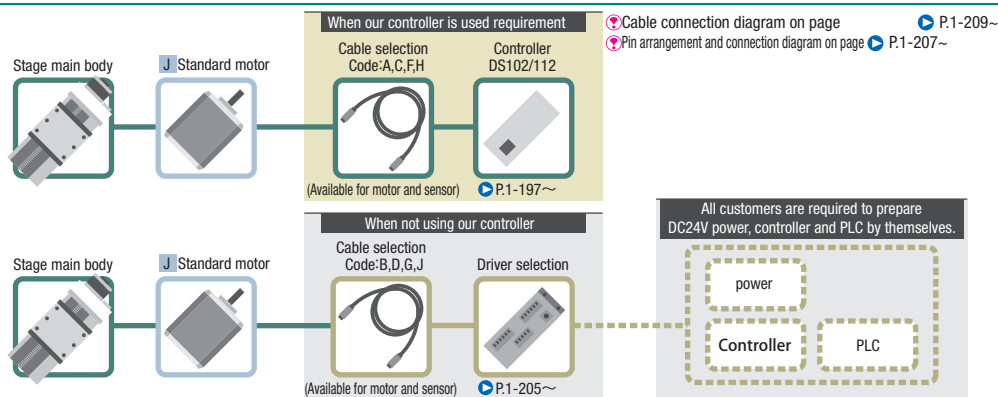
100

120

Other

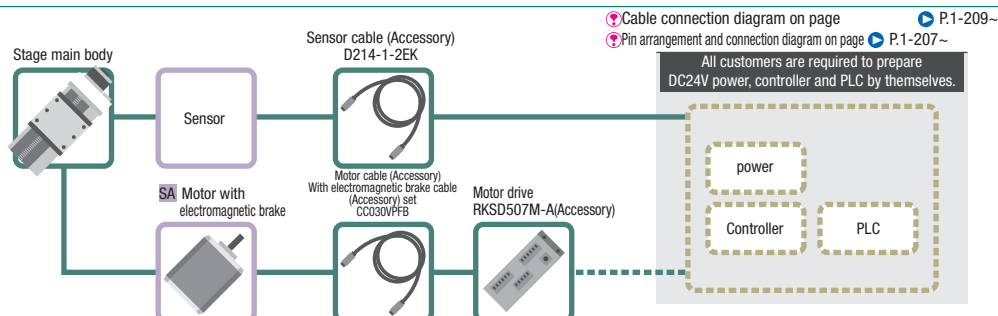
Motor option

J Standard motor
Motor model
PK546PB



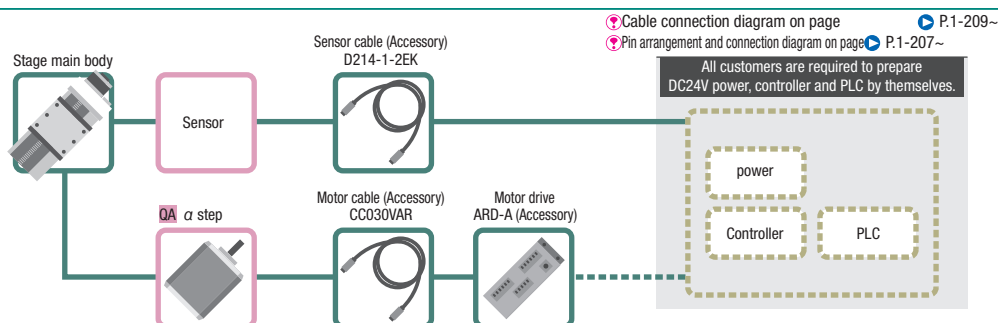
Motor option

SA With electromagnetic brake
Motor model
PKE566MC



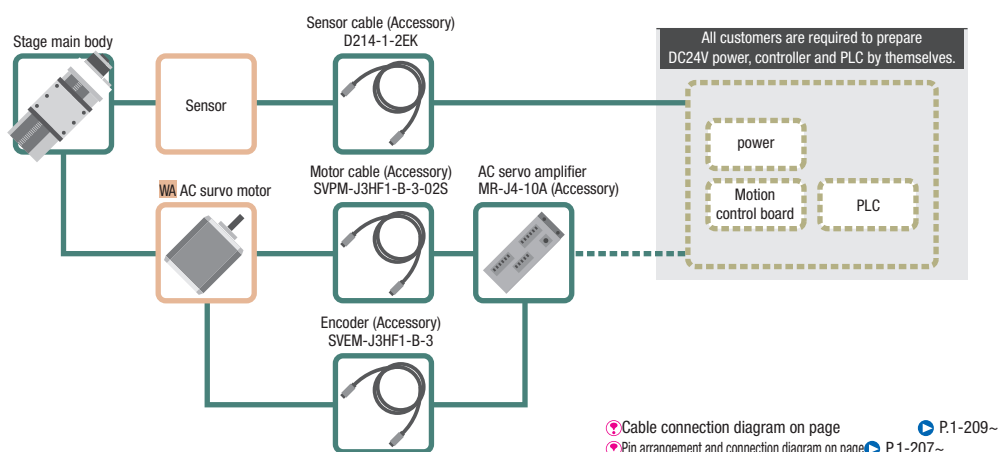
Motor option

QA α Step
Motor model
ARM46AC



Motor option

WA AC servo motor
Motor model
HG-KR13



Option Code			J	SA	QA	WA
Feature			Standard	With electromagnetic brake	Small step-out	High speed
Type			5 phase stepping motor 0.75A/Phase	5 phase stepping motor 0.75A/Phase	α step motor	AC servo motor
Motor model*			PK546PB	PKE566MC	ARM46AC	HG-KR13
Resolution	lead 5mm	Full/Half	10μm/5μm		5μm (Set to 1000P/R)	22bits encoder (4194304P/R)
		Micro step (1/20 split)	0.5μm		—	
	lead 10mm	Full/Half	20μm/10μm		10μm (Set to 1000P/R)	
		Micro step (1/20 split)	1μm		—	
MAX speed	lead 5mm		30mm/sec	140mm/sec	100mm/sec	200mm/sec
	lead 10mm		50mm/sec	215mm/sec	125mm/sec	400mm/sec

*Model is our own management model.

