

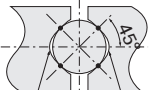











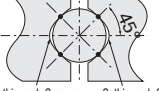



Motorized Linear Stage Lineup

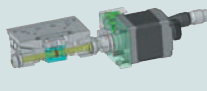





X-axis (XY-axis·Z-axis·XYZ-axis)

Horizontal Z-axis

Travel guide	Model
	KXT 
	PG 
Linear ball guide  Gothic-arch Groove Gothic-arch Groove ▶ P.1-017 KXT ▶ P.1-021 PG ▶ P.1-041 KXG ▶ P.1-055 KXL	KXG 
	KXL 
	KXC 
	KX 
Cross roller guide  ▶ P.1-083 KXC ▶ P.1-093 KX ▶ P.1-101 KS101,102	KS101,KS102 
	KXS 
	KHE 
Slide guide  ▶ P.1-121	KH 
	KS332-8N,12 
Linear ball guide  Gothic-arch Groove Gothic-arch Groove ▶ P.1-113	
Cross roller guide  ▶ P.1-117	

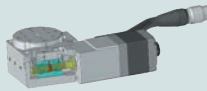








Motorized Goniometer Stage Lineup

Goniometer Stage

Drive mechanism	Model
Ball screw  ▶ P.1-145	KGB06 
	KGB07 
Worm gear  ▶ P.1-149	KGW 
	KG 

Motorized Rotary Stage Lineup

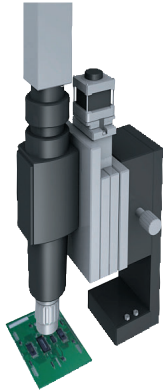
Rotary Stage

Drive mechanism	Model
Ball screw  ▶ P.1-169	KRB 
	KRE04/06 
	KRE10360 
Worm gear  ▶ P.1-177 KRE ▶ P.1-173 KRW ▶ P.1-181 KS402	KRW 
	KS402-75,100 
	KS402-180 
	KS451 
Direct drive ▶ P.1-189	

Auto Focus

An angular bearing is built in the stage.
 It is useable in a stabilized state even the high-resolution-microscope.

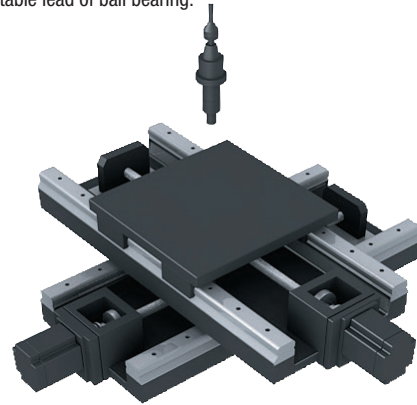
※Except for KXT series



■ Linear ball guide stage

High-rigidity XY Stages

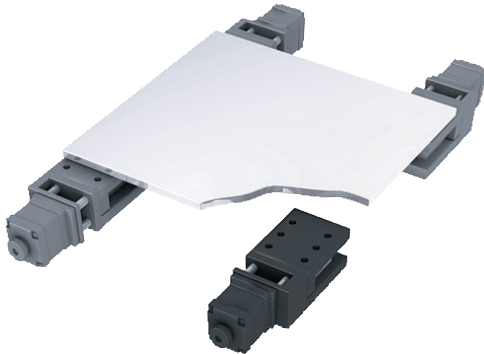
Load capacity 20kgf
 Selectable lead of ball bearing.



■ XY slide guide

Liftable Panel and Plate

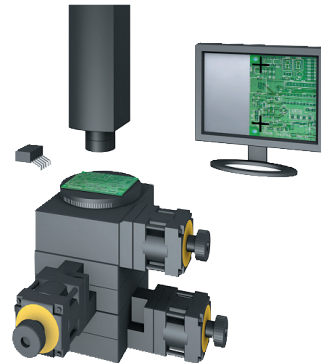
Available horizontal alignment with the horizontal Z stage.



■ Horizontal Z cross-roller guide

Image Alignment (Rotation stage)

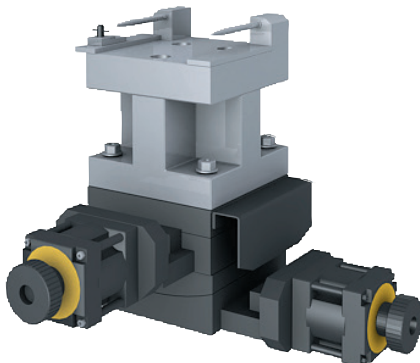
Can be used to interface with the image processing unit.
 Sine motion stages that integrated a ball bearing drive are designed with durability.



■ Sine motion rotation stage

Angular Alignment of Optical Parts (Goniometer stage)

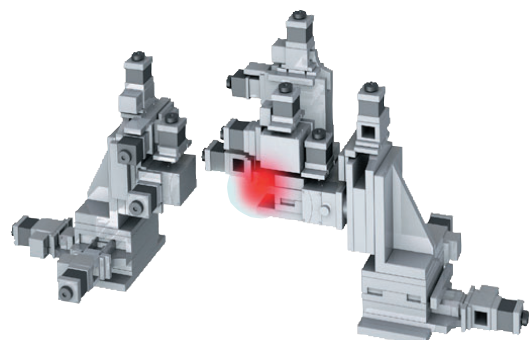
Fine angle adjustment of device for optical pick-up.
 (It has excellent durability)



