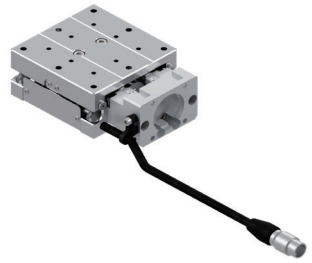
New

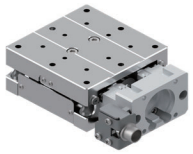
X-axis Linear Ball Guide：KXG06020V

RoHS

KXG06020TV-P28



KXG06020MV-P28



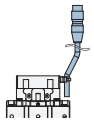
Accessory		P28	S38	S40
Motor bracket (installed on main body)		○		
Coupling (with screws)		○		
Mounting screw	For Motor	4of M2.5-6	4of M3-12	2of M4-12
	For Main Body	4of M4-10		
Sensor cable		○(HR10AP-S-SB-6-□)		
Cable tie		○	-	-

* Sensor cable: Select from 2m, 3m, 5m

KXG06020TV-P28-□

1 2 3

1 Connector specifications

T	Pig tail	
M	Panel mount	

2 Application Motor

Code	Specification
P28	□28 Stepping motor specification
S38	□38 Servo motor specification
S40	□40 Servo motor specifications

3 Cable option

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

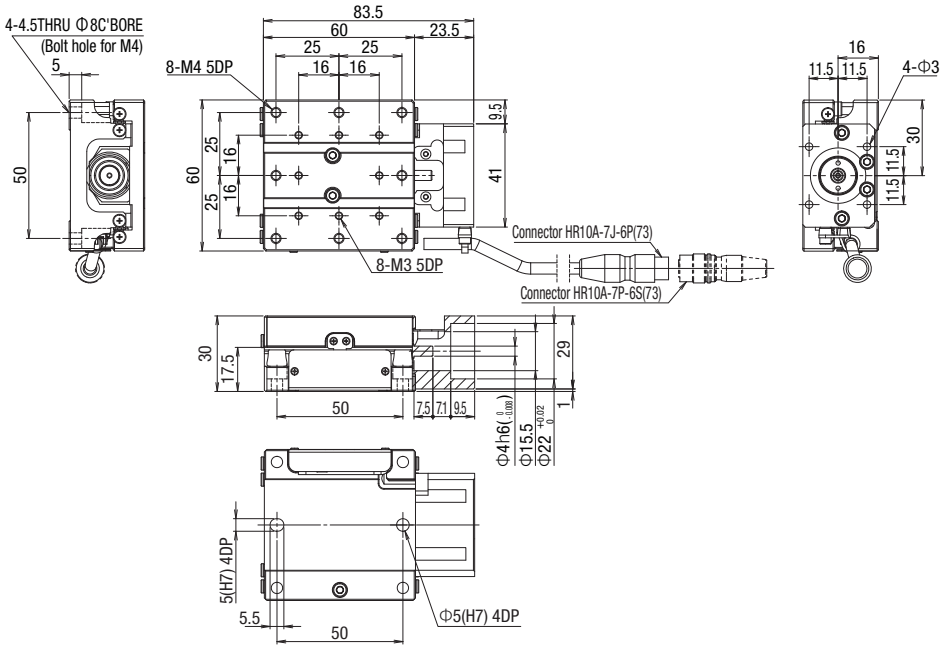
SPEC				
Model			**KXG06020TV-P28**	**KXG06020MV-P28**
Mechanical specification	Travel distance		20mm	
	Stage surface size		60×60mm	
	Connector type		**Pigtail**	**Panel Mount**
	Feed screw (Ball screw)		ϕ8 Lead 1	
	Guide		Linear Ball Guide	
	Main materials-Finishing		Special Steel—Electroless nickel plating	
	Weight		0.60kg	
Accuracy specification	Resolution/ Pulse	Full/Half	2μm/1μm	
		Micro step	0.1μm (1/20 On resolution)	
	MAX speed		20mm/sec	
	Uni-directional positioning accuracy		5μm	
	Repeatability positioning accuracy		±0.5μm	
	Load capacity		10kgf【98N】	
	Moment stiffness		Pitch 0.08/Yaw 0.05/Roll 0.05 [″/N・cm]	
	Lost motion		1μm	
	Backlash		1μm	
	Straightness		3μm	
	Parallelism		15μm	
	Motion parallelism		10μm	
	Pitching/Yawing		20″/15″	
Sensor	Limit sensor		Available	
	Origin sensor		Available	
	Slit origin sensor		—	

* SPEC is the value of the standard motor.
* When the applicable motor code [S38/S40] is selected, the weight is 0.64kg.

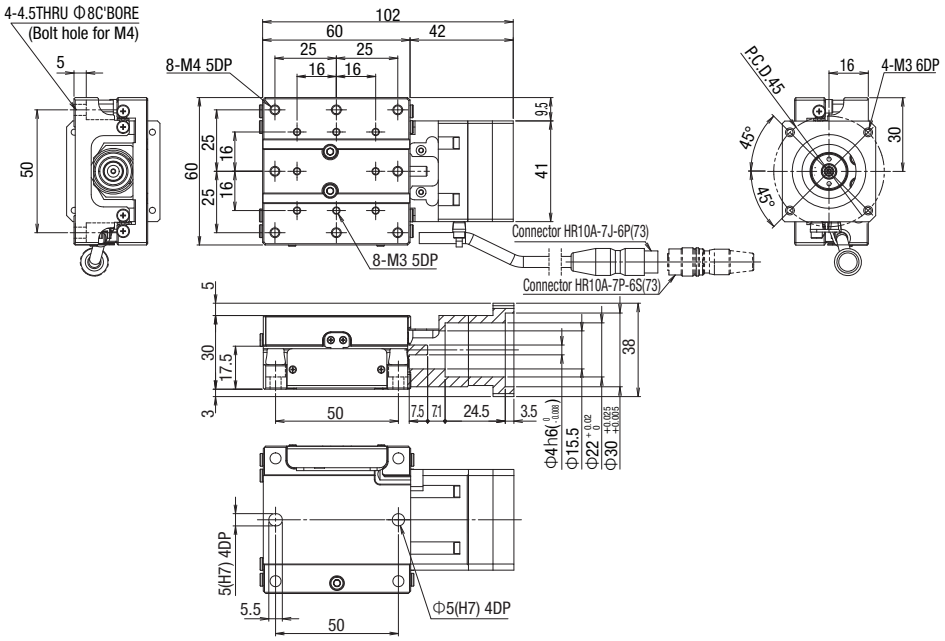
New

Dimensions

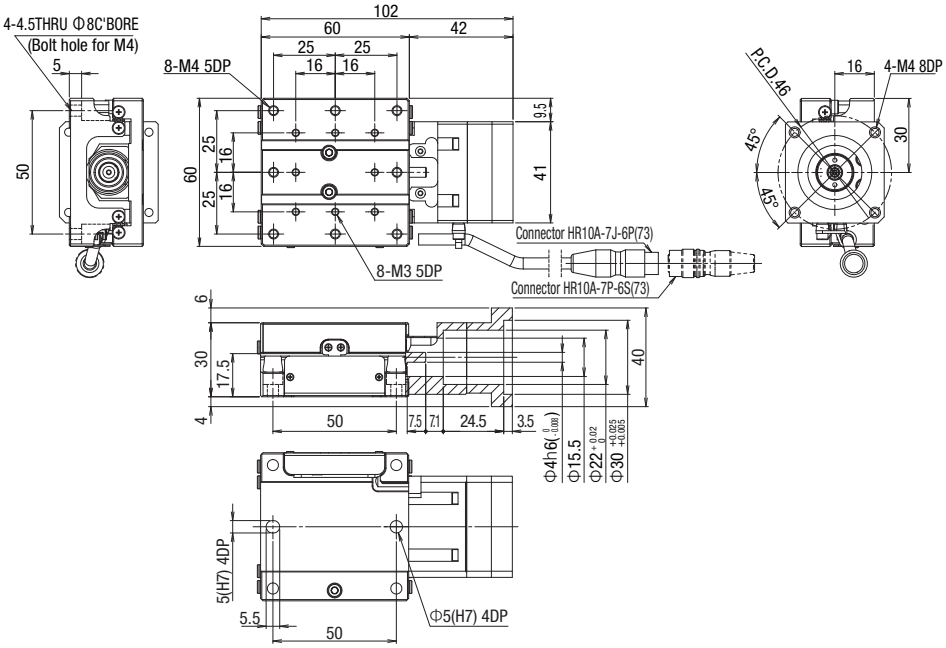
KXG06020TV-P28



KXG06020TV-S38



KXG06020TV-S40

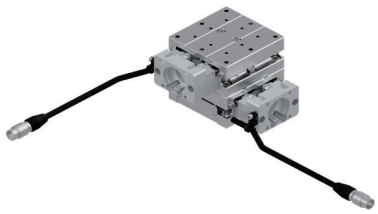


New

XY-axis Linear Ball Guide：KYG06020V

RoHS

KYG06020TV-P28



KYG06020MV-P28

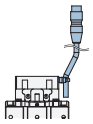
Accessory		P28	S38	S40
Motor bracket (installed on main body)		○		
Coupling (with screws)		○		
Mounting screw	For Motor	8of M2.5-6	8of M3-12	4of M4-12
	For Main Body	4of M4-10		
Sensor cable		○(HR10AP-S-SB-6-□)		
Cable tie		○	-	-

* Sensor cable: Select from 2m, 3m, 5m

KYG06020TV-P28-□

1 2 3

1 Connector specifications

T	Pig tail	
M	Panel mount	

2 Application Motor

Code	Specification
P28	□28 Stepping motor specification
S38	□38 Servo motor specification
S40	□40 Servo motor specifications

3 Cable option

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

SPEC

Model			KYG06020TV-P28	KYG06020MV-P28
Mechanical specification	Travel distance		20mm	
	Stage surface size		60×60mm	
	Connector type		**Pigtail**	**Panel Mount**
	Feed screw (Ball screw)		ϕ8 Lead 1	
	Guide		Linear Ball Guide	
	Main materials-Finishing		Special Steel—Electroless nickel plating	
	Weight		1.20kg	
Accuracy specification	Resolution/ Pulse	Full/Half	2μm/1μm	
		Micro step	0.1μm(1/20 On resolution)	
	MAX speed		20mm/sec	
	Load capacity		9kgf【88.2N】	
	Squareness		10μm/Full stroke	
Sensor	Limit sensor		Available	
	Origin sensor		Available	
	Slit origin sensor		—	