Motorized Stage

X

XY

Z

Horizontal Z

XYZ

Goniometer

Rotary

Unit

Controller

Linear Ball

CAVE-X Linear ball

Cross Roller

Slide Guide

□ 40

□ 50

□ 60

□ 70

□ 80

□ 100

□ 120

Other

1

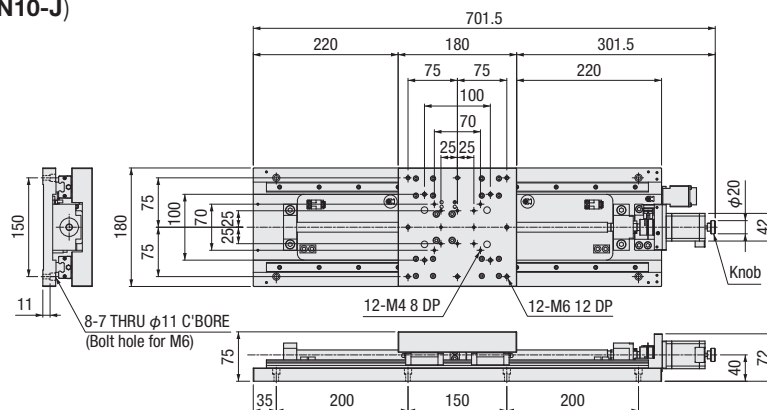
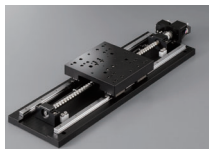
128

Motorized Stage

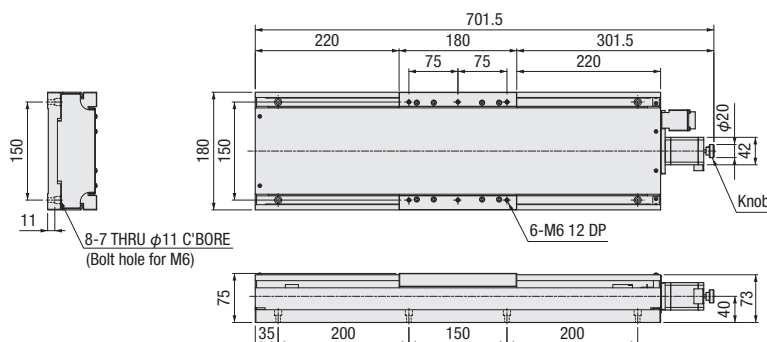
X-axis Slide Guide: KXS18400/KXS18500

Dimensional outline drawings

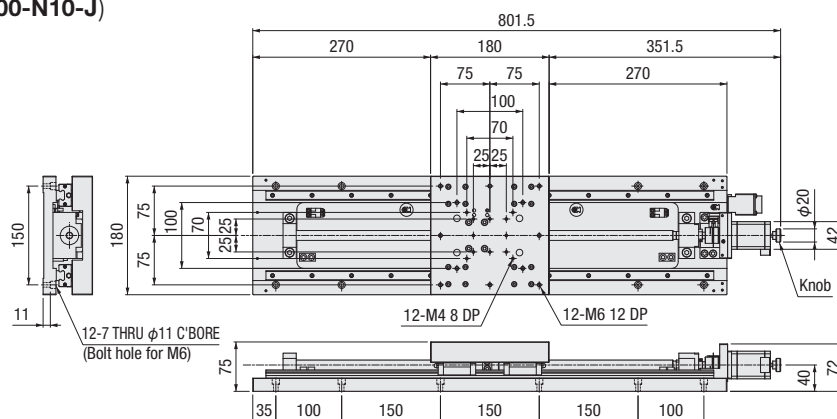
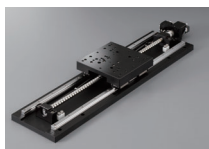
KXS18400-N5-J (KXS18400-N10-J)



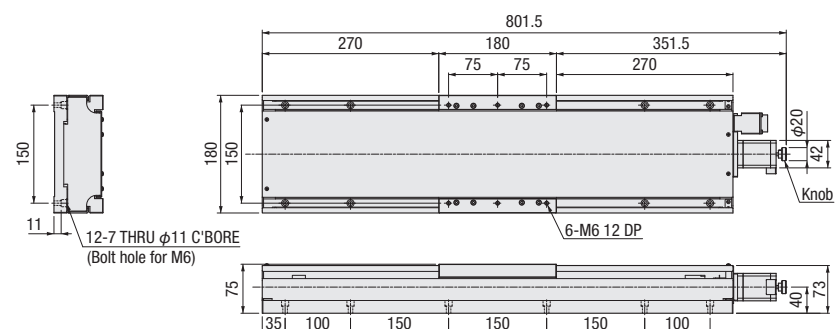
KXS18400-C5-J (KXS18400-C10-J)



KXS18500-N5-J (KXS18500-N10-J)



KXS18500-C5-J (KXS18500-C10-J)