■ Sinemotion Goniometer stage

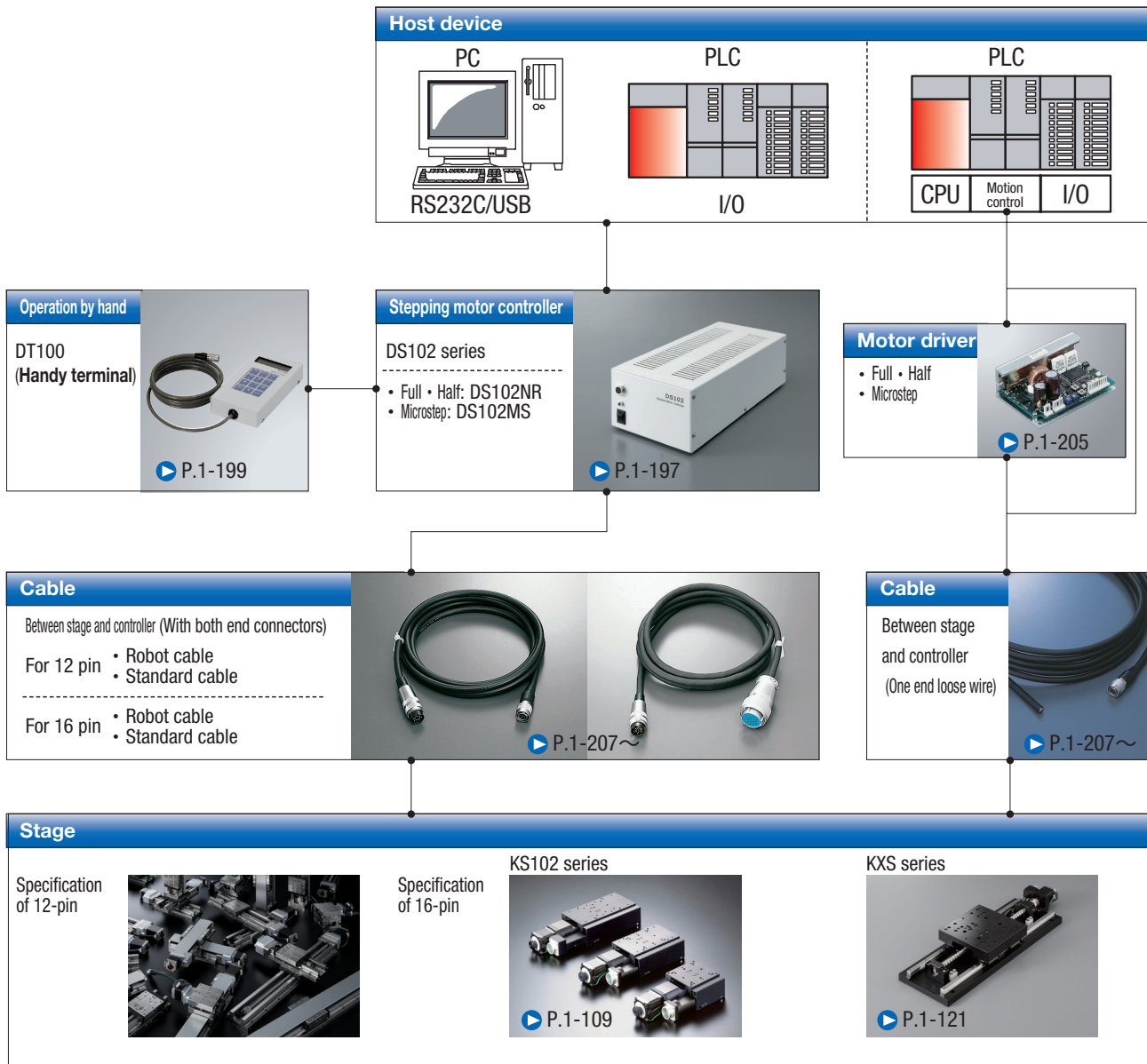
6-axis Stage Unit

It is ideal for alignment of LCD and digital camera image sensor.
 Please contact us if you need more information for configurations.

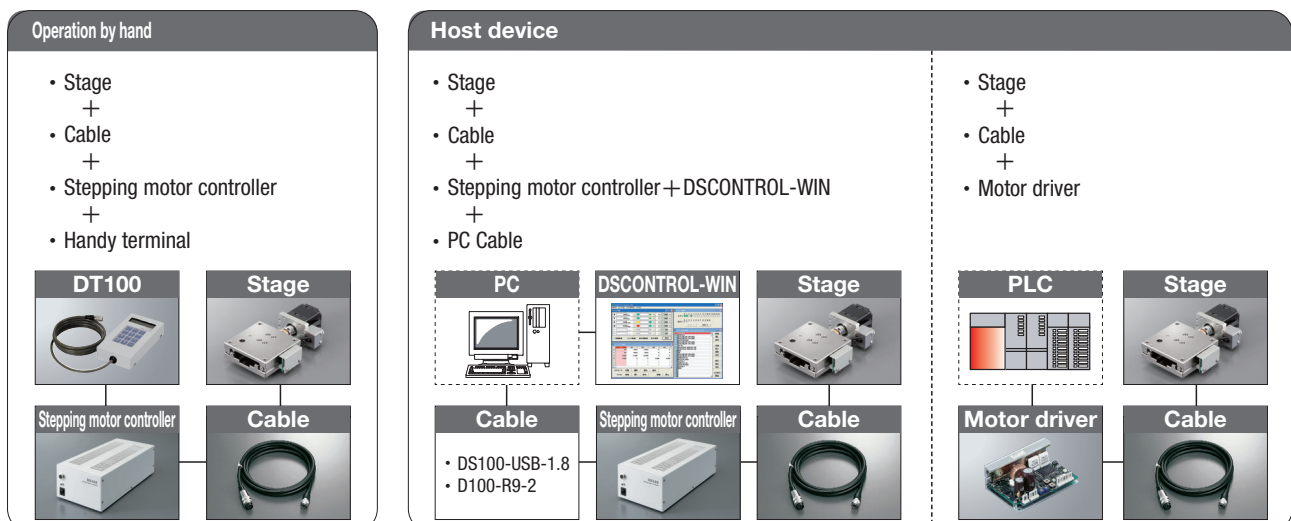


■ Stage unit (including special order)

Connection Example



Configurations



Controller

Stepping motor controller See page P.1-197 for specification details



SPEC				
Model	DS102□□	DS102□□-IO	DS112□□	DS112□□-IO
Driver type	DS102NR: Full/Half switching DS102MS: Microstep (16 steps)		DS112NR: Full/Half switching DS112MS: Microstep (16 steps)	
Universal input and output	Without	With	Without	With
Maximum power consumption	70W		DC24V Less than 2.5A	
Weight	2.2kg		1.2kg	

Handy terminal: DT100 See page P.1-199 for specification details



DT100 handy terminal feature allows remotely operation a stepping motor controller DS102/DS112 on the board and rack.

Available to use for continuous operation, step operation, zero return and program execution in hand. Displays 16 digits and 2 rows on the LCD.

Basic Specifications

Operating condition: 0~40°C、20~80%RH(drainless)

Storage condition: -20~60°C、20~80%RH(drainless)

Power input : DC24V (Supplied from controller)

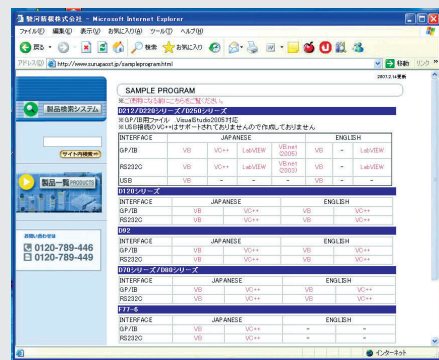
SPEC	
Model	DT100
Weight	300g

Stage controller sample program

Must be needed to make a program if control DS102 series from your PC.
Please download our free sample program from our HP.

<http://eng.surugaseiki.com/>

Attention: You might not be follow this sample program.
You need to program finally.



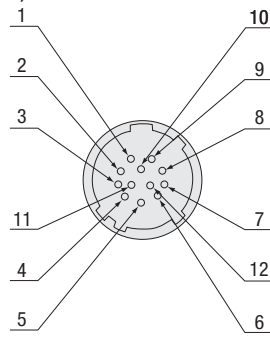
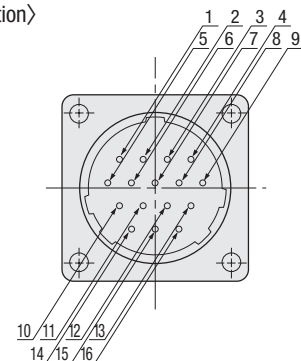
P.1-200

Sample display

Electrical Specification

Connector Specifications

Being used on the 2 kinds of connector for our stages as follows. ※For more information, see the electrical specification of each model.