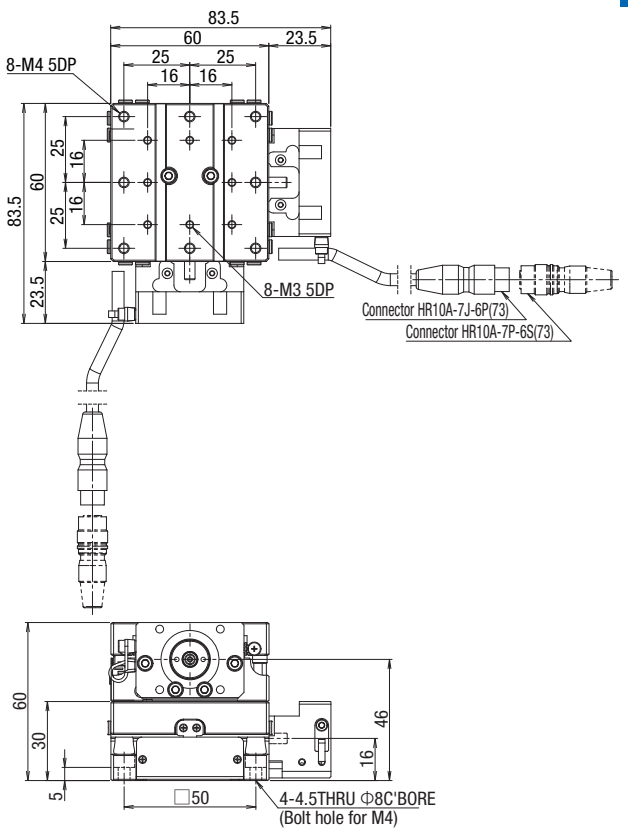
Single axis accuracy specification	Uni-directional positioning accuracy	5μm
	Repeatability positioning accuracy	±0.5μm
	Lost motion	1μm
	Backlash	1μm
	Straightness	3μm
	Pitching/Yawing	20″/15″

* SPEC is the value of the standard motor.
* When the applicable motor code [S38/S40] is selected, the weight is 1.28kg.

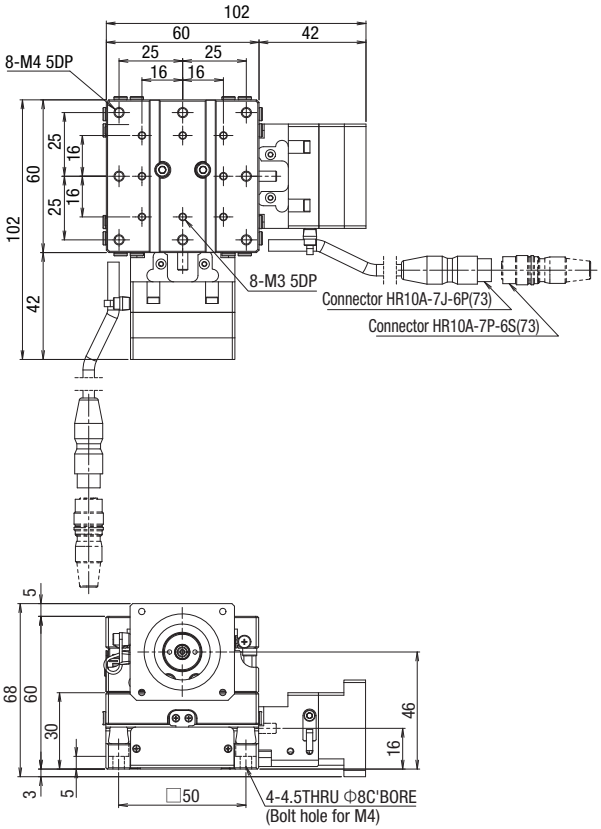
New

Dimensions

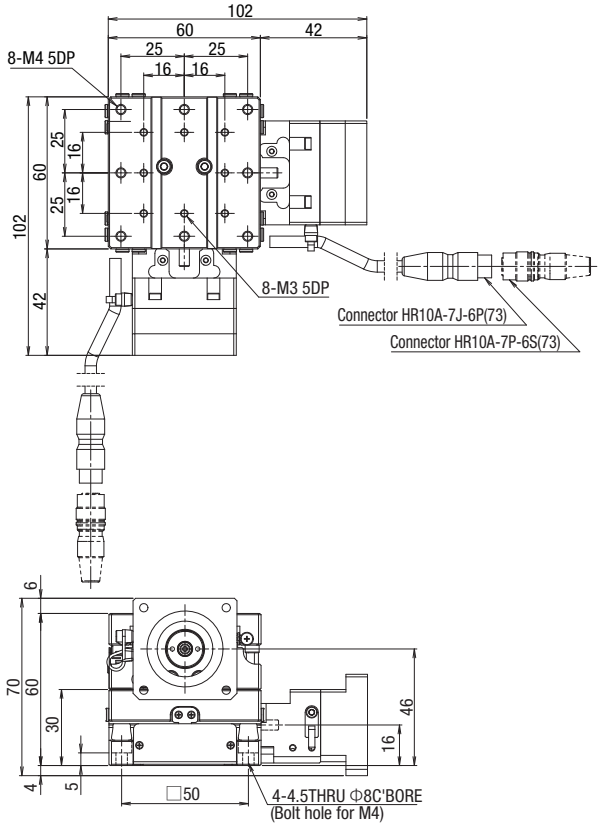
KYG06020TV-P28



KYG06020TV-S38



KYG06020TV-S40



New

Z-axis Linear Ball Guide：KZG06020V

RoHS

KZG06020TV-P28

KZG06020MV-P28

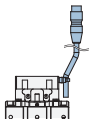
Accessory		P28	S38	S40
Motor bracket (installed on main body)		○		
Coupling (with screws)		○		
Mounting screw	For Motor	4of M2.5-6	4of M3-12	2of M4-12
	For Main Body	4of M4-10		
Sensor cable		○(HR10AP-S-SB-6-□)		
Cable tie		○	-	-

* Sensor cable: Select from 2m, 3m, 5m

KZG06020 T V- P28 - □

1 2 3

1 Connector specifications

T	Pig tail	
M	Panel mount	

2 Application Motor

Code	Specification
P28	□28 Stepping motor specification
S38	□38 Servo motor specification
S40	□40 Servo motor specifications

3 Cable option

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

SPEC

Model		KZG06020TV-P28	KZG06020MV-P28
Mechanical specification	Travel distance	20mm	
	Stage surface size	60×60mm	
	Connector type	**Pigtail**	**Panel Mount**
	Feed screw (Ball screw)	ϕ8 Lead 1	
	Guide	Linear Ball Guide	
	Main materials-Finishing	Special Steel—Electroless nickel plating	
	Weight	0.96kg	
Accuracy specification	Resolution/ Pulse Full/Half	2μm/1μm	
	Resolution/ Pulse Micro step	0.1μm(1/20 On resolution)	
	MAX speed	20mm/sec	
	Load capacity	3kgf【29.4N】	
	Perpendicularity	10μm/Full stroke	
Sensor	Limit sensor	Available	
	Origin sensor	Available	
	Slit origin sensor	—	

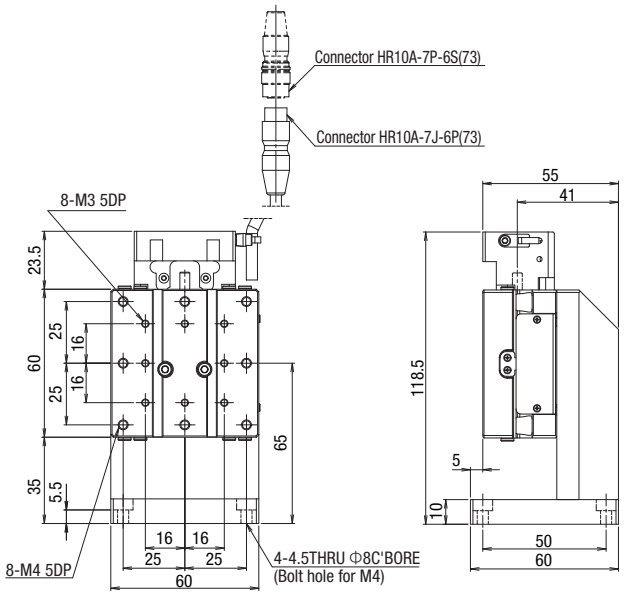
Single axis accuracy specification	Uni-directional positioning accuracy	5μm
	Repeatability positioning accuracy	±0.5μm
	Lost motion	1μm
	Backlash	1μm
	Straightness	3μm
	Pitching/Yawing	20″/15″

* SPEC is the value of the standard motor.
* When the applicable motor code [S38/S40] is selected, the weight is 1.00kg.