Motorized Stage

X

XY

Z

Horizontal
Z

XYZ

Goniometer

Rotary

Unit

Controller

Linear
Ball

CAVE-X
Linear ball

Cross
Roller

Slide
Guide

☐ 40

☐ 50

☐ 60

☐ 70

☐ 80

☐ 100

☐ 120

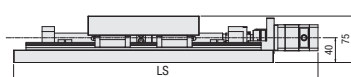
☐ Other

PART
COMMUNITYCAD
DATASURUGA
SEIKICAD
3D・2D

Dimensional outline drawings

J Standard motor

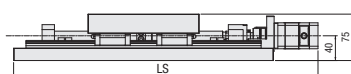
Motor model PK546PB

That is applicable to
uncovered and **covered**

Model	J (Standard)	
	Motor size	LS
KXS18400-□□-J□	□42	702
KXS18500-□□-J□		802

SA With electromagnetic brake

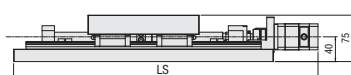
Motor model PKE566MC

That is applicable to
uncovered and **covered**

Model	SA (Electromagnetic brake)	J (Standard)	
	Motor size	LS	LS
KXS18400-□□-SAM	□60	725.5	702
KXS18500-□□-SAM		825.5	802

QA α step

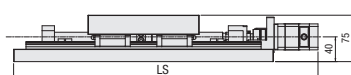
Motor model ARM46AC

That is applicable to
uncovered and **covered**

Model	QA (α step)		J (Standard)
	Motor size	LS	LS
KXS18400-□□-QAP	□42	695	702
KXS18500-□□-QAP		795	802

WA AC servo motor

Motor model HG-KR13

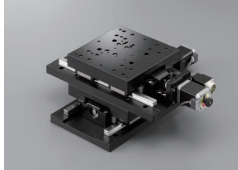
That is applicable to
uncovered and **covered**

Model	WA (Servo motor)		J (Standard)
	Motor size	LS	LS
KXS18400-□□-WAU	□40	714.4	702
KXS18500-□□-WAU		814.4	802

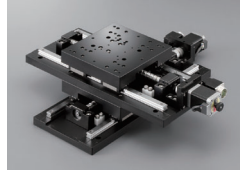
XY-axis Slide Guide: KYS18100/KYS18200/KYS18300

RoHS

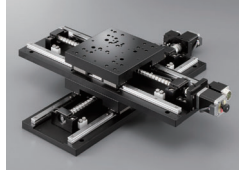
KYS18100-N



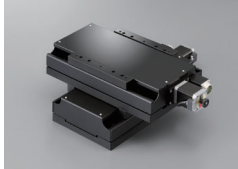
KYS18200-N



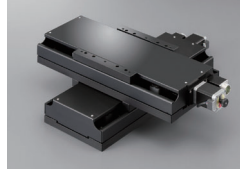
KYS18300-N



KYS18100-C



KYS18200-C



KYS18300-C



Model Selection code Option code
KYS18100-N5-JA
 1 2 3 4 5

▶ Cable P.1-207~
 ◀ Electrical specification P.1-135~

1 Travel length

100	100mm
200	200mm
300	300mm

2 Cover type

N	Uncovered	
C	Covered	

3 Ball screw lead selection

5	lead 5mm
10	lead 10mm

4 Motor option

Code	Specification
J	Standard
SA	With electromagnetic brake (Driver set)
QA	α Step (Driver set)
WA	Servo motor (Amplifier set)

5 Cable option

Code	Specification	Cable type
A	2m	D214-1-2E
B	2m One end loose	D214-1-2EK
C	4m	D214-1-4E
D	4m One end loose	D214-1-4EK
E	Only connector (Cable is not included)	—
F	Robot cable 2m	D214-1-2R
G	Robot cable 2m one end loose	D214-1-2RK
H	Robot cable 4m	D214-1-4R
J	Robot cable 4m one end loose	D214-1-4RK
M	Cable for electromagnetic brake	—
P	Cable for α step	—
U	Cable for servo motor	—
Blank	Cable is not included (Standard)	—

* One end loose position to only stage opposite side.
 * The price includes M, P and U.
 Not available non-cable.
 See page P.1-207, 209~ for details of cable.
 * Please select "Code A, C, F or H" when connect with stepping motor controller(DS102/112).

[Note]
 Please check available cable from compatibility list.
 Not included cable for a main body. Please choose the code as below.

Motor/cable products list	Motor code	Cable code
	J	Blank, A~H, J
	SA	M
	QA	P
	WA	U

SPEC

SPEC									
Model		Uncovered	KYS18100-N5-J	KYS18100-N10-J	KYS18200-N5-J	KYS18200-N10-J	KYS18300-N5-J	KYS18300-N10-J	
		Covered	KYS18100-C5-J	KYS18100-C10-J	KYS18200-C5-J	KYS18200-C10-J	KYS18300-C5-J	KYS18300-C10-J	
Mechanical specification	Travel length	100mm			200mm		300mm		
	Table size	180×180mm							
	Feed screw (Ball screw)	φ15 lead 5	φ15 lead 10	φ15 lead 5	φ15 lead 10	φ15 lead 5	φ15 lead 10		
	Guide	Slide guide							
	Main materials-Finishing	Aluminum-Black almite finishing							
	Weight	Uncovered	16.64kg			18.96kg		21.44kg	
		Covered	16.24kg			18.74kg		21.4kg	
Accuracy specification	Resolution (Pulse)	Full/Half	lead 5: 10μm/5μm			lead 10: 20μm/10μm			
		Microstep	lead 5: 0.5μm (1/20 on resolution)			lead 10: 1μm (1/20 on resolution)			
	MAX speed	lead 5	30mm/sec						
		lead 10	50mm/sec						
	Load capacity	21kgf [205.8N]			20kgf [196N]		19kgf [186.2N]		
	Perpendicularity	Within 50μm/Travel			Within 100μm/Travel		Within 150μm/Travel		
Sensor	Limit sensor	Installed							
	Origin sensor	Installed							
	Slit origin sensor	Installed							
Provided screw (Hexagon-headed bolt)		8 of M6—20							
Signal specification	Uni-directional positioning accuracy	Within 15μm			Within 20μm		Within 30μm		
	Repeatability positioning accuracy	Within ±1μm							
	Backlash	Within 2μm							
	Pitching/Yawing	Within 30°/Within 20°			Within 50°/Within 20°		Within 60°/Within 30°		

* Might be changed specification due to motors. See page P.1-213~ for details.