Connector type	HR10A-10J-12P (73) (Hirose Electric Co.,Ltd.)		SRCN2A21-16P (JAE)																																																								
Applicable connector on acceptance side	HR10A-10P-12S (73) (Hirose Electric Co.,Ltd.)		SRCN6A21-16S (JAE)																																																								
Pin counts	12		16																																																								
Pin allocation	<p>〈Pin allocation〉</p> 		<p>〈Pin allocation〉</p> 																																																								
Pin assignment	<p>〈Pin assignment〉</p> <table><tr><td>1</td><td>Motor lead</td></tr><tr><td>2</td><td>Motor lead</td></tr><tr><td>3</td><td>Motor lead</td></tr><tr><td>4</td><td>Motor lead</td></tr><tr><td>5</td><td>Motor lead</td></tr><tr><td>6</td><td>CWLS output</td></tr><tr><td>7</td><td>CCWLS output</td></tr><tr><td>8</td><td>ORG2</td></tr><tr><td>9</td><td>Power input (+)</td></tr><tr><td>10</td><td>ORG1</td></tr><tr><td>11</td><td>Power input (-)</td></tr><tr><td>12</td><td>F.G</td></tr></table> <p>※May not function properly when you use DS series.</p>		1	Motor lead	2	Motor lead	3	Motor lead	4	Motor lead	5	Motor lead	6	CWLS output	7	CCWLS output	8	ORG2	9	Power input (+)	10	ORG1	11	Power input (-)	12	F.G	<p>〈Pin assignment〉</p> <table><tr><td>1</td><td>Motor lead</td></tr><tr><td>2</td><td>Motor lead</td></tr><tr><td>3</td><td>Motor lead</td></tr><tr><td>4</td><td>Motor lead</td></tr><tr><td>5</td><td>Motor lead</td></tr><tr><td>6</td><td>CWLS output</td></tr><tr><td>7</td><td>Open</td></tr><tr><td>8</td><td>CCWLS output</td></tr><tr><td>9</td><td>Open</td></tr><tr><td>10</td><td>Power input (+)</td></tr><tr><td>11</td><td>NORG出力</td></tr><tr><td>12</td><td>Electromagnetic brake (+)</td></tr><tr><td>13</td><td>Electromagnetic brake (-)</td></tr><tr><td>14</td><td>ORG output</td></tr><tr><td>15</td><td>Power input (-)</td></tr><tr><td>16</td><td>F.G</td></tr></table> <p>※May not function properly when you use the electromagnetic brake(+,-).</p>	1	Motor lead	2	Motor lead	3	Motor lead	4	Motor lead	5	Motor lead	6	CWLS output	7	Open	8	CCWLS output	9	Open	10	Power input (+)	11	NORG出力	12	Electromagnetic brake (+)	13	Electromagnetic brake (-)	14	ORG output	15	Power input (-)	16	F.G
1	Motor lead																																																										
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6	CWLS output																																																										
7	CCWLS output																																																										
8	ORG2																																																										
9	Power input (+)																																																										
10	ORG1																																																										
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12	F.G																																																										
1	Motor lead																																																										
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13	Electromagnetic brake (-)																																																										
14	ORG output																																																										
15	Power input (-)																																																										
16	F.G																																																										
Stages	KXG06 series PG series KS101 series KH series KRB series KGW series KRW series	KXL06 series KXC04/06 series KX series KS332 series KS4□□ series KG series KXT/KHE/KRE series	KS102 series KXS18 series																																																								

List of cables

Specification	Stage-side connector	Cable type	Cable option code															
			Linear									Horizontal Z		goniometer		Rotary		
			PG	KXL	KXS	KXG	KXC	KS101	KS102	KX07/08 KX10/12	KXT	KH KS332	KHE	KGB KGW	KG05 KG07	KRB KRW	KS402 KS451	KRE
2m	12 pin	D214-2-2E	Blank	A		A	A	Blank		Blank		Blank		A	Blank	A	Blank	
One end loose 2m		D214-2-2EK	1	B		B	B	1		1		1		B	1	B	1	
4m		D214-2-4E	2	C		C	C	2		2		2		C	2	C	2	
One end loose 4m		D214-2-4EK	3	D		D	D	3		3		3		D	3	D	3	
Only connector (Cable is not included)		—	4	E		E	E	4		4		4		E	4	E	4	
Without		—	5	Blank		Blank	Blank	5		5		5		Blank	5	Blank	5	
Robot cable 2m		D214-2-2R	6	F		F	F	6		6	F	6	F	F	6	F	6	F
Robot cable 4m		D214-2-4R	7	H		H	H	7		7	H	7	H	H	7	H	7	H
Robot cable 2m one end loose		D214-2-2RK	9	G		G	G	9		9	G	9	G	G	9	G	9	G
Robot cable 4m one end loose		D214-2-4RK	8	J		J	J	8		8	J	8	J	J	8	J	8	J
2m	16 pin	D214-1-2E			A				Blank									
One end loose 2m		D214-1-2EK			B				1									
4m		D214-1-4E			C				2									
One end loose 4m		D214-1-4EK			D				3									
Only connector (Cable is not included)		—			E				4									
Without		—			Blank				5									
Robot cable 2m		D214-1-2R			F				6									
Robot cable 4m		D214-1-4R			H				7									
Robot cable 2m one end loose		D214-1-2RK			G				9									
Robot cable 4m one end loose		D214-1-4RK			J				8									

■ In case of using ORG2

Cable for four sensors	12 pin	D214-2-*	○							○				○	○			
------------------------	--------	----------	---	--	--	--	--	--	--	---	--	--	--	---	---	--	--	--

Please select a "cable code:5(without cable)" for your order. Please order a cable for 4 sensors.

※ See page 1-207 for 4 sensor cable.

How to Check the Specification List

SPEC		
Model	KS000-00	
Mechanical specification	Travel length	00mm ----- ①
	Table size	00×00mm ----- ②
	Feed screw (Ball screw)	φ 0 lead 0 ----- ③
	Guide	○○○○ ----- ④
	Main materials-Finishing	○○—○○ processing ----- ⑤
	Weight	0kg ----- ⑥
Accuracy specification	Resolution	Pulse ----- ⑦
	MAX speed	00mm/sec ----- ⑧
	Uni-directional positioning accuracy	Within 00μm ----- ⑨
	Repeatability positioning accuracy	Within ±00μm ----- ⑩
	Load capacity	0kgf [0N] ----- ⑪
	Moment stiffness	00"N · cm ----- ⑫
	Lost motion	Within 00μm ----- ⑬
	Backlash	Within 00μm ----- ⑭
	Straightness	Within 00μm ----- ⑮
	Parallelism	Within 00μm ----- ⑯
Sensor	Motion parallelism	Within 00μm ----- ⑰
	Pitching/Yawing	Within 00"/Within 00" ----- ⑱
	Limit sensor	Installed ----- ⑲
	Origin sensor	Installed ----- ⑲
Sensor	Slit origin sensor	----- ⑲
	Provided screw (hexagon-headed bolt)	○ of M—○ ----- ⑳

① Travel length

- Represent the distance of the stage surface from CW limit to CCW limit.
- Tracing diagram shows at the stroke center.