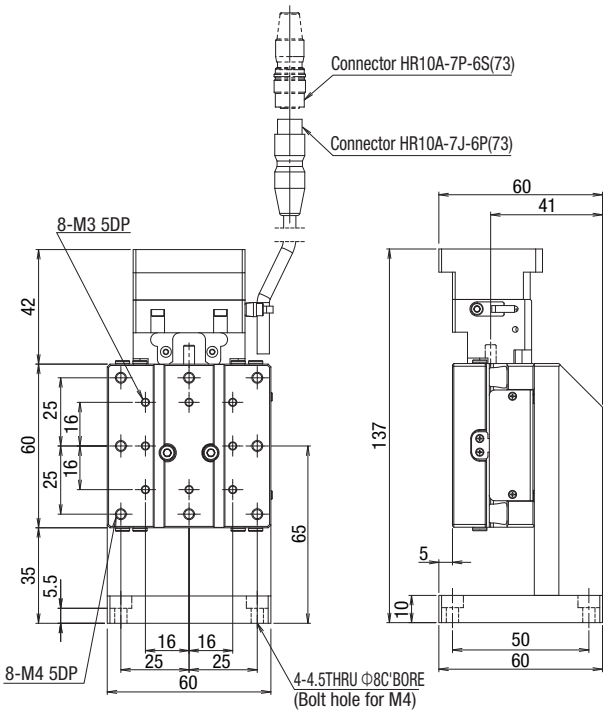
New

Dimensions

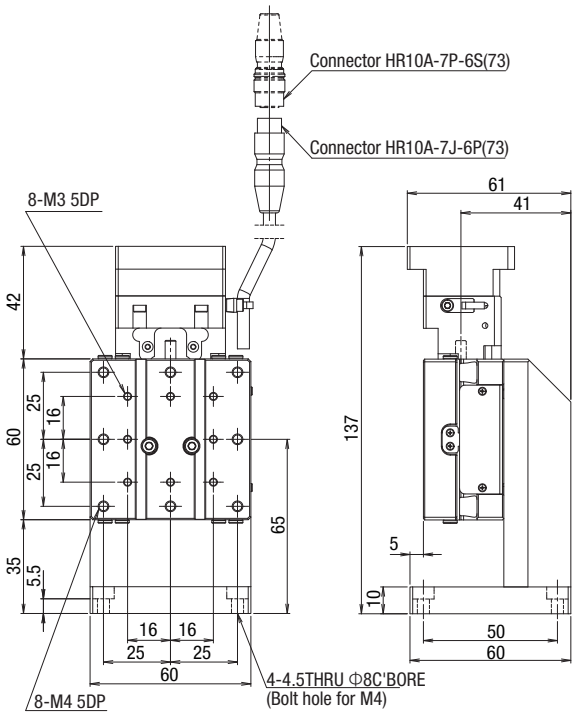
KZG06020TV-P28



KZG06020TV-S38



KZG06020TV-S40

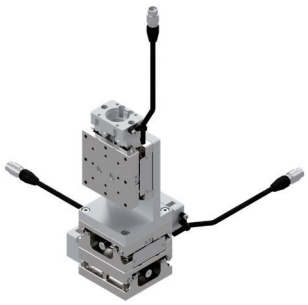


New

XYZ-axis Linear Ball Guide：KWG06020V

RoHS

KWG06020TV-P28



KWG06020MV-P28

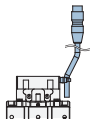
Accessory		P28	S38	S40
Motor bracket (installed on main body)		○		
Coupling (with screws)		○		
Mounting screw	For Motor	12of M2.5-6	12of M3-12	6of M4-12
	For Main Body	4of M4-10		
Sensor cable		○(HR10AP-S-SB-6-□)		
Cable tie		○	-	-

* Sensor cable: Select from 2m, 3m, 5m

KWG06020 T V- P28 - □

1 2 3

1 Connector specifications

T	Pig tail	
M	Panel mount	

2 Application Motor

Code	Specification
P28	□28 Stepping motor specification
S38	□38 Servo motor specification
S40	□40 Servo motor specifications

3 Cable option

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

SPEC

Model		KWG06020TV-P28	KWG06020MV-P28
Mechanical specification	Travel distance	20mm	
	Stage surface size	60×60mm	
	Connector type	**Pigtail**	**Panel Mount**
	Feed screw (Ball screw)	ϕ8 Lead 1	
	Guide	Linear Ball Guide	
	Main materials-Finishing	Special Steel—Electroless nickel plating	
	Weight	2.16kg	
Accuracy specification	Resolution/ Pulse Full/Half	2μm/1μm	
	Resolution/ Pulse Micro step	0.1μm(1/20 On resolution)	
	MAX speed	20mm/sec	
	Load capacity	3kgf【29.4N】	
	Squareness	10μm/Full stroke	
	Perpendicularity	10μm/Full stroke	
Sensor	Limit sensor	Available	
	Origin sensor	Available	
	Slit origin sensor	—	

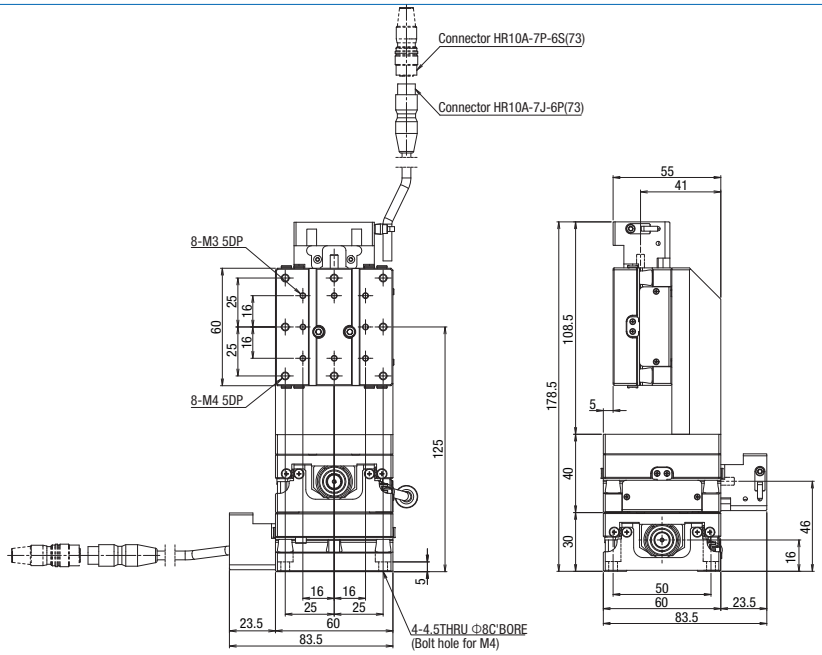
Single axis accuracy specification	Uni-directional positioning accuracy	5μm
	Repeatability positioning accuracy	±0.5μm
	Lost motion	1μm
	Backlash	1μm
	Straightness	3μm
	Pitching/Yawing	20″/15″

* SPEC is the value of the standard motor.
* When the applicable motor code [S38/S40] is selected, the weight is 2.28kg.

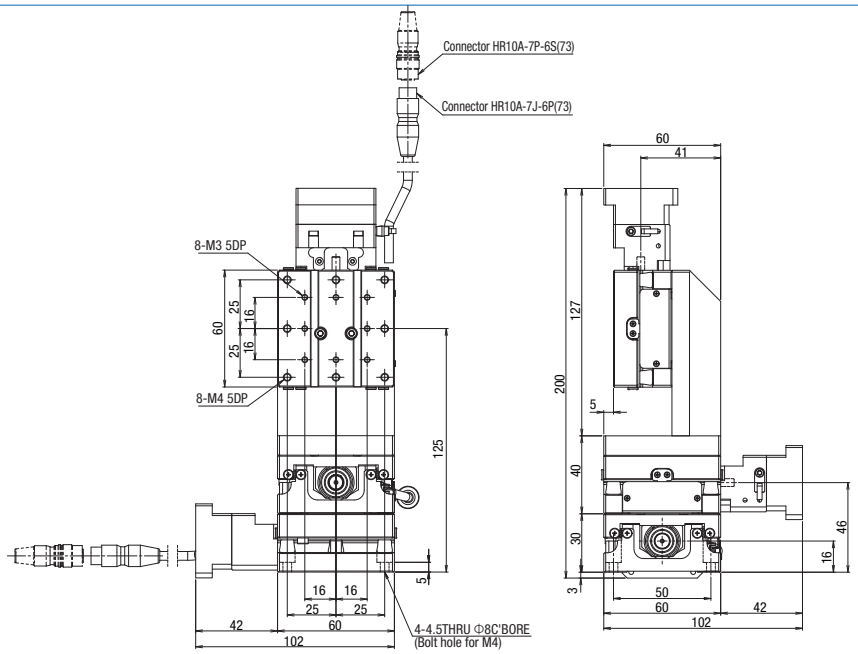
New

Dimensions

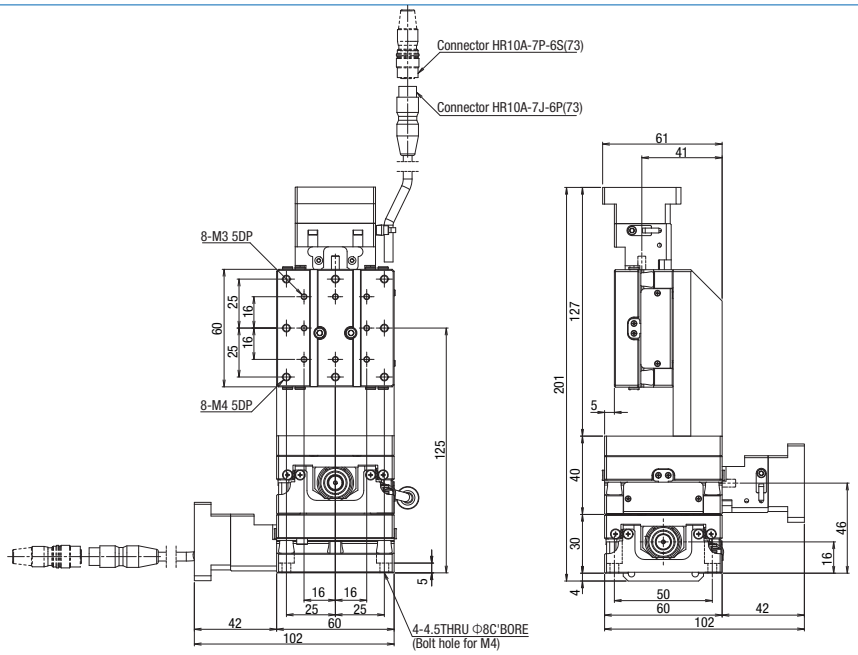
KWG06020TV-P28



KWG06020TV-S38



KWG06020TV-S40

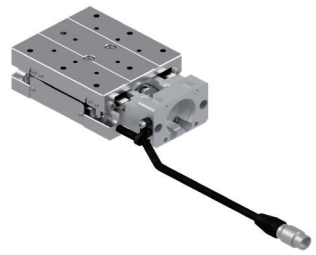


New

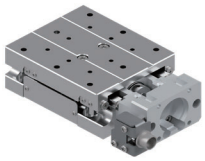
X-axis Linear Ball Guide：KXG06030V

RoHS

KXG06030TV-P28



KXG06030MV-P28



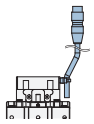
Accessory		P28	S38	S40
Motor bracket (installed on main body)		○		
Coupling (with screws)		○		
Mounting screw	For Motor	4of M2.5-6	4of M3-12	2of M4-12
	For Main Body	4of M4-10		
Sensor cable		○(HR10AP-S-SB-6-□)		
Cable tie		○	-	-

* Sensor cable: Select from 2m, 3m, 5m

KXG06030TV-P28-□

1 2 3

1 Connector specifications

T	Pig tail	
M	Panel mount	

2 Application Motor

Code	Specification
P28	□28 Stepping motor specification
S38	□38 Servo motor specification
S40	□40 Servo motor specifications