Dimensional outline drawings



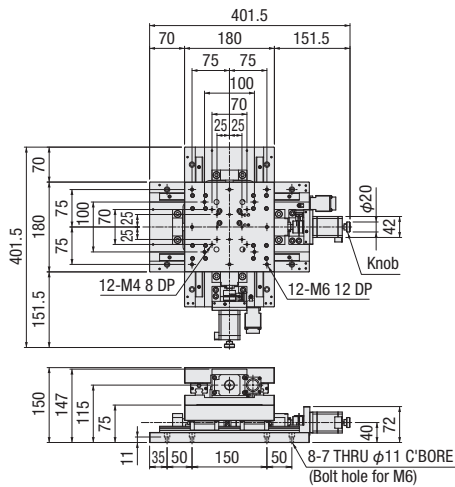
CAD COMMUNITY

CAD DATA

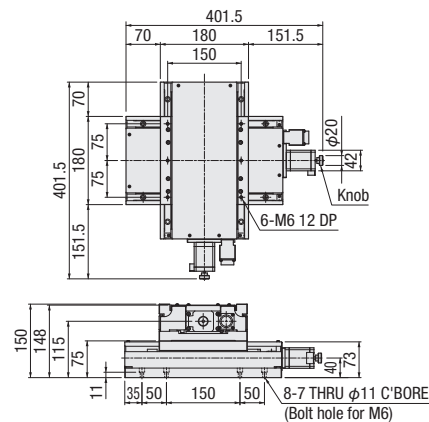
SURUGA SEIKI

CAD 3D·2D

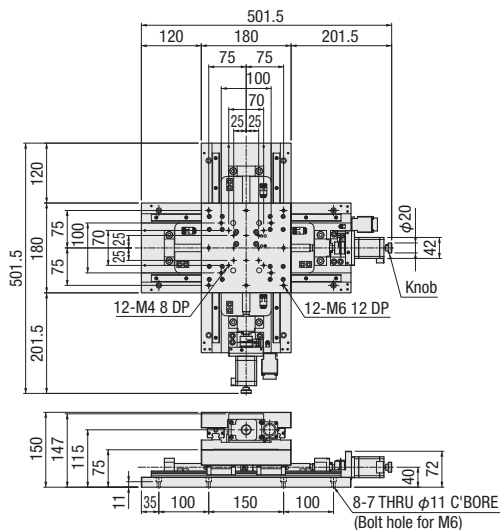
KYS18100-N5-J (KYS18100-N10-J)



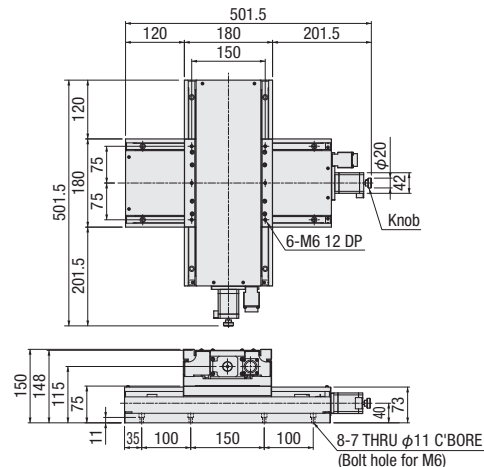
KYS18100-C5-J (KYS18100-C10-J)



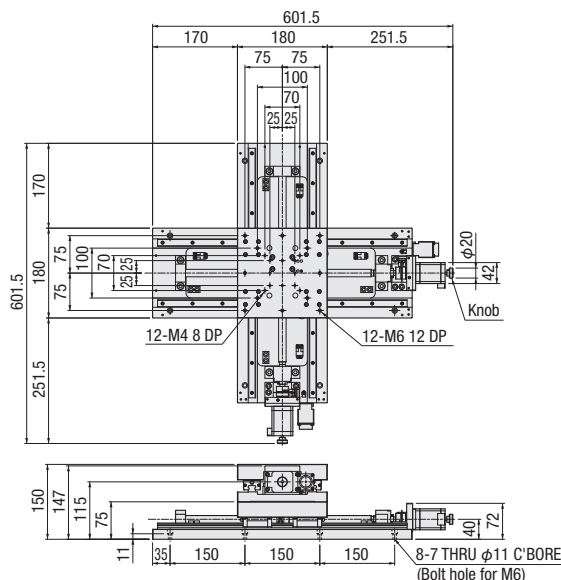
KYS18200-N5-J (KYS18200-N10-J)



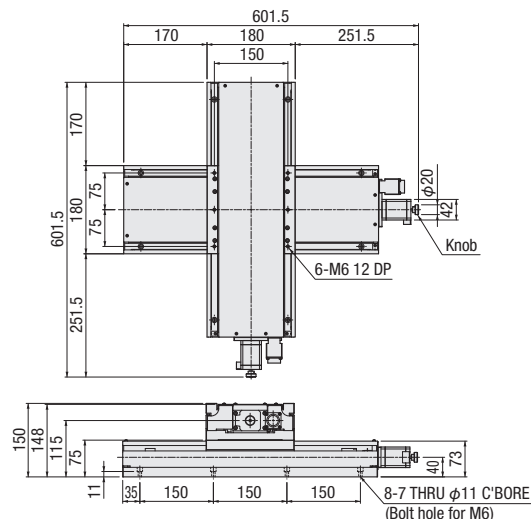
KYS18200-C5-J (KYS18200-C10-J)