② Table size

- Shows size of stage table surface. Displays multiply width by length.

③ Feed screw (Ball screw)

- Shows size and lead of ball screw.

④ Guide

- Shows system of moving guide.

⑤ Main materials-Finishing

- Shows materials and surface finishing that is configured upper side of stage and housing.

⑥ Weight

- Shows mass of products. (not include cable weight)

⑦ Resolution

- Shows stage travel length for a signal per pulse. Basically spec shows resolution at the full-step. The division number of full-step, half-step and micro-step driver might be changed at the controller.

$$\text{Travel length per pulse (mm)} = \text{Ball bearing lead (mm)} \times \frac{\text{Motor step angle}}{360^\circ} \times \frac{1}{n}$$

※n is division number of micro-step.

n=1 is for full-step, n=2 is for half-step. Selectable micro-step from 1 • • • 250 division number 16 patterns. Stage only has Full/Half display can be divided with our driver for micro-step.

⑧ MAX speed

- Put maximum load, the speed that can be driven by full-step setting with our controller.

※Speed can be different based on the driver controller and the load.

⑨ Uni-directional positioning accuracy

- ▶ See the inspector instruction P.2-187~

⑩ Repeatability positioning accuracy

- ▶ See the inspector instruction

⑪ Load capacity

- Load capacity means it can be mounted on the center of the stage. Speed value shows drivable with maximum speed. Load capacity of Z stage shows 'Load capacity (at the excitation)'.

⑫ Moment stiffness

- ▶ See the inspector instruction P.2-187~

⑬ Lost motion

- ▶ See the inspector instruction P.2-187~

⑭ Backlash

- ▶ See the inspector instruction P.2-187~

⑮ Straightness

- ▶ See the inspector instruction P.2-187~

⑯ Parallelism

- ▶ See the inspector instruction P.2-187~

⑰ Motion parallelism

- ▶ See the inspector instruction P.2-187~

⑱ Pitching/yawing

- ▶ See the inspector instruction P.2-187~

⑲ Sensor

- Shows presence or absence of the equipment such as limit, origin and slit origin sensors.




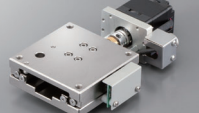

⑳ Provided screw

- Shows size and numbers of the provided screws.

Stage Selection Guide



Motorized Stage
[Travel length=20mm]

Mechanical specification	PG413	PG513	KXT04015	KXT06015	PG615
	 The photo shows □PG615	 The photo shows □PG615			
Travel length	13mm	13mm	15mm	15mm	15mm
Table size	40×40mm	50×50mm	40×40mm	60×60mm	60×60mm
Feed screw (Ball screw)	φ6 lead 1	φ6 lead 1	φ6 lead 1	φ6 lead 1	φ6 lead 1
Guide	Linear ball	Linear ball	Linear ball	Linear ball	Linear ball
Main materials	Stainless	Stainless	Steel	Steel	Stainless
Finishing	Opposite side of the end face finishing	Opposite side of the end face finishing	Opposite side of the end face finishing	Opposite side of the end face finishing	Opposite side of the end face finishing
Full length	142.5mm	152.5mm	105.5mm	125.5mm	162.5mm
Full width	56.8mm	66.8mm	56mm	69.5mm	76.8mm
Stage thickness	20mm	20mm	20mm	20mm	20mm
Weight	0.50kg	0.60kg	0.38kg	0.60kg	0.70kg

Accuracy specification		PG413	PG513	KXT04015	KXT06015	PG615
Resolution	Full/Half	2μm/1μm	2μm/1μm	2μm/1μm	2μm/1μm	2μm/1μm
	Micro step (1/20 split)	0.1μm	0.1μm	—	—	0.1μm
MAX speed		10mm/sec	10mm/sec	10mm/sec	10mm/sec	10mm/sec
Uni-directional positioning accuracy		Within 6μm	Within 6μm	Within 10μm	Within 10μm	Within 6μm
Repeatability positioning accuracy		Within ±0.5μm	Within ±0.5μm	Within ±1μm	Within ±1μm	±0.5μm
Load capacity		10kgf [98N]	10kgf [98N]	10kgf [98N]	10kgf [98N]	10kgf [98N]
Moment stiffness	Pitch	0.22"/N · cm	0.14"/N · cm	0.38"/N · cm	0.10"/N · cm	0.08"/N · cm
	Yaw	0.17"/N · cm	0.10"/N · cm	0.35"/N · cm	0.08"/N · cm	0.07"/N · cm
	Roll	0.12"/N · cm	0.06"/N · cm	0.21"/N · cm	0.05"/N · cm	0.03"/N · cm
Lost motion		Within 1.0μm	Within 1.0μm	Within 2.5μm	Within 2.5μm	Within 1.0μm
Backlash		Within 0.5μm	Within 0.5μm	—	—	Within 0.5μm
Straightness		Within 1.0μm	Within 1.0μm	Within 10μm	Within 10μm	Within 1.0μm
Parallelism		Within 15μm	Within 15μm	Within 20μm	Within 20μm	Within 15μm
Motion parallelism		Within 5μm	Within 5μm	—	—	Within 5μm
Pitching		Within 15"	Within 15"	Within 30"	Within 35"	Within 15"
Yawing		Within 10"	Within 10"	Within 25"	Within 30"	Within 10"
Cable type		D214-2-□□	D214-2-□□	D214-2-□□	D214-2-□□	D214-2-□□
Sensor	Limit sensor	Installed	Installed	Installed	Installed	Installed
	Origin sensor	Installed	Installed	Installed	Installed	Installed
	Slit origin sensor	Installed	Installed	—	—	Installed

※ Cable model for standard motor. Cable model may be changed when you select other motor type. Please refer detailed production page.




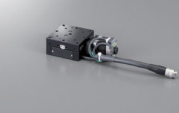
Option		PG413	PG513	KXT04015	KXT06015	PG615
Opposite hand		○	○	○	○	○
Sensor voltage		DC5V/24V Selectable	DC5V/24V Selectable	DC5 ~ 24V	DC5 ~ 24V	DC5V/24V Selectable
Sensor logic	Limit sensor	Selectable	Selectable	N.C.	N.C.	Selectable
	Origin sensor	Selectable	Selectable	N.C.	N.C.	Selectable
	Slit origin sensor	Selectable	Selectable	—	—	Selectable
Motor	High-torque	○	○	—	—	○
	High resolution	○	○	—	—	○
	With brake	○	○	—	—	○
	α step	○	○	—	—	○
	AC servo	○	○	—	—	○
Clean grease standard(except bearing part)		—	—	—	—	—
Page		▶P.1-021	▶P.1-021	▶P.1-017	▶P.1-017	▶P.1-021

※ [—] is uncovered the guarantee and no standard.