3 Cable option

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

SPEC

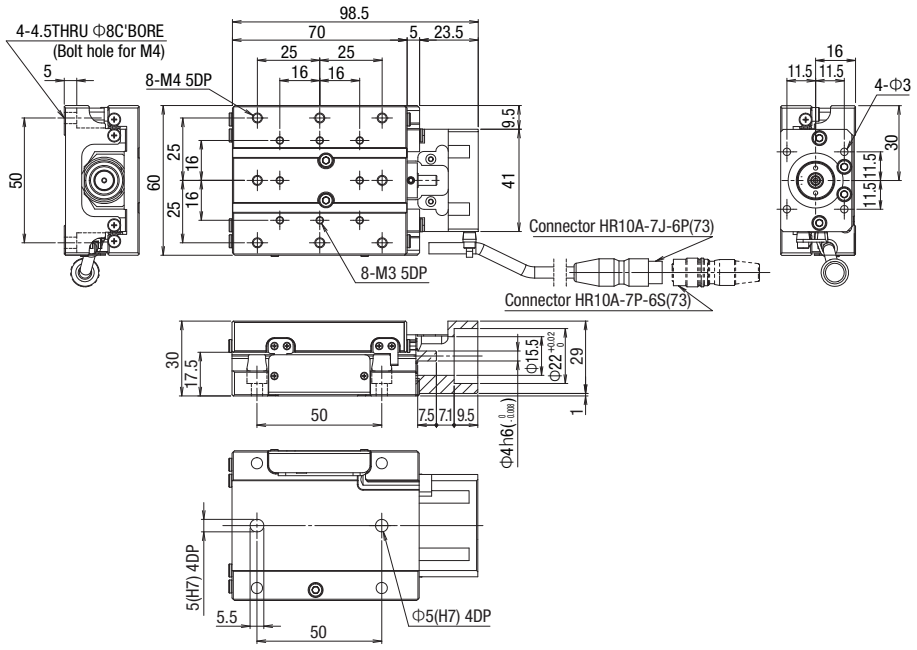
Model			KXG06030TV-P28	KXG06030MV-P28
Mechanical specification	Travel distance		30mm	
	Stage surface size		60×70mm	
	Connector type		**Pigtail**	**Panel Mount**
	Feed screw (Ball screw)		ϕ8 Lead 1	
	Guide		Linear Ball Guide	
	Main materials-Finishing		Special Steel—Electroless nickel plating	
	Weight		0.70kg	
Accuracy specification	Resolution/ Pulse	Full/Half	2μm/1μm	
		Micro step	0.1μm(1/20 On resolution)	
	MAX speed		20mm/sec	
	Uni-directional positioning accuracy		5μm	
	Repeatability positioning accuracy		±0.5μm	
	Load capacity		10kgf【98N】	
	Moment stiffness		Pitch 0.06/Yaw 0.05/Roll 0.05[″/N・cm]	
	Lost motion		1μm	
	Backlash		1μm	
	Straightness		3μm	
	Parallelism		15μm	
	Motion parallelism		10μm	
	Pitching/Yawing		20″/15″	
Sensor	Limit sensor		Available	
	Origin sensor		Available	
	Slit origin sensor		—	

* SPEC is the value of the standard motor.
* When the applicable motor code [S38/S40] is selected, the weight is 0.74kg.

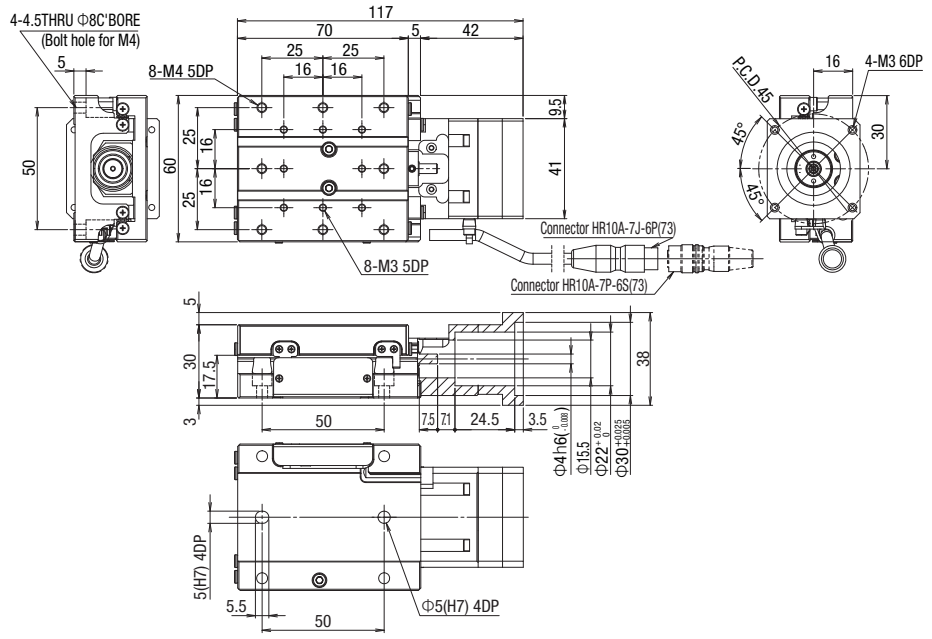
New

Dimensions

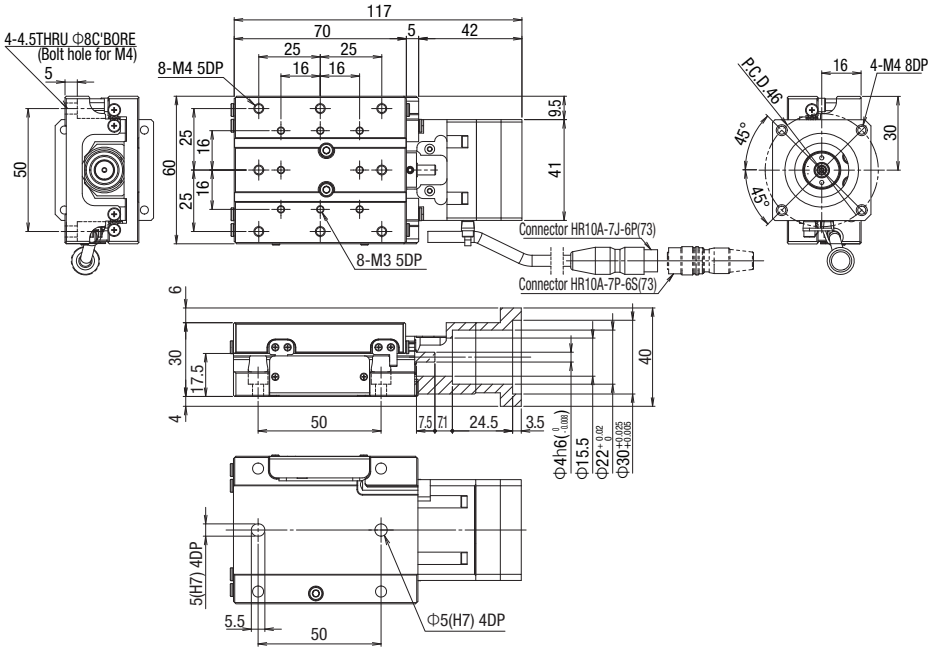
KXG06030TV-P28



KXG06030TV-S38



KXG06030TV-S40

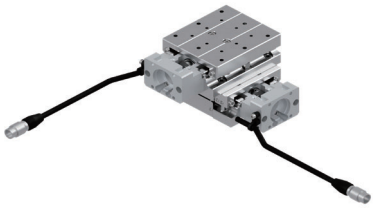


New

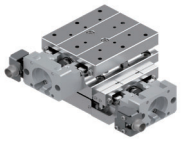
XY-axis Linear Ball Guide：KYG06030V

RoHS

KYG06030TV-P28



KYG06030MV-P28



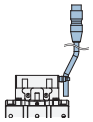
Accessory		P28	S38	S40
Motor bracket (installed on main body)		○		
Coupling (with screws)		○		
Mounting screw	For Motor	8of M2.5-6	8of M3-12	4of M4-12
	For Main Body	4of M4-10		
Sensor cable		○(HR10AP-S-SB-6-□)		
Cable tie		○	-	-

* Sensor cable: Select from 2m, 3m, 5m

KYG06030TV-P28-□

1 2 3

1 Connector specifications

T	Pig tail	
M	Panel mount	

2 Application Motor

Code	Specification
P28	□28 Stepping motor specification
S38	□38 Servo motor specification
S40	□40 Servo motor specifications

3 Cable option

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

SPEC

Model			KYG06030TV-P28	KYG06030MV-P28
Mechanical specification	Travel distance		30mm	
	Stage surface size		60×70mm	
	Connector type		**Pigtail**	**Panel Mount**
	Feed screw (Ball screw)		ϕ8 Lead 1	
	Guide		Linear Ball Guide	
	Main materials-Finishing		Special Steel—Electroless nickel plating	
	Weight		1.40kg	
Accuracy specification	Resolution/ Pulse	Full/Half	2μm/1μm	
		Micro step	0.1μm(1/20 On resolution)	
	MAX speed		20mm/sec	
	Load capacity		9kgf【88.2N】	
	Squareness		15μm/Full stroke	
Sensor	Limit sensor		Available	
	Origin sensor		Available	
	Slit origin sensor		—	

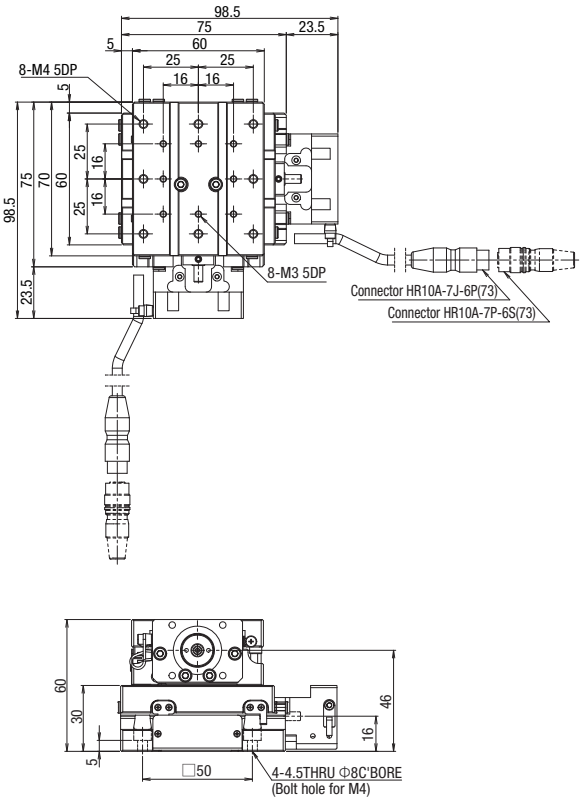
Single axis accuracy specification	Uni-directional positioning accuracy	5μm
	Repeatability positioning accuracy	±0.5μm
	Lost motion	1μm
	Backlash	1μm
	Straightness	3μm
	Pitching/Yawing	20″/15″

* SPEC is the value of the standard motor.
* When the applicable motor code [S38/S40] is selected, the weight is 1.48kg.