KYS18300-N5-J (KYS18300-N10-J)



KYS18300-C5-J (KYS18300-C10-J)



Motorized Stage

X

XY

Z

Horizontal Z

XYZ

Goniometer

Rotary

Unit

Controller

Linear Ball

CAVE-X Linear ball

Cross Roller

Slide Guide

☐ 40

☐ 50

☐ 60

☐ 70

☐ 80

☐ 100

☐ 120

Other

1

132

Z-axis Slide Guide: KZS18100/KZS18200/KZS18300

RoHS

KZS18100-N



KZS18200-N



KZS18300-N



KZS18100-C



KZS18200-C



KZS18300-C



Model Selection code Option code

KZS18100-N5-JA

1 2 3 4 5

Cable P.1-207~
Electrical specification P.1-135~

1 Travel length

100	100mm
200	200mm
300	300mm

2 Cover type

N	Uncovered	
C	Covered	

3 Ball screw lead selection

5	lead 5mm
---	----------

4 Motor option

Code	Specification
J	Standard
SA	With electromagnetic brake (Driver set)
QA	α Step (Driver set)
WA	Servo motor (Amplifier set)

* SA・QA・WA included driver and cable.
* See page P.1-135~ for details of Motor option.

5 Cable option

Code	Specification	Cable type
A	2m	D214-1-2E
B	2m One end loose	D214-1-2EK
C	4m	D214-1-4E
D	4m One end loose	D214-1-4EK
E	Only connector (Cable is not included)	—
F	Robot cable 2m	D214-1-2R
G	Robot cable 2m one end loose	D214-1-2RK
H	Robot cable 4m	D214-1-4R
J	Robot cable 4m one end loose	D214-1-4RK
M	Cable for electromagnetic brake	—
P	Cable for α step	
U	Cable for servo motor	
Blank	Cable is not included (Standard)	—

* One end loose position to only stage opposite side.
* The price includes M, P and U.
Not available non-cable.
* See page P.1-207~ for details of cable.
* See page Page207, 209~ for more cable details.
* Please select "Code A, C, or F" when connect with stepping motor controller(DS102/112).

[Note]
Please check available cable from compatibility list.
Not included cable for a main body. Please choose the code as below.

Motor/cable products list	Motor code	Cable code
	J	Blank, A~H, J
	SA	M
	QA	P
	WA	U

SPEC				
Model	Uncovered Covered	KZS18100-N5-J KZS18100-C5-J	KZS18200-N5-J KZS18200-C5-J	KZS18300-N5-J KZS18300-C5-J
Mechanical specification				
Travel length		100mm	200mm	300mm
Table size		180×180mm		
Feed screw (Ball screw)		φ15 lead 5		
Guide		Slide guide		
Main materials-Finishing		Aluminum-Black almite finishing		
Weight	Uncovered Covered	13.9kg 13.7kg	15.06kg 14.95kg	16.3kg 16.28kg
Resolution (Pulse)	Full/Half Microstep	10μm/5μm 0.5μm (1/20 on resolution)		
MAX speed		30mm/sec		
Load capacity (Excitation)		10kgf [98N]		
Vertical degree		Within 50μm/Travel	Within 100μm/Travel	Within 150μm/Travel
Limit sensor		Installed		
Origin sensor		Installed		
Slit origin sensor		Installed		
Provided screw (Hexagon-headed bolt)		4 of M6—25		
Stage specification				
Uni-directional positioning accuracy		Within 15μm	Within 20μm	Within 30μm
Repeatability positioning accuracy		Within ±1μm		
Backlash		Within 2μm		
Pitching/Yawing		Within 30"/Within 20"	Within 50"/Within 20"	Within 60"/Within 30"

* Might be changed specification due to motors. See page P.1-213~ for details.