Intensive
comparison

Motorized Stage

[Travel length=20mm]

Mechanical specification	KXC04015	PG715	KXG06020	KXC06020	
		 The photo shows □PG615			
	Travel length	15mm	15mm	20mm	20mm
	Table size	40×40mm	70×70mm	60×60mm	60×60mm
	Feed screw (Ball screw)	φ6 lead 1	φ6 lead 1	φ8 lead 1	φ8 lead 1
Guide	Crossed roller	Linear ball	Linear ball	Crossed roller	
Main materials	Aluminum	Stainless	Stainless	Aluminum	
Finishing	Black almite finishing	Opposite side of the end face finishing	Opposite side of the end face finishing	Black almite finishing	
Full length	102.5mm	172.5mm	116mm	114mm	
Full width	40mm	86.8mm	60mm	60mm	
Stage thickness	30mm	20mm	30mm	30mm	
Weight	0.31kg	0.90kg	0.78kg	0.44kg	

Accuracy specification		KXC04015	PG715	KXG06020	KXC06020
Resolution	Full/Half	2μm/1μm	2μm/1μm	2μm/1μm	2μm/1μm
	Micro step (1/20 split)	0.1μm	0.1μm	0.1μm	0.1μm
MAX speed		10mm/sec	10mm/sec	20mm/sec	20mm/sec
Uni-directional positioning accuracy		Within 10μm	Within 6μm	Within 5μm	Within 5μm
Repeatability positioning accuracy		Within ±0.5μm	Within ±0.5μm	Within ±0.5μm	Within ±0.3μm
Load capacity		5kgf [49N]	10kgf [98N]	5kgf [49N]	5kgf [49N]
Moment stiffness	Pitch	0.33"/N · cm	0.03"/N · cm	0.08"/N · cm	0.15"/N · cm
	Yaw	0.44"/N · cm	0.03"/N · cm	0.05"/N · cm	0.12"/N · cm
	Roll	0.37"/N · cm	0.01"/N · cm	0.05"/N · cm	0.07"/N · cm
Lost motion		Within 1μm	Within 1μm	Within 1μm	Within 1μm
Backlash		Within 0.5μm	Within 0.5μm	Within 1.0μm	Within 0.5μm
Straightness		Within 3μm	Within 1μm	Within 3μm	Within 3μm
Parallelism		Within 30μm	Within 15μm	Within 15μm	Within 30μm
Motion parallelism		Within 10μm	Within 5μm	Within 10μm	Within 10μm
Pitching		Within 25"	Within 15"	Within 20"	Within 20"
Yawing		Within 20"	Within 10"	Within 15"	Within 15"
Cable type		D214-2-□□	D214-2-□□	D214-2-□□	D214-2-□□
Sensor	Limit sensor	Installed	Installed	Installed	Installed
	Origin sensor	Installed	Installed	Installed	Installed
	Slit origin sensor	—	Installed	—	—

※ Cable model for standard motor. Cable model may be changed when you select other motor type. Please refer detailed production page.

Option		KXC04015	PG715	KXG06020	KXC06020
Opposite hand		—	○	—	—
Sensor voltage		DC5~24V	DC5V/24V Selectable	DC5~24V	DC5~24V
Sensor logic	Limit sensor	N.C.	Selectable	N.C.	N.C.
	Origin sensor	N.C.	Selectable	N.C.	N.C.
	Slit origin sensor	—	Selectable	—	—
Motor	High-torque	—	○	○	○
	High resolution	—	○	○	○
	With brake	—	○	○	—
	α Step	○	○	○	○
	AC servo	—	○	—	—
Clean grease standard(except bearing part)		—	—	○	—
Page		▶ P.1-083	▶ P.1-021	▶ P.1-041	▶ P.1-083

※ [—] is uncovered the guarantee and no standard.

Stage Selection Guide



Motorized Stage
[Travel length-30mm]

	KX0725C	PG430	PG530	KXL06030	KXG06030
Mechanical specification		 The photo shows □ PG650	 The photo shows □ PG650		
Travel length	25mm	30mm	30mm	30mm	30mm
Table size	70×70mm	40×60mm	50×70mm	60×60mm	60×70mm
Feed screw (Ball screw)	φ6 lead 1	φ6 lead 1	φ6 lead 1	φ8 lead 1 (2)	φ8 lead 1
Guide	Crossed roller	Linear ball	Linear ball	Linear ball	Linear ball
Main materials	Aluminum	Stainless	Stainless	Stainless	Stainless
Finishing	White almitite finish	Opposite side of the end face finishing	Opposite side of the end face finishing	Opposite side of the end face finishing	Opposite side of the end face finishing
Weight () With cover type	1.0kg	0.6kg	0.78kg	1.28 (1.34) kg	0.9kg
Full length () With cover type	197mm	171mm	181mm	198 (203) mm	131mm
Full width	88.5mm	56.8mm	66.8mm	60mm	60mm
Stage thickness () With cover type	21mm	20mm	20mm	30 (33) mm	30mm

Accuracy specification		KX0725C	PG430	PG530	KXL06030	KXG06030
Resolution () means lead 2	Full/Half	1μm/0.5μm	2μm/1μm	2μm/1μm	2μm/1μm (4μm/2μm)	2μm/1μm
	Micro step (1/20 split)	0.05μm	0.1μm	0.1μm	0.1μm (0.2μm)	0.1μm
MAX speed () means lead 2		10mm/sec	10mm/sec	10mm/sec	30mm/sec (35mm/sec)	20mm/sec
Uni-directional positioning accuracy		Within 5μm	Within 12μm	Within 12μm	Within 5μm	Within 5μm
Repeatability positioning accuracy		±0.3μm	±0.5μm	±0.5μm	±0.5μm	±0.5μm
Load capacity		10kg [98N]	10kg [98N]	10kg [98N]	12kg [117.6N]	5kg [49N]
Moment stiffness	Pitch	0.09"/N · cm	0.24"/N · cm	0.12"/N · cm	0.05"/N · cm	0.08"/N · cm
	Yaw	0.07"/N · cm	0.18"/N · cm	0.13"/N · cm	0.05"/N · cm	0.05"/N · cm
	Roll	0.07"/N · cm	0.26"/N · cm	0.1"/N · cm	0.05"/N · cm	0.05"/N · cm
Lost motion		Within 1μm	Within 1μm	Within 1μm	Within 1μm	Within 1μm
Backlash		Within 0.5μm	Within 0.5μm	Within 0.5μm	Within 1μm	Within 1μm
Straightness		Within 1μm	Within 2μm	Within 2μm	Within 3μm	Within 3μm
Parallelism		Within 30μm	Within 15μm	Within 15μm	Within 15μm	Within 15μm
Motion parallelism		Within 10μm	Within 10μm	Within 10μm	Within 10μm	Within 10μm
Pitching		Within 20"	Within 20"	Within 20"	Within 20"	Within 20"
Yawing		Within 15"	Within 15"	Within 15"	Within 15"	Within 15"
Cable type		D214-2-□□	D214-2-□□	D214-2-□□	D214-2-□□	D214-2-□□
Sensor	Limit sensor	Installed	Installed	Installed	Installed	Installed
	Origin sensor	Installed	Installed	Installed	Option	Installed
	Slit origin sensor	Installed	Installed	Installed	—	—

※ Cable model for standard motor. Cable model may be changed when you select other motor type. Please refer detailed production page.