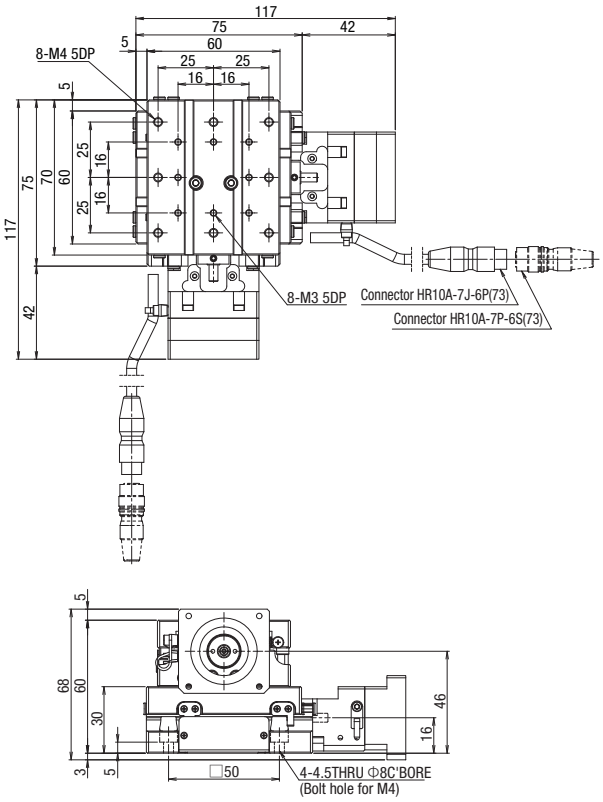
New

Dimensions

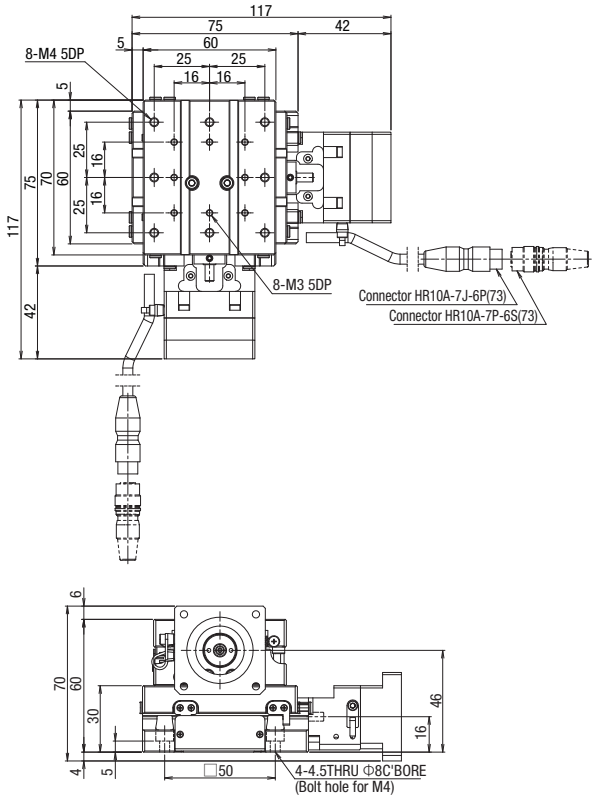
KYG06030TV-P28



KYG06030TV-S38



KYG06030TV-S40



New

Z-axis Linear Ball Guide：KZG06030V

RoHS

KZG06030TV-P28

KZG06030MV-P28

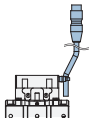
Accessory		P28	S38	S40
Motor bracket (installed on main body)		○		
Coupling (with screws)		○		
Mounting screw	For Motor	4of M2.5-6	4of M3-12	2of M4-12
	For Main Body	4of M4-10		
Sensor cable		○(HR10AP-S-SB-6-□)		
Cable tie		○	-	-

* Sensor cable: Select from 2m, 3m, 5m

KZG06030TV-P28-□

1 2 3

1 Connector specifications

T	Pig tail	
M	Panel mount	

2 Application Motor

Code	Specification
P28	□28 Stepping motor specification
S38	□38 Servo motor specification
S40	□40 Servo motor specifications

3 Cable option

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

SPEC

Model		KZG06030TV-P28	KZG06030MV-P28
Mechanical specification	Travel distance	30mm	
	Stage surface size	60×70mm	
	Connector type	**Pigtail**	**Panel Mount**
	Feed screw (Ball screw)	ϕ8 Lead 1	
	Guide	Linear Ball Guide	
	Main materials-Finishing	Special Steel—Electroless nickel plating	
	Weight	1.06kg	
Accuracy specification	分解能（パルス） Full/Half	2μm/1μm	
	分解能（パルス） Micro step	0.1μm(1/20 On resolution)	
	MAX speed	20mm/sec	
	Load capacity	3kgf【29.4N】	
	Perpendicularity	15μm/Full stroke	
Sensor	Limit sensor	Available	
	Origin sensor	Available	
	Slit origin sensor	—	

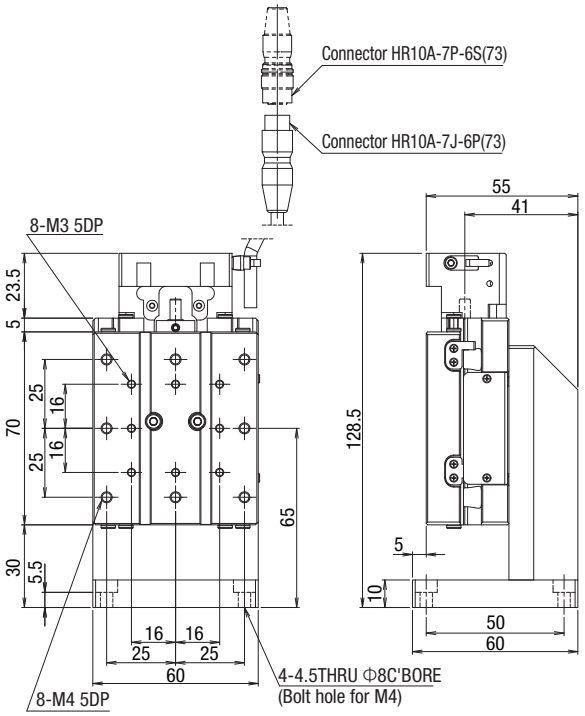
Single axis accuracy specification	Uni-directional positioning accuracy	5μm
	Repeatability positioning accuracy	±0.5μm
	Lost motion	1μm
	Backlash	1μm
	Straightness	3μm
	Pitching/Yawing	20″/15″

* SPEC is the value of the standard motor.
* When the applicable motor code [S38/S40] is selected, the weight is 1.10kg.

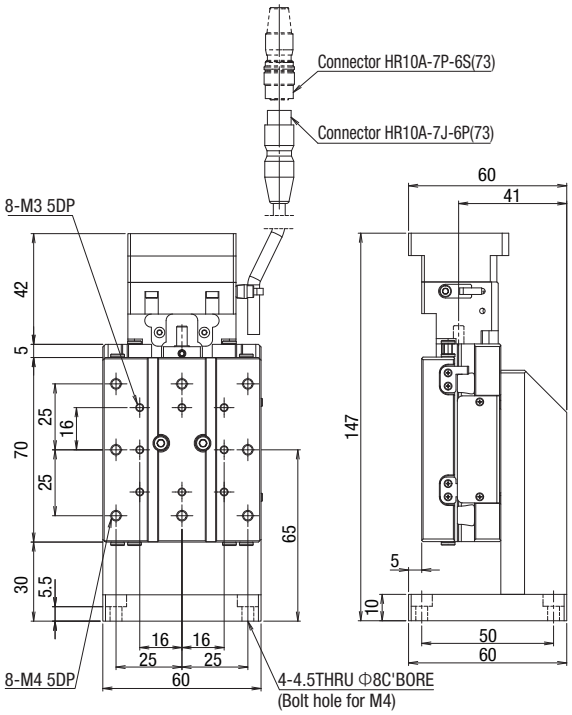
New

Dimensions

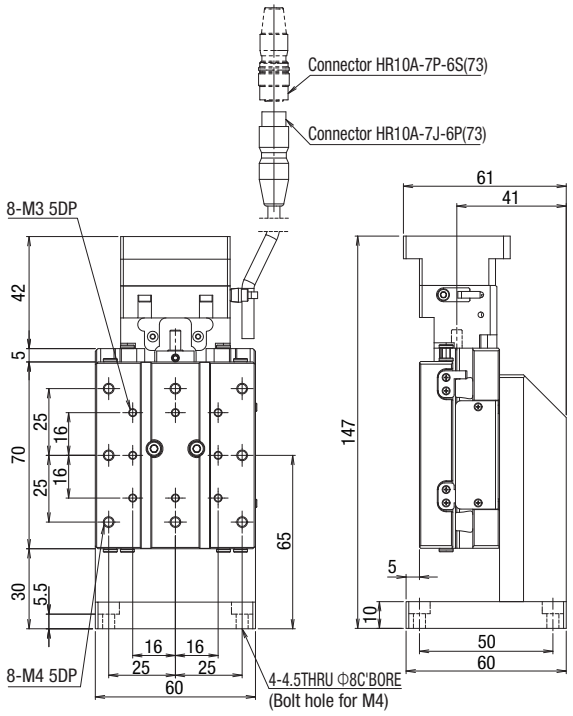
KZG06030TV-P28



KZG06030TV-S38



KZG06030TV-S40

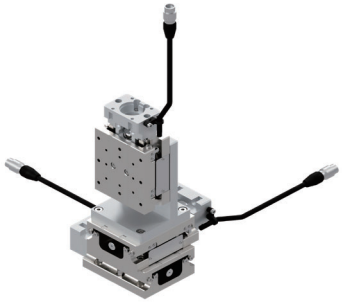


New

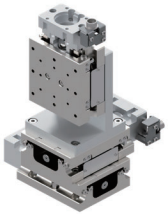
XYZ-axis Linear Ball Guide：KWG06030V

RoHS

KWG06030TV-P28



KWG06030MV-P28



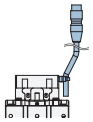
Accessory		P28	S38	S40
Motor bracket (installed on main body)		○		
Coupling (with screws)		○		
Mounting screw	For Motor	12of M2.5-6	12of M3-12	6of M4-12
	For Main Body	4of M4-10		
Sensor cable		○(HR10AP-S-SB-6-□)		
Cable tie		○	-	-