Motorized Stage

X

XY

Z

Horizontal
Z

XYZ

Goniometer

Rotary

Unit

Controller

Linear
Ball

CAVE-X
Linear ball

Cross
Roller

Slide
Guide

40

50

60

70

80

100

120

Other

Dimensional outline drawings



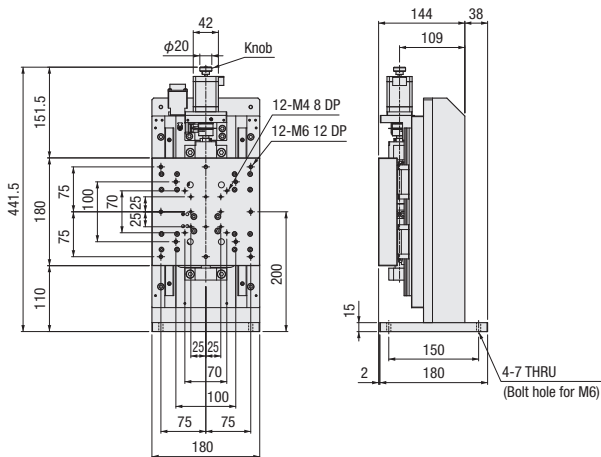
PART
COMMUNITY

CAD
DATA

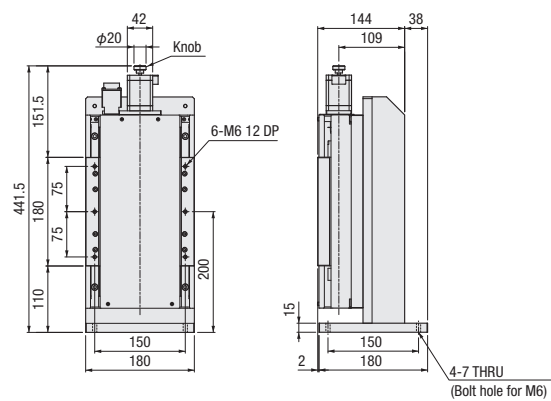
SURUGA
SEIKI

CAD
3D·2D

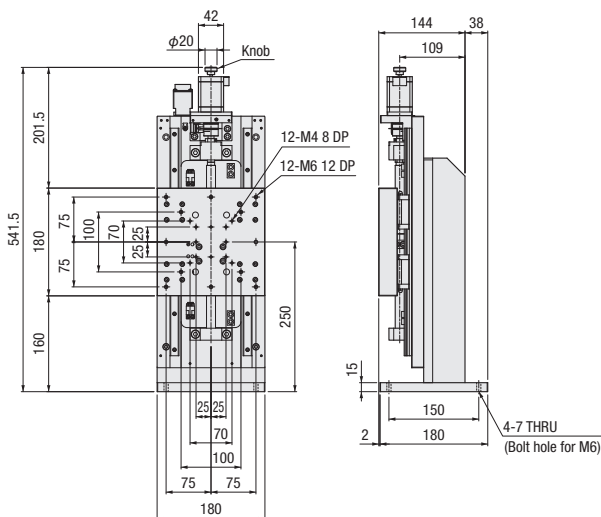
KZS18100-N5-J



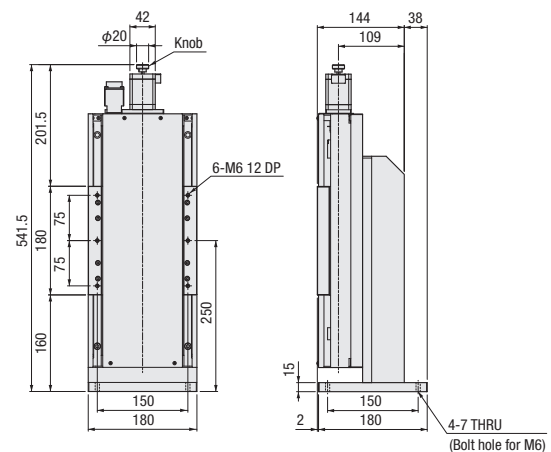
KZS18100-C5-J



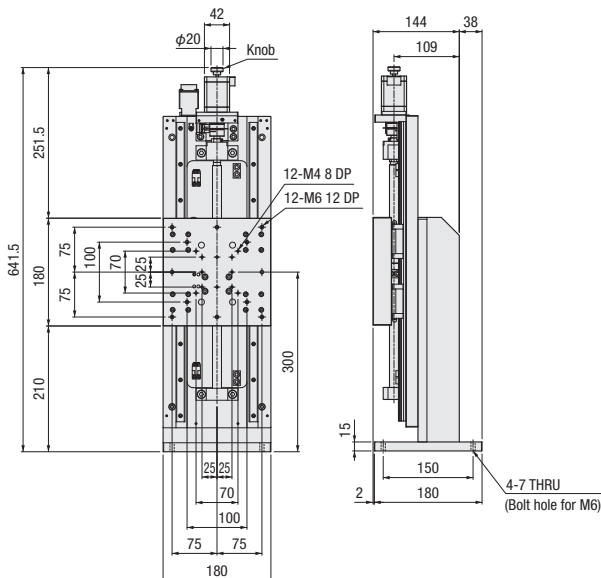
KZS18200-N5-J



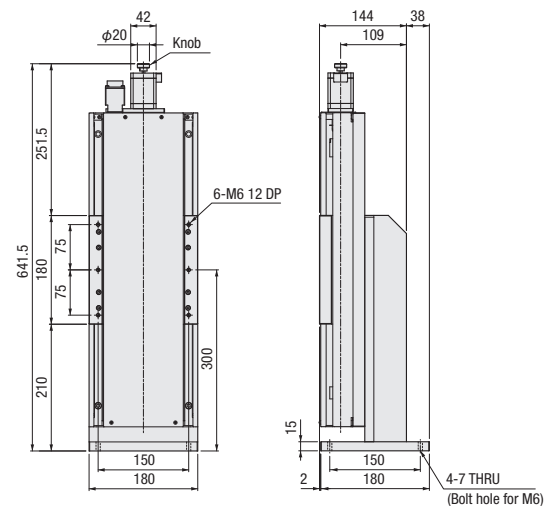
KZS18200-C5-J



KZS18300-N5-J



KZS18300-C5-J



Motorized Stage

X

XY

Z

Horizontal
Z

XYZ

Goniometer

Rotary

Unit

Controller

Linear
Ball

CAVE-X
Linear ball

Cross
Roller

Slide
Guide

☐ 40

☐ 50

☐ 60

☐ 70

☐ 80

☐ 100

☐ 120

Other

1

134

Electrical Specification: KXS Series

Motor • Electrical specification

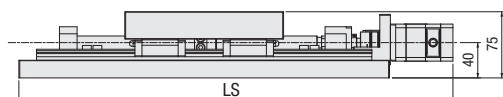
Motor code			J	SA	QA	WA	
Models			KXS18100 / KXS18200 / KXS18300 / KXS18400 / KXS18500				
Motor Specification (*1)	Type		5 phase stepping motor 0.75A/Phase	5 phase stepping motor 0.75A/Phase	α step motor	AC servo motor	
	Feature		Standard	With electromagnetic brake	Small step-out	High speed	
	Model (*2)		PK546PB	PKE566MC	ARM46AC	HG-KR13	
	Electromagnetic brake		—	Installed	—		
	Maker		Oriental Motor Co., Ltd.			Mitsubishi Electric corporation	
	Step angle (Position detector)		0.72°			22 bits encoder (4194304P/R)	
	Mass		0.5kg	1.2kg	0.47kg	0.54kg	
	Motor size	□ size	42mm	60mm	42mm	40mm	
		L size	74mm	94.5mm	68mm	82.4mm	
	Excitation (moment) maximum torque		0.42N・m	0.96N・m	0.3N・m	1.10N・m	
Driver type		P.1-205～	RKSD507M-A	ARD-A	MR-J4-10A		
Input power (Voltage・frequency)			Single phase AC100-120V 50/60Hz	Single phase AC100-115V 50/60Hz	Three and single phase AC200-240V 50/60Hz		
Sensor	Limit sensor		Installed				
	Origin sensor		Installed				
	Slit origin sensor		Installed			—	
	Model		Photo microsensor EE-SX674 (Omron Co., Ltd.)				
	Power voltage		DC5～24V ±10%				
	Consumption current		Total 140mA or less (35mA or less per 1 sensor)				
	Control output		NPN open collector output DC5～24V 100mA or less Residual voltage 0.8V or less when the load current is 100mA Residual voltage 0.4V or less when the load current is 40mA				
Output logic		Limit,Origin sensor on detection (light shield condition): Output transistor OFF (Non-continuity) (Slit origin sensor is OFF when detected. (Non-continuity))					
Connector	Motor	Model	SRCN2A21-16P (JAE)	motor side:5557-06R-210(MOLEX) electromagnetic brake side:5557-02R-210(MOLEX)	5557-10R-210 (MOLEX)	Motor cable	—
				motor side:5559-06P-210(MOLEX) electromagnetic brake side:5559-02P-210(MOLEX)		Encoder cable	—
		Receiving connector	SRCN6A21-16S (JAE)	350720-1 (Tyco Electronics Japan G.K.)	5559-10P-210 (MOLEX)	Motor cable	JN4FT04SJ1-R (JAE)