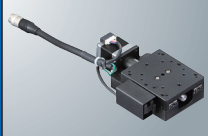
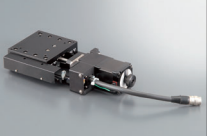
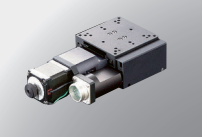
Option	KX0725C	PG430	PG530	KXL06030	KXG06030
Opposite hand	○	○	○	—	—
Sensor voltage	DC5~24V	DC5V/24V Selectable	DC5V/24V Selectable	DC5~24V	DC5~24V
Sensor logic	Limit sensor	N.C.	Selectable	Selectable	N.C.
	Origin sensor	Switchable (Factory preset mode N.C.)	Selectable	Selectable	N.C.
	Slit origin sensor	Switchable (Factory preset mode N.C.)	Selectable	Selectable	—
Motor	High-torque	—	○	○	○
	High resolution	Standard	○	○	○
	With brake	—	○	○	○
	α Step	—	○	○	○
Clean grease standard(except bearing part)		—	—	○	○
Page	▶ P.1-093	▶ P.1-025	▶ P.1-025	▶ P.1-055	▶ P.1-041

※ [—] means "no guarantee, not available as a standard".

Intensive
comparison

Motorized Stage

[Travel length-30mm]

Mechanical specification	KS101-30	KX0830C	KS102-30
			
Travel length	30mm	30mm	30mm
Table size	60×70mm	80×80mm	80×80mm
Feed screw (Ball screw)	φ8 lead 1	φ8 lead 1	φ8 lead 1
Guide	Crossed roller	Crossed roller	Crossed roller
Main materials	Aluminum	Aluminum	Aluminum
Finishing	Black almite finishing	Black almite finishing	Black almite finishing
Weight	0.56kg	1.2kg	1.4kg
Full length	136mm	212mm	194.5mm
Full width	80.5mm	98.5mm	96mm
Stage thickness	30mm	26mm	46mm

Accuracy specification		KS101-30	KX0830C	KS102-30
Resolution	Full/Half	2μm/1μm	1μm/0.5μm	1μm/0.5μm
	Micro step (1/20 split)	0.05μm resolution when select a microstep motor	0.05μm	0.05μm
MAX speed		20mm/sec	10mm/sec	10mm/sec
Uni-directional positioning accuracy		Within 5μm	Within 5μm	Within 5μm
Repeatability positioning accuracy		±0.3μm	±0.3μm	±0.3μm
Load capacity		5kg [49N]	15kg [147N]	20kg [196N]
Moment stiffness	Pitch	0.15"/N · cm	0.05"/N · cm	0.07"/N · cm
	Yaw	0.08"/N · cm	0.04"/N · cm	0.06"/N · cm
	Roll	0.07"/N · cm	0.03"/N · cm	0.02"/N · cm
Lost motion		Within 1μm	Within 1μm	Within 1μm
Backlash		Within 0.5μm	Within 0.5μm	Within 0.5μm
Straightness		Within 3μm	Within 1μm	—
Parallelism		Within 30μm	Within 30μm	Within 30μm
Motion parallelism		Within 10μm	Within 10μm	Within 10μm
Pitching		Within 25"	Within 20"	Within 25"
Yawing		Within 20"	Within 15"	Within 15"
Cable type		D214-2-□□	D214-2-□□	D214-1-□□
Sensor	Limit sensor	Installed	Installed	Installed
	Origin sensor	Installed	Installed	Installed
	Slit origin sensor	—	Installed	Installed

※Cable model for standard motor. Cable model may be changed when you select other motor type. Please refer detailed production page.

Option		KS101-30	KX0830C	KS102-30
Opposite hand		○	○	○
Sensor voltage		DC5~24V	DC5~24V	DC5~24V
Sensor logic	Limit sensor	N.C.	N.C.	N.C.
	Origin sensor	N.C.	Switchable (Factory preset mode N.C.)	N.C.
	Slit origin sensor	—	Switchable (Factory preset mode N.C.)	N.C.
Motor	High-torque	—	—	—
	High resolution	○	Standard	Standard
	With brake	—	—	—
	α Step	○	—	○
	AC servo	—	—	—
Clean grease as a standard(except bearing part)		—	—	—
Page		▶ P.1-101	▶ P.1-093	▶ P.1-109

※ [—] is uncovered the guarantee and no standard.

Stage Selection Guide



Motorized Stage
[Travel length=50mm]

Mechanical specification	KX1040C	KXL06050	PG650	PG750	KX1250C
					
Travel length	40mm	50mm	50mm	50mm	50mm
Table size	100×100mm	60×60mm	60×100mm	70×110mm	120×120mm
Feed screw (Ball screw)	φ8 lead 1	φ8 lead 1 (2)	φ6 lead 1	φ6 lead 1	φ8 lead 1
Guide	Crossed roller	Linear ball	Linear ball	Linear ball	Crossed roller
Main materials	Aluminum	Stainless	Stainless	Stainless	Aluminum
Finishing	Black almite finishing	Opposite side of the end face finishing	Opposite side of the end face finishing	Opposite side of the end face finishing	Black almite finishing
Weight () With cover type	1.6kg	1.40 (1.44) kg	1.08kg	1.16kg	2.2kg
Full length () With cover type	237mm	218 (223) mm	220mm	230mm	263mm
Full width	114.5mm	60mm	76.8mm	86.8mm	134.5mm
Stage thickness () With cover type	30mm	30 (33) mm	20mm	20mm	35mm





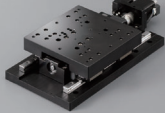
Accuracy specification		KX1040C	KXL06050	PG650	PG750	KX1250C
Resolution () means lead 2	Full/Half	1μm/0.5μm	2μm/1μm (4μm/2μm)	2μm/1μm	2μm/1μm	1μm/0.5μm
	Micro step (1/20 split)	0.05μm	0.1 (0.2) μm	0.1μm	0.1μm	0.05μm
MAX speed () means lead 2		10mm/sec	30mm (35mm) /sec	10mm/sec	10mm/sec	10mm/sec
Uni-directional positioning accuracy		Within 5μm	Within 5μm	Within 12μm	Within 12μm	Within 5μm
Repeatability positioning accuracy		±0.3μm	±0.5μm	±0.5μm	±0.5μm	±0.3μm
Load capacity		20kg [196N]	12kg [117.6N]	10kg [98N]	10kg [98N]	25kg [245N]
Moment stiffness	Pitch	0.04"/N · cm	0.05"/N · cm	0.05"/N · cm	0.03"/N · cm	0.03"/N · cm
	Yaw	0.04"/N · cm	0.05"/N · cm	0.05"/N · cm	0.03"/N · cm	0.02"/N · cm
	Roll	0.02"/N · cm	0.05"/N · cm	0.05"/N · cm	0.03"/N · cm	0.02"/N · cm
Lost motion		Within 1μm	Within 1μm	Within 1μm	Within 1μm	Within 1μm
Backlash		Within 0.5μm	Within 1μm	Within 0.5μm	Within 0.5μm	Within 0.5μm
Straightness		Within 1μm	Within 3μm	Within 2μm	Within 2μm	Within 1μm
Parallelism		Within 30μm	Within 15μm	Within 15μm	Within 15μm	Within 30μm
Motion parallelism		Within 15μm	Within 10μm	Within 10μm	Within 10μm	Within 15μm
Pitching		Within 20"	Within 20"	Within 20"	Within 20"	Within 20"
Yawing		Within 15"	Within 15"	Within 15"	Within 15"	Within 15"
Cable type		D214-2-□□	D214-2-□□	D214-2-□□	D214-2-□□	D214-2-□□
Sensor	Limit sensor	Installed	Installed	Installed	Installed	Installed
	Origin sensor	Installed	Option	Installed	Installed	Installed
	Slit origin sensor	Installed	—	Installed	Installed	Installed