* Sensor cable: Select from 2m, 3m, 5m

KWG06030 T V- P28 - □

1 2 3

1 Connector specifications

T	Pig tail	
M	Panel mount	

2 Application Motor

Code	Specification
P28	□28 Stepping motor specification
S38	□38 Servo motor specification
S40	□40 Servo motor specifications

3 Cable option

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

SPEC				
Model			**KWG06030TV-P28**	**KWG06030MV-P28**
Mechanical specification	Travel distance		30mm	
	Stage surface size		60×70mm	
	Connector type		**Pigtail**	**Panel Mount**
	Feed screw (Ball screw)		ϕ8 Lead 1	
	Guide		Linear Ball Guide	
	Main materials-Finishing		Special Steel—Electroless nickel plating	
	Weight		2.46kg	
Accuracy specification	Resolution/ Pulse	Full/Half	2μm/1μm	
		Micro step	0.1μm(1/20 On resolution)	
	MAX speed		20mm/sec	
	Load capacity		3kgf【29.4N】	
	Squareness		15μm/Full stroke	
	Perpendicularity		15μm/Full stroke	
Sensor	Limit sensor		Available	
	Origin sensor		Available	
	Slit origin sensor		—	

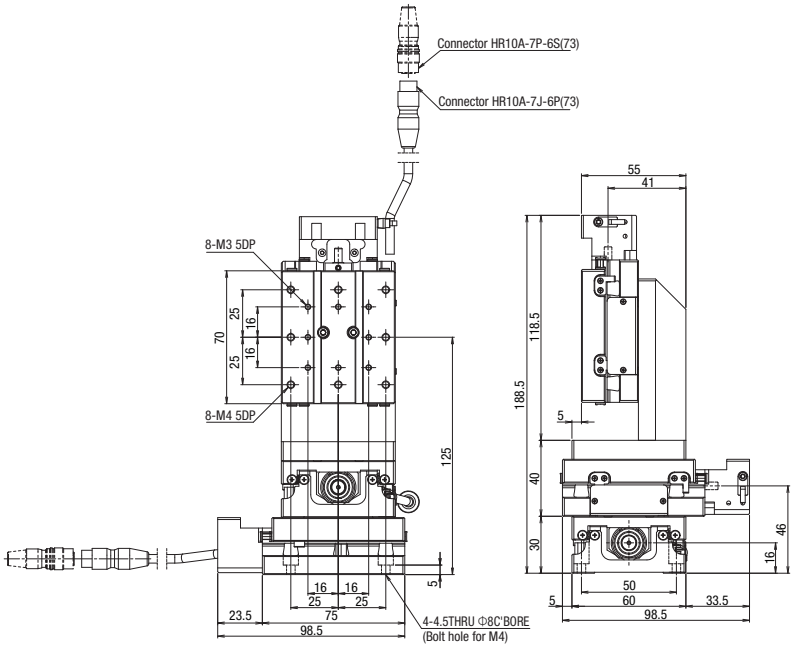
Single axis accuracy specification	Uni-directional positioning accuracy	5μm
	Repeatability positioning accuracy	±0.5μm
	Lost motion	1μm
	Backlash	1μm
	Straightness	3μm
	Pitching/Yawing	20″/15″

* SPEC is the value of the standard motor.
* When the applicable motor code [S38/S40] is selected, the weight is 2.58kg.

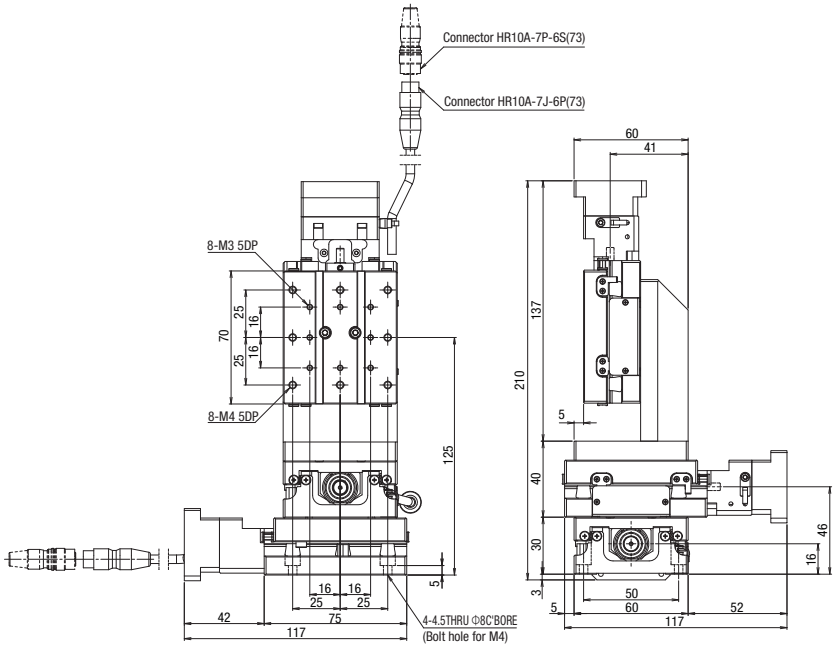
New

Dimensions

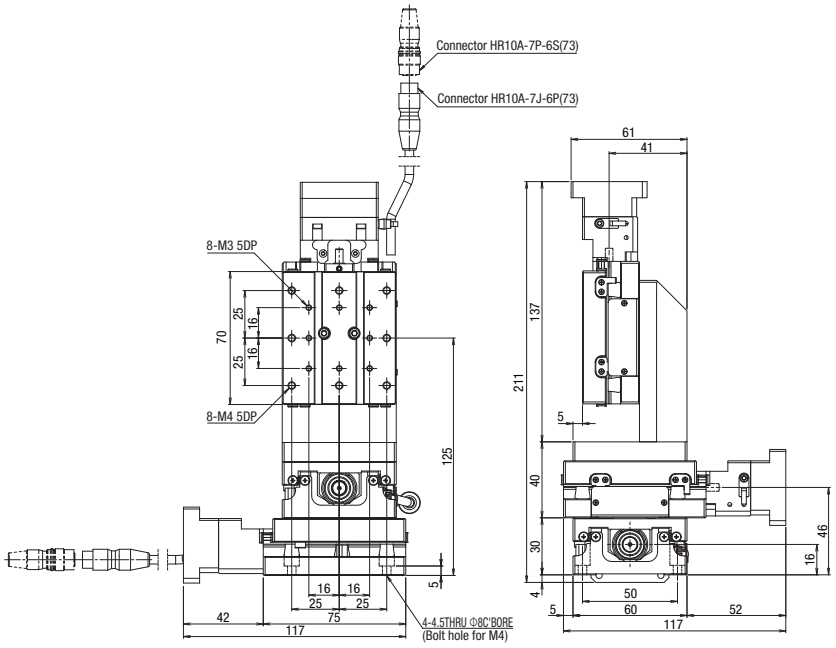
KWG06030TV-P28



KWG06030TV-S38



KWG06030TV-S40



New

Electrical Specification：KXG06V

Electrical specification

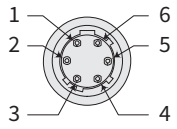
Applicable motor code		P28	S38	S40
Feature		For □28 Stepping motor	For □38 AC Servo motor	For □40 AC Servo motor
Model		KXG06020/KXG06030		
Connector	Pig tail	Sensor: HR10A-7J-6P(73) (Hirose Electric Co., Ltd.)		
	Panel mount	Sensor: HR10A-7R-6P(73) (Hirose Electric Co., Ltd.)		
	Receiving connector	Sensor: HR10A-7P-6S(73) (Hirose Electric Co., Ltd.)		
Sensor board	Limit sensor	Available		
	Origin sensor	Available		
	Slit origin sensor	–		
	Sensor	Photo microsensor EE-SX4320 (Omron Co., Ltd.)		
	Power-supply voltage	DC5～24V±5%		
	Current consumption	Total 60mA or less		
	Control output	NPN open collector output DC30V 10mA or less		
	Output logic	On detection (light shield condition): Output transistor OFF (Non-continuity)		

Pin allocation・Connection diagram

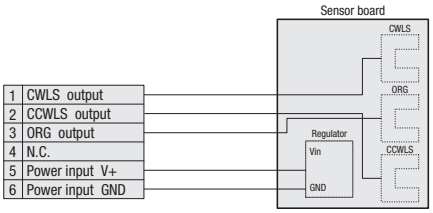
Motor code: P28・S38・S40 (Sensor)

KXG Series

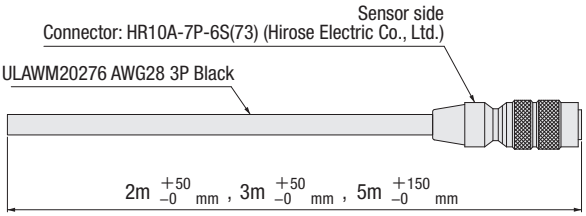
【Pin allocation】
Pigtail specification : Connector model：HR10A-7J-6P(73) (Hirose Electric Co., Ltd.)
Panel mount specification : Connector model：HR10A-7R-6P(73) (Hirose Electric Co., Ltd.)



【Connection diagram】



【Cable model】
Model:HR10AP-S-SB-6-□ (□is the length.)
* Fixed

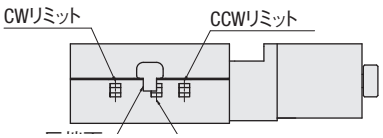


Pin	Signals
1	CWLS
2	CCWLS
3	ORG
4	NORG
5	V＋
6	V–

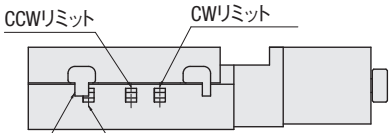
※The shields are connected with the connector shell.