						Encoder cable	1674320-1 (Tyco Electronics Japan G.K.)
	Sensor	Model	SRCN2A21-16P (JAE)				
		Receiving connector	SRCN6A21-16S (JAE)				
Accuracy specification	Resolution	lead 5mm	10μm/5μm			22 bits encoder (4194304P/R)	
		Microstep	0.5μm (1/20 on resolution)				—
		lead 10mm	20μm/10μm				10μm/5μm
		Microstep	1μm (1/20 on resolution)				—
	MAX speed	lead 5mm	30mm/sec	140mm/sec	100mm/sec	200mm/sec	
		lead 10mm	50mm/sec	215mm/sec	125mm/sec	400mm/sec	

*1 See page P.1-213~ for details of single motor specification.

*2 Model is our own management model.

* The electric specification of XY, Z are the same.

Dimensional outline drawings



Motor code	Size □ [mm]	LS				
		KXS18100	KXS18200	KXS18300	KXS18400	KXS18500
J	42	402	502	602	702	802
SA	60	425.5	525.5	625.5	725.5	825.5
QA	42	395	495	595	695	795
WA	40	414.4	514.4	614.4	714.4	814.4

Pin allocation • Connection diagram

Motor code	KXS series	Motor code	KXS series
J	[Motor and sensor pin allocation (the same)] [Motor and sensor connection diagram (the same)] *Please select the cable from the option code. *See page P.1-211 for details of cable.	S A	Cable for motor (3m) • motor side 5559-06P-210 (MOLEX) • driver side 5557-06R-210 (MOLEX) 1 Motor lead B 2 Motor lead R 3 Motor lead Y 4 Motor lead B 5 Motor lead O 6 Motor lead G Electromagnetic brake cable (3m) • motor side 5559-02P-210 (MOLEX) 1 Electromagnetic brake B 2 Electromagnetic brake * Type of cable: CC030VPFB See page P.1-211 for details.
	[Motor and sensor pin allocation (sensor)] [Motor and sensor connection diagram (sensor)] * Type of cable: D214-1-2EK See page P.1-212 for details.		[Motor and sensor pin allocation (sensor)] [Motor and sensor connection diagram (sensor)] * Type of cable: D214-1-2EK See page P.1-212 for details.
Q A	※Motor cable model:CC030VAR See page P.1-211 for details. Cable for motor (3m) • motor side 5559-10P-210 (MOLEX) 1 Motor lead B 2 Motor lead R 3 Motor lead Y 4 Motor lead B 5 Motor lead O 6 Motor lead G 7 Motor lead B 8 Motor lead R 9 Motor lead Y 10 Drain wire • driver side 5557-10R-210 (MOLEX)	W A	Motor cable type: SVPM-J3HF1-B-3-02S Encoder cable type: SVEM-J3HF1-B-3 See page P.1-211 for details. * An above cable is an accessory. SVPM-J3HF1-B-3-02S Servo amplifier side Mark FG U V W Pin 1 2 3 4 Signals FG UPhase VPhase WPhase Motor side SVEM-J3HF1-B-3 Servo amplifier side Signals Pin PS 1 LG 2 MR 3 MRR 4 BAT 9 SD Signals Pin PS 3 LG 6 MR 5 MRR 4 BAT 2 SD
	[Motor and sensor pin allocation (sensor)] [Motor and sensor connection diagram (sensor)] * Type of cable: D214-1-2EK See page P.1-212 for details.		[Motor and sensor pin allocation (sensor)] [Motor and sensor connection diagram (sensor)] * Type of cable: D212-1-2EK See page P.1-212 for details.