※ Cable model for standard motor. Cable model may be changed when you select other motor type. Please refer detailed production page.

Option		KX1040C	KXL06050	PG650	PG750	KX1250C
Opposite hand		Installed	Installed	Installed	Installed	Installed
Sensor voltage		DC5~24V	DC5~24V	DC5~24V	DC5~24V	DC5~24V
Sensor logic	Limit sensor	N.C.	N.C.	Selectable	Selectable	N.C.
	Origin sensor	Switchable (Factory preset mode N.C.)	N.C.	Selectable	Selectable	Switchable (Factory preset mode N.C.)
	Slit origin sensor	Switchable (Factory preset mode N.C.)	—	Selectable	Selectable	Switchable (Factory preset mode N.C.)
Motor	High-torque	—	○	○	○	—
	High resolution	Standard	○	○	○	Standard
	With brake	—	○	○	○	—
	α Step	—	○	○	○	—
	AC servo	—	○	○	○	—
Clean grease standard(except bearing part)		—	○	—	—	—
Page		🔵 P.1-093	🔵 P.1-055	🔵 P.1-025	🔵 P.1-025	🔵 P.1-093

※ [—] is uncovered the guarantee and no standard.

Intensive
comparisonMotorized Stage
[Travel length-100mm]

	KXL06075	KS102-70	KXL06100	KS102-100	KXS18100
Mechanical specification					
Travel length	75mm	70mm	100mm	100mm	100mm
Table size	60×60mm	80×130mm	60×60mm	80×160mm	180×180mm
Feed screw (Ball screw)	φ8 lead 1 (2)	φ8 lead 1	φ8 lead 2	φ8 lead 1	φ15 lead 5 (10)
Guide	Linear ball	Crossed roller	Linear ball	Crossed roller	Slide guide
Main materials	Stainless	Aluminum	Stainless	Aluminum	Aluminum
Finishing	Opposite side of the end face finishing	Black almite finishing	Opposite side of the end face finishing	Black almite finishing	Black almite finishing
Weight () With cover type	1.54 (1.60) kg	1.8kg	1.80 (1.86) kg	2.1kg	8.32 (8.12) kg
Full length () With cover type	243 (248) mm	244.5mm	287.5 (292.5) mm	274.5mm	401.5mm
Full width	60mm	96mm	60mm	96mm	180mm
Stage thickness () With cover type	30 (33) mm	46mm	30 (33) mm	46mm	75mm

Accuracy specification		KXL06075	KS102-70	KXL06100	KS102-100	KXS18100
Resolution	Full/Half	Lead 1mm: 2μm/1μm Lead 2mm: 4μm/2μm	1μm/0.5μm	4μm/2μm	1μm/0.5μm	lead 5mm: 10μm/5μm lead 10mm: 20μm/10μm
	Micro step (1/20 split)	Lead 1mm: 0.1μm Lead 2mm: 0.2μm	0.05μm	0.2μm	0.05μm	lead 5mm: 0.5μm lead 10mm: 1μm
MAX speed		Lead 1mm: 30mm/sec Lead 2mm: 35mm/sec	10mm/sec	45mm/sec	10mm/sec	lead 5mm: 30mm/sec lead 10mm: 50mm/sec
Uni-directional positioning accuracy		Within 7μm	Within 5μm	Within 10μm	Within 10μm	Within 15μm
Repeatability positioning accuracy		±0.5μm	±0.3μm	±0.5μm	±0.3μm	Within ±1μm
Load capacity		12kg [117.6N]	20kg [196N]	12kg [117.6N]	20kg [196N]	30kgf [294N]
Moment stiffness	Pitch	0.05"/N · cm	0.01"/N · cm	0.05"/N · cm	0.005"/N · cm	0.005"/N · cm
	Yaw	0.05"/N · cm	0.014"/N · cm	0.05"/N · cm	0.011"/N · cm	0.008"/N · cm
	Roll	0.05"/N · cm	0.01"/N · cm	0.05"/N · cm	0.008"/N · cm	0.003"/N · cm
Lost motion		Within 1μm	Within 1μm	Within 1μm	Within 1μm	—
Backlash		Within 1μm	Within 0.5μm	Within 1μm	Within 0.5μm	Within 2μm
Straightness		Within 3μm	—	Within 5μm	—	Within 10μm
Parallelism		Within 15μm	Within 30μm	Within 15μm	Within 30μm	Within 50μm
Motion parallelism		Within 10μm	Within 15μm	Within 10μm	Within 15μm	Within 20μm
Pitching		Within 20"	Within 25"	Within 25"	Within 25"	Within 30"
Yawing		Within 15"	Within 20"	Within 20"	Within 20"	Within 20"
Cable type		D214-2-□	D214-1-□□	D214-2-□	D214-1-□□	D214-1-□□
Sensor	Limit sensor	Installed	Installed	Installed	Installed	Installed
	Origin sensor	Option	Installed	Option	Installed	Installed
	Slit origin sensor	—	Installed	—	Installed	Installed

※ Cable model for standard motor. Cable model may be changed when you select other motor type. Please refer detailed production page.



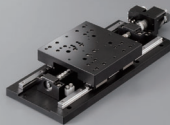

Option		KXL06075	KS102-70	KXL06100	KS102-100	KXS18100
Opposite hand		—	○	—	○	—
Sensor voltage		DC5~24V	DC5~24V	DC5~24V	DC5~24V	DC5~24V
Sensor logic	Limit sensor	N.C.	N.C.	N.C.	N.C.	N.C.
	Origin sensor	N.C.	N.C.	N.C.	N.C.	N.C.
	Slit origin sensor	—	N.C.	—	N.C.	N.C.
Motor	High-torque	○	—	Standard	—	Standard
	High resolution	○	Standard	○	Standard	—
	With brake	○	—	○	—	○
	α Step	○	○	○	○	○
	AC servo	○	—	○	—	○
Clean grease standard(except bearing part)		○	—	○	—	○
Page		▶ P.1-055	▶ P.1-109	▶ P.1-059	▶ P.1-109	▶ P.1-123

※ [—] is uncovered the guarantee and no standard.