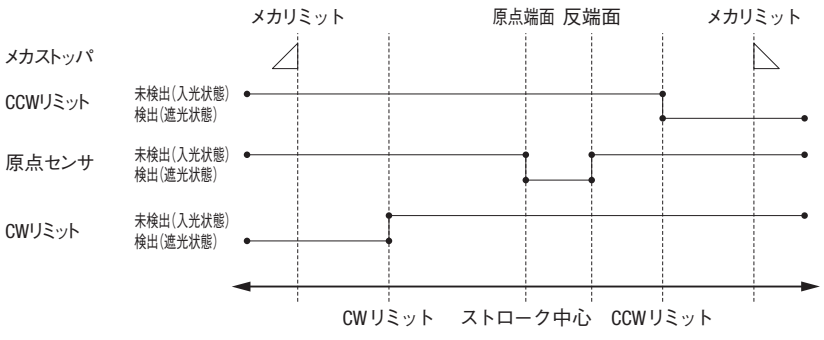
Timing chart

KXG06020



KXG06030





Unit [mm] Direction of CW ◀——▶ Direction of CCW

	Reference coordinate	Mechanical limit	CW Limit	The origin end face (Stroke center)	Opposite end face	CCW Limit	Mechanical limit
KXG06020T(M)	Return to origin	11.5	10.5	0	5	10.5	11.5
KXG06030T(M)	Return to origin	16.5	15.5	0	5	15.5	16.5

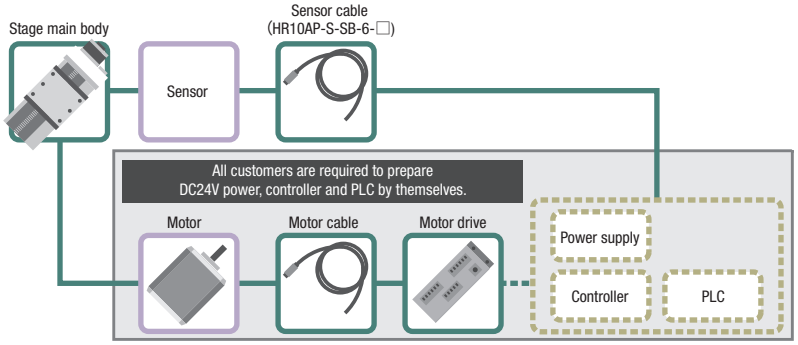
* Return to origin means that is performed return to origin type 4 using DS102/DS112 series.(DS102/DS112 are dedicated to 5-phase motors)
* The coordinate is a basis of design value. Dimension error may occur about plus or minus 0.5 mm.

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.

New

Applicable motor code

P28	□28mm For Stepping motor
S38	□38mm For AC servo motor
S40	□40mm For AC servo motor



【Precautions for handling motorless products】

【important】

Unlike normal products, this is a motorless product with no drive source.
Please be sure to read and agree to the "Scope of Warranty" and "Precautions and Restrictions for Use" before purchasing.

◆ Warranty range

The following items are not covered by the warranty.

- Faults and troubles related to motor mounting adjustment
- Accuracy after motor assembly by customer

* Accuracy inspection is performed on the inspection motor to confirm that it is within the standard value.

◆ Precautions and restrictions on use

1. Specs: load capacity and maximum speed

Since it depends on the configuration of the main body of the motorized stage, please use it within the specifications of this product regardless of the performance of the motor. The distance between the limit sensor and the mechanical limit is short, and an overrun may cause collision with the mechanical limit. Please note that collisions with mechanical limits may adversely affect product accuracy and durability.

2. Torque limit

Using a high-torque motor may give a load that exceeds the product's allowable limit. If the motor torque exceeds 0.25 N • m, please apply the torque limit.

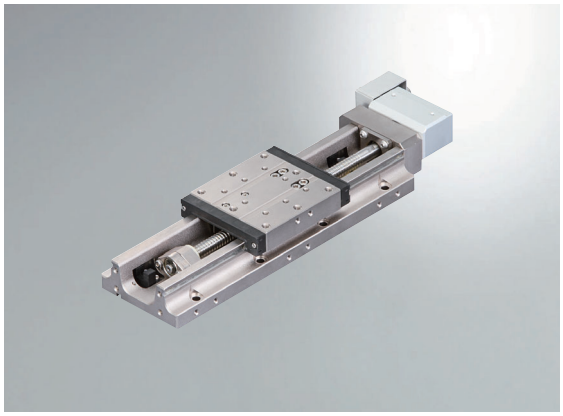
3. Mounting the motor

Align the body, motor, and coupling before mounting.
Operation in a misalignment situation may lead to early product damage and deterioration. Please refer to the attached assembly procedure manual and adjust the assembly.

4. Fixing the connector

There are products that require the customer to fix the connector. Before fixing, the connector part and the main body are connected only by the lead wire, which may cause disconnection, so please handle with care.

X-axis Linear Ball Guide：KXL06V-N



accessories			P28	S38	S40
■Motor bracket (installed on main body)			○		
■Motor Plate			○	-	-
■Coupling (with screws)			○		
■Screws	For Motor		4 of M2.5-6	4 of M3-12	2 of M4-12
	For Motor Plate		2 of M4-8	-	-
	For Main Body	30～100mm	8 of M4-14		
		150mm	14 of M4-14		
		200mm	12 of M4-14		
		300mm	16 of M4-14		
■Sensor cable (2m One end loose)			○(HR10AP-S-SB-6-2)		

Model / Selection code / Option code

KXL06 030V-N1 - P28

1 2 1

1 Travel length

030	30mm
050	50mm
075	75mm
100	100mm
150	150mm
200	200mm
300	300mm

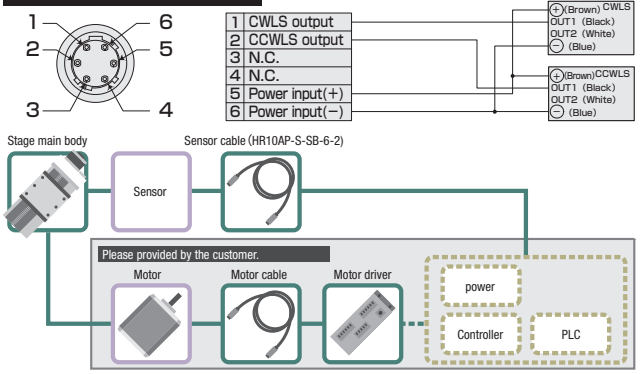
2 Ball screw lead selection

1	Lead 1mm
2	Lead 2mm

1 Application Motor

Code	Specification
P28	□28 Steppingmotor
S38	□38 Servo motor
S40	□40 Servo motor

Pin allocation (Sensor)



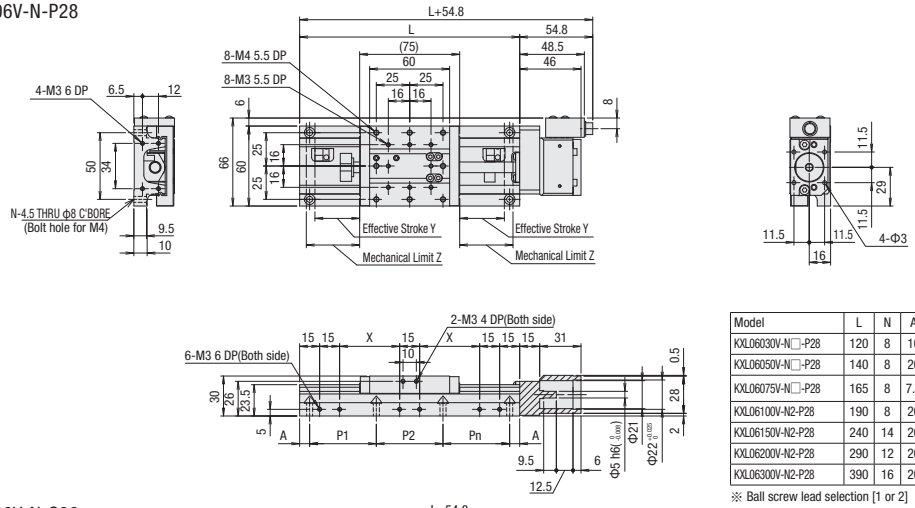
S P E C											
Model		KXL06030V-N1-P28	KXL06030V-N2-P28	KXL06050V-N1-P28	KXL06050V-N2-P28	KXL06075V-N1-P28	KXL06075V-N2-P28	KXL06100V-N2-P28	KXL06150V-N2-P28	KXL06200V-N2-P28	KXL06300V-N2-P28
Mechanical specification	Travel length	30mm		50mm		75mm		100mm	150mm	200mm	300mm
	Table size	60×60mm									
	Feed screw (Ball screw)	φ8 lead 1	φ8lead2	φ8 lead 1	φ8lead2	φ8 lead 1	φ8 lead 2	φ8 lead 2	φ8 lead 2	φ8 lead 2	φ8 lead 2
	Guide	Linear ball guide									
	Main materials-Finishing	Stainless-Electroless nickel plating									
Accuracy specification	Resolution (Pulse) Full/Half	2μm/1μm	4μm/2μm	2μm/1μm	4μm/2μm	2μm/1μm	4μm/2μm	4μm/2μm	4μm/2μm	4μm/2μm	4μm/2μm
	Resolution (Pulse) Microstep	0.1μm (1/20on resolution)	0.2μm (1/20on resolution)	0.1μm (1/20on resolution)	0.2μm (1/20on resolution)	0.1μm (1/20on resolution)	0.2μm (1/20on resolution)	0.2μm (1/20on resolution)	0.2μm (1/20on resolution)	0.2μm (1/20on resolution)	0.2μm (1/20on resolution)
	MAX speed	30mm/sec	35mm/sec	30mm/sec	35mm/sec	30mm/sec	35mm/sec	45mm/sec			
	Uni-directional positioning accuracy	5μm				7μm		10μm	15μm	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	3μm						5μm		7μm	
	Parallelism	15μm									
	Motion parallelism	10μm						10μm	15μm	20μm	25μm
	Pitching/Yawing	20″/15″						25″/20″		30″/ 20″	35″/20″

SENSOR	
Limit sensor	Installed
Origin sensor	–
Slit origin sensor	–
Model	Photo microsensor PM-L25 (Panasonic Industrial Devices SUNX)
Power voltage	DC5～24V ±10%
Consumption current	45mA or less (15mA or less per 1 sensor)
Control output	NPN open collector output DC30V or less 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)

※SPEC is reference for the standard model

URL:http://eng.surugaseiki.com/ E-mail:e-ost@suruga-g.co.jp
TEL.+81-3-6711-5014 FAX.+81-3-6711-5021