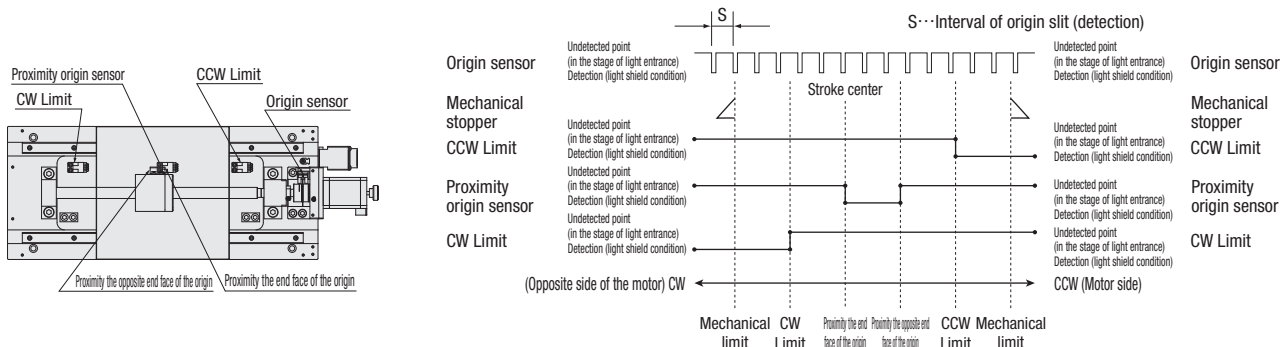
Cable type

Code	Specification	Cable type
A	2m	D214-1-2E
B	2m One end loose	D214-1-2EK
C	4m	D214-1-4E
D	4m One end loose	D214-1-4EK
F	Robot cable 2m	D214-1-2R
G	Robot cable 2m one end loose	D214-1-2RK
H	Robot cable 4m	D214-1-4R
J	Robot cable 4m one end loose	D214-1-4RK

Cable connection diagram shows page P.1-207~
 Great deal purchase both of cable and code.

Electrical Specification: KXS Series

Timing chart



Unit [mm]	Direction of CW ←					→ Direction of CCW	
	Reference coordinate	Mechanical limit	CW Limit	The proximity origin end face Stroke center	Proximity origin Opposite end face	CCW Limit	Mechanical limit
KXS18100	Return to origin	54	51	0	20	51	54
KXS18200	Return to origin	104	101	0	20	101	104
KXS18300	Return to origin	154	151	0	20	151	154
KXS18400	Return to origin	204	201	0	20	201	204
KXS18500	Return to origin	254	251	0	20	251	254
The same	Detection clearance of slit origin S=5 and 10 (By ball screw lead)						

* Applicable for motor code J and S.

* Return to origin means that is performed return to origin type 1 using DS102/DS112 series.

* Origin becomes any position till the origin sensor is detected shielded disk slit of the origin side after through the proximity end face.

* The coordinate value should be on the design. 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.

Linear Ball

CAVE-X Linear ball

Cross Roller

Slide Guide

40

50

60

70

80

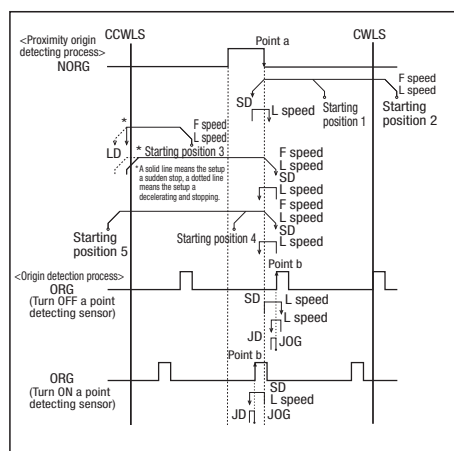
100

120

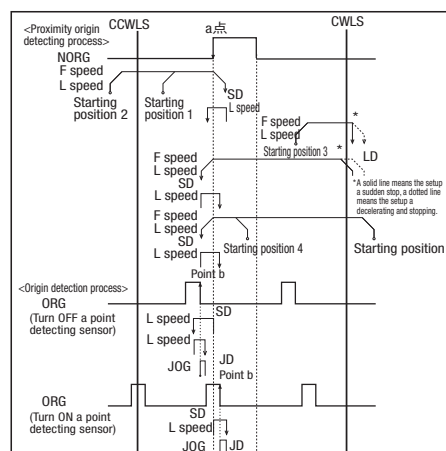
Other

KXS series recommendation return to origin method

[Type 1] Detect in the direction of CCW and perform detected process for CW edge (point a) of NORG signal. Next detect an edge of CCW side (point b) of ORG signal.



[Type 2] Detect in the direction of CW and perform detected process for CCW edge (point a) of NORG signal. Next detect on edge of CW side (point b) of ORG signal.



[Type 7]

After finished type1, perform detected process for CCW edge (point c) of TIMING signal.

[Type 8]

After finished type2, perform detected process for CW edge (point c) of TIMING signal.

Return to origin sequence ▶ P.1-201~

Adaptive driver

■ **Driver** ▶ P.1-205~

DC24V type input

Model	CVD507-K-A9	CRD5107P
Divisions	1~1/250 (16 steps)	1~1/250 (16 steps)

Adaptive stepping motor controller

■ **Controller** ▶ P.1-197~

Input power	General-purpose input/output port	Driver type (Divisions)	
		Normal (Full/Half)	Micro step (1~1/250 [16 steps])
AC100-240V	Without	DS102ANR	DS102AMS
	With	DS102ANR-IO	DS102AMS-IO
DC24V	Without	DS112ANR	DS112AMS
	With	DS112ANR-IO	DS112AMS-IO



DS112/102

Linear Ball

CAVE-X Linear ball

Cross Roller

Slide Guide

□40

□50

□60

□70

□80

□100

□120

Other