Stage Selection Guide



Motorized Stage
[Travel length–500mm]

	KXL06150	KXL06200	KXS18200	KXL06300
Mechanical specification				
Travel length	150mm	200mm	200mm	300mm
Table size	60×60mm	60×60mm	180×180mm	60×60mm
Feed screw (Ball screw)	φ8 lead 2	φ8 lead 2	φ15 lead 5 (10)	φ8 lead 2
Guide	Linear ball	Linear ball	Slide guide	Linear ball
Main materials	Stainless	Stainless	Aluminum	Stainless
Finishing	Opposite side of the end face finishing	Opposite side of the end face finishing	Black almite finishing	Opposite side of the end face finishing
Weight () With cover type	2.10 (2.16) kg	2.42 (2.48) kg	9.48 (9.37) kg	3.02 (3.12) kg
Full length () With cover type	337.5 (342.5) mm	387.5 (392.5) mm	501.5mm	487.5 (492.5) mm
Full width	60mm	60mm	180mm	60mm
Stage thickness () With cover type	30 (33) mm	30 (33) mm	75mm	30 (33) mm

		KXL06150	KXL06200	KXS18200	KXL06300
Accuracy specification					
Resolution	Full/Half	4μm/2μm	4μm/2μm	lead 5mm: 10μm/5μm lead 10mm: 20μm/10μm	4μm/2μm
	Micro step (1/20 split)	0.2μm	0.2μm	0.5 (1) μm	0.2μm
MAX speed		45mm/sec	45mm/sec	30mm (50mm) /sec	45mm/sec
Uni-directional positioning accuracy		Within 15μm	Within 15μm	Within 20μm	Within 20μm
Repeatability positioning accuracy		±0.5μm	±0.5μm	±1μm	±0.5μm
Load capacity		12kg [117.6N]	12kg [117.6N]	30kg [294N]	12kg [117.6N]
Moment stiffness	Pitch	0.05"/N · cm	0.05"/N · cm	0.005"/N · cm	0.05"/N · cm
	Yaw	0.05"/N · cm	0.05"/N · cm	0.008"/N · cm	0.05"/N · cm
	Roll	0.05"/N · cm	0.05"/N · cm	0.003"/N · cm	0.05"/N · cm
Lost motion		Within 1μm	Within 1μm	—	Within 1μm
Backlash		Within 1μm	Within 1μm	Within 2μm	Within 1μm
Straightness		Within 5μm	Within 7μm	Within 15μm	Within 7μm
Parallelism		Within 15μm	Within 15μm	Within 50μm	Within 15μm
Motion parallelism		Within 15μm	Within 20μm	Within 20μm	Within 25μm
Pitching		Within 25"	Within 30"	Within 50"	Within 35"
Yawing		Within 20"	Within 20"	Within 20"	Within 20"
Cable type		D214-2-□	D214-2-□	D214-1-□	D214-2-□
Sensor	Limit sensor	Installed	Installed	Installed	Installed
	Origin sensor	Option	Option	Installed	Option
	Slit origin sensor	—	—	Installed	—

※ Cable model for standard motor. Cable model may be changed when you select other motor type. Please refer detailed production page.

Option	KXL06150	KXL06200	KXS18200	KXL06300
Opposite hand	—	—	—	—
Sensor voltage	DC5~24V	DC5~24V	DC5~24V	DC5~24V
Sensor logic	Limit sensor	N.C.	N.C.	N.C.
	Origin sensor	N.C.	N.C.	N.C.
	Slit origin sensor	—	—	—
Motor	High-torque	Standard	Standard	Standard
	High resolution	○	—	○
	With brake	○	○	○
	α step	○	○	○
	AC servo	○	○	○
Clean grease standard(except bearing part)	○	○	○	○
Page	▶ P.1-059	▶ P.1-063	▶ P.1-123	▶ P.1-063

※ [—] is uncovered the guarantee and no standard.

Intensive
comparison

Motorized Stage

[Travel length-500mm]

Mechanical specification	KXS18300	KXS18400	KXS18500
			
Travel length	300mm	400mm	500mm
Table size	180×180mm	180×180mm	180×180mm
Feed screw (Ball screw)	φ15 lead 5 (10)	φ15 lead 5 (10)	φ15 lead 5 (10)
Guide	Slide guide	Slide guide	Slide guide
Main materials	Aluminum	Aluminum	Aluminum
Finishing	Black almite finishing	Black almite finishing	Black almite finishing
Weight () With cover type	10.72 (10.70) kg	11.92 (11.99) kg	13.10 (13.26) kg
Full length	601.5mm	701.5mm	801.5mm
Full width	180mm	180mm	180mm
Stage thickness	75mm	75mm	75mm

Accuracy specification		KXS18300	KXS18400	KXS18500
Resolution	Full/Half	lead 5mm: 10μm/5μm lead 10mm: 20μm/10μm	lead 5mm: 10μm/5μm lead 10mm: 20μm/10μm	lead 5mm: 10μm/5μm lead 10mm: 20μm/10μm
	Micro step (1/20 split)	0.5μm (1μm)	0.5μm (1μm)	0.5μm (1μm)
MAX speed		30mm/sec (50mm/sec)	30mm/sec (50mm/sec)	30mm/sec (50mm/sec)
Uni-directional positioning accuracy		Within 30μm	Within 35μm	Within 40μm
Repeatability positioning accuracy		±1μm	±1μm	±1μm
Load capacity		30kg [294N]	30kg [294N]	30kg [294N]
Moment stiffness	Pitch	0.005"/N · cm	0.005"/N · cm	0.005"/N · cm
	Yaw	0.008"/N · cm	0.008"/N · cm	0.008"/N · cm
	Roll	0.003"/N · cm	0.003"/N · cm	0.003"/N · cm
Lost motion		—	—	—
Backlash		Within 2μm	Within 2μm	Within 2μm
Straightness		Within 20μm	Within 25μm	Within 30μm
Parallelism		Within 50μm	Within 50μm	Within 50μm
Motion parallelism		Within 30μm	Within 30μm	Within 30μm
Pitching		Within 60"	Within 60"	Within 70"
Yawing		Within 30"	Within 30"	Within 30"
Cable type		D214-1-□	D214-1-□	D214-1-□
Sensor	Limit sensor	Installed	Installed	Installed
	Origin sensor	Installed	Installed	Installed
	Slit origin sensor	Installed	Installed	Installed

※ Cable model for standard motor. Cable model may be changed when you select other motor type. Please refer detailed production page.

Option		KXS18300	KXS18400	KXS18500
Opposite hand		—	—	—
Sensor voltage		DC5~24V	DC5~24V	DC5~24V
Sensor logic	Limit sensor	N.C.	N.C.	N.C.
	Origin sensor	N.C.	N.C.	N.C.
	Slit origin sensor	N.C.	N.C.	N.C.
Motor	High-torque	Standard	Standard	Standard
	High resolution	—	—	—
	With brake	○	○	○
	α step	○	○	○
	AC servo	○	○	○
Clean grease standard(except bearing part)		○	○	○
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※ [—] is uncovered the guarantee and no standard.