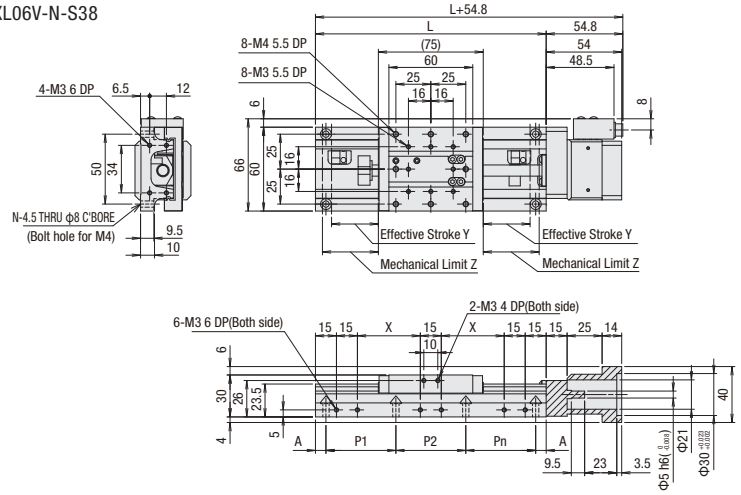
KXL06V-N-P28



Model	L	N	A	P1	P2	P3	P4	P5	P6	P7	X	Y	Z
KXL06030V-N□-P28	120	8	10	25	50	25	—	—	—	—	22.5	11	17.5
KXL06050V-N□-P28	140	8	20	25	50	25	—	—	—	—	32.5	21	27.5
KXL06075V-N□-P28	165	8	7.5	50	50	50	—	—	—	—	45	33.5	40
KXL06100V-N2-P28	190	8	20	50	50	50	—	—	—	—	57.5	46	52.5
KXL06150V-N2-P28	240	14	20	50	25	25	25	25	50	—	82.5	71	77.5
KXL06200V-N2-P28	290	12	20	50	50	50	50	50	—	—	107.5	96	102.5
KXL06300V-N2-P28	390	16	20	50	50	50	50	50	50	50	157.5	146	152.5

※ Ball screw lead selection [1 or 2]

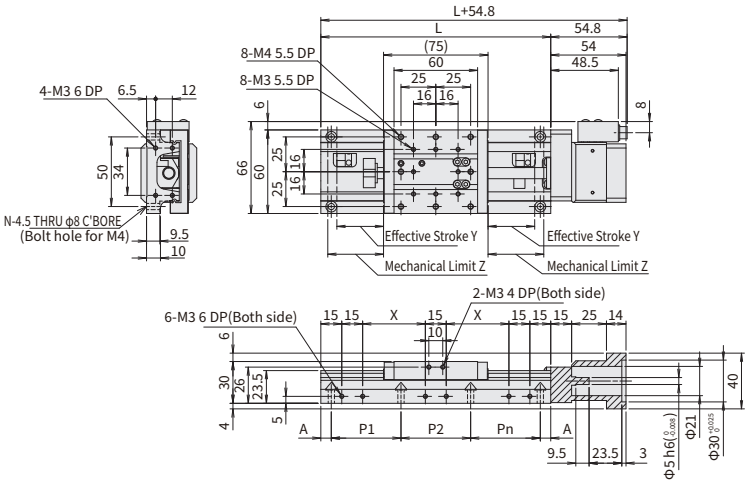
KXL06V-N-S38



Model	L	N	A	P1	P2	P3	P4	P5	P6	P7	X	Y	z
KXL06030V-N□-S38	120	8	10	25	50	25	—	—	—	—	22.5	11	17.5
KXL06050V-N□-S38	140	8	20	25	50	25	—	—	—	—	32.5	21	27.5
KXL06075V-N□-S38	165	8	7.5	50	50	50	—	—	—	—	45	33.5	40
KXL06100V-N2-S38	190	8	20	50	50	50	—	—	—	—	57.5	46	52.5
KXL06150V-N2-S38	240	14	20	50	25	25	25	25	50	—	82.5	71	77.5
KXL06200V-N2-S38	290	12	20	50	50	50	50	50	—	—	107.5	96	102.5
KXL06300V-N2-S38	390	16	20	50	50	50	50	50	50	50	157.5	146	152.5

※ Ball screw lead selection [1 or 2]

KXL06V-N-S40



Model	L	N	A	P1	P2	P3	P4	P5	P6	P7	X	Y	Z
KXL06030V-N□-S40	120	8	10	25	50	25	—	—	—	—	22.5	11	17.5
KXL06050V-N□-S40	140	8	20	25	50	25	—	—	—	—	32.5	21	27.5
KXL06075V-N□-S40	165	8	7.5	50	50	50	—	—	—	—	45	33.5	40
KXL06100V-N2-S40	190	8	20	50	50	50	—	—	—	—	57.5	46	52.5
KXL06150V-N2-S40	240	14	20	50	25	25	25	25	50	—	82.5	71	77.5
KXL06200V-N2-S40	290	12	20	50	50	50	50	50	—	—	107.5	96	102.5
KXL06300V-N2-S40	390	16	20	50	50	50	50	50	50	50	157.5	146	152.5

※ Ball screw lead selection [1 or 2]

【In order to avoid damaging the motor-less product, please take the following precautions when handling them.】

◆Guarantee range

In difference to a conventional product, the guarantee range of the motor-less product will be limited due to no driving source, and notice the following attentions.
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- The accuracy assumes a motor test result for our inspection a guarantee level, and the accuracy after the motor mounting by the customer should be the guarantee outside.

◆Precautions and restricts on using

1.As load capacity and maximum speed depend on configuration of stage main body, please refrain from the use exceed the spec.
As distance is short between limit sensor and mechanical limit, collision with mechanical limit will incur due to over-run.
Please make sure the frequent repetition collision, it may adversely affect stage accuracy and rigidity.

2.The use with the high torque motor may give load more than the stage permission.
Please use for under 0.25N・m product or under the torque limit.

3. Very careful centering is required especially when a main body, motor and coupling is applied.
The operation that not enough centering may cause the damage or deterioration of the product early.
Please see the attached operating and assembly sheet for mounting adjustment.

4. Some products may need fixing part of the connector on your side.
Disconnection may occur before fixation due to a connector and the main body is connected only with lead. Please handle with care.

◆At the time of purchase

When placing an order, please be sure the above-mentioned, and on the premise of agreeing with guarantee coverage and attention / limitation items.

X-axis Linear Ball Guide：KXL06V-C

accessories			P28	S38	S40
■Motor bracket (installed on main body)			○		
■Motor Plate			○	-	-
■Coupling (with screws)			○		
■Screws	For Motor		4 of M2.5-6	4 of M3-12	2 of M4-12
	For Motor Plate		2 of M4-8	-	-
	For Main Body	30～100mm	8 of M4-14		
		150mm	14 of M4-14		
		200mm	12 of M4-14		
		300mm	16 of M4-14		
■Sensor cable (2m One end loose)			○(HR10AP-S-SB-6-2)		

Model / Selection code / Option code

KXL06 030V-C1 - P28

1 2 1

1 Travel length

030	30mm
050	50mm
075	75mm
100	100mm
150	150mm
200	200mm
300	300mm

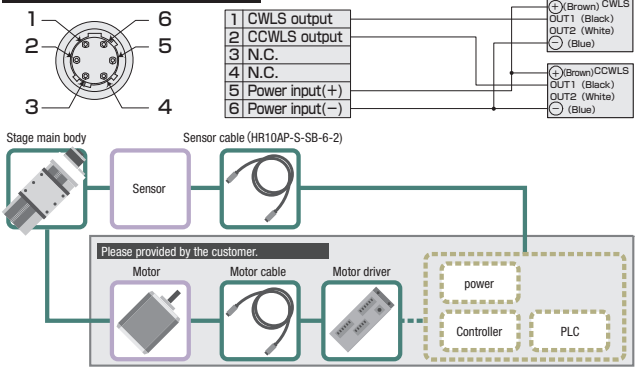
2 Ball screw lead selection

1	Lead 1mm
2	Lead 2mm

1 Application Motor

Code	Specifi cation
P28	□28 Steppingmotor
S38	□38 Servo motor
S40	□40 Servo motor

Pin allocation (Sensor)



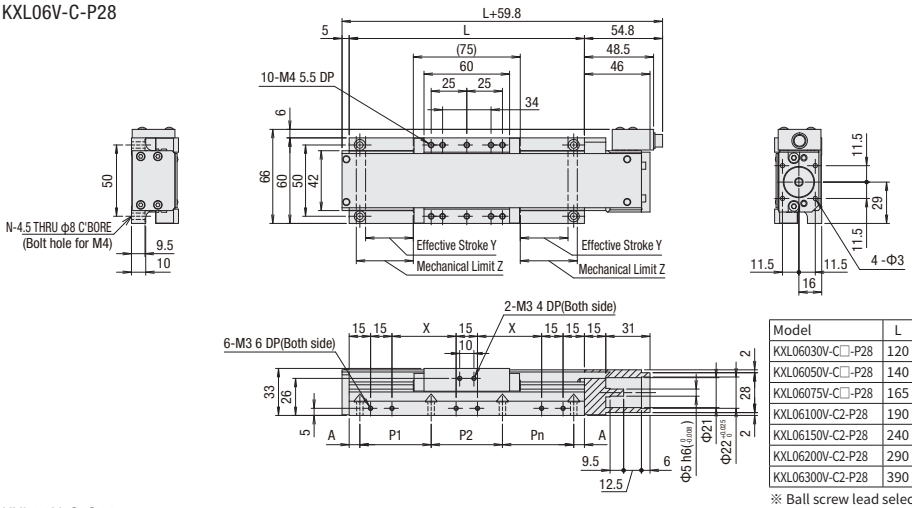
S P E C											
Model		KXL06030V-C1-P28	KXL06030V-C2-P28	KXL06050V-C1-P28	KXL06050V-C2-P28	KXL06075V-C1-P28	KXL06075V-C2-P28	KXL06100V-C2-P28	KXL06150V-C2-P28	KXL06200V-C2-P28	KXL06300V-C2-P28
Mechanical specification	Travel length	30mm		50mm		75mm		100mm	150mm	200mm	300mm
	Table size	60×60mm									
	Feed screw (Ball screw)	φ8 lead 1	φ8 lead 2	φ8 lead 1	φ8 lead 2	φ8 lead 1	φ8 lead 2	φ8 lead 2	φ8 lead 2	φ8 lead 2	φ8 lead 2
	Guide	Linear ball guide									
	Main materials-Finishing	Stainless-Electroless nickel plating									
Accuracy specification	Resolution (Pulse) Full/Half	2μm/1μm	4μm/2μm	2μm/1μm	4μm/2μm	2μm/1μm	4μm/2μm	4μm/2μm	4μm/2μm	4μm/2μm	4μm/2μm
	Resolution (Pulse) Microstep	0.1μm (1/20on resolution)	0.2μm (1/20on resolution)	0.1μm (1/20on resolution)	0.2μm (1/20on resolution)	0.1μm (1/20on resolution)	0.2μm (1/20on resolution)	0.2μm (1/20on resolution)	0.2μm (1/20on resolution)	0.2μm (1/20on resolution)	0.2μm (1/20on resolution)
	MAX speed	30mm/sec	35mm/sec	30mm/sec	35mm/sec	30mm/sec	35mm/sec	45mm/sec			
	Uni-directional positioning accuracy	5μm				7μm		10μm	15μm	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	3μm						5μm		7μm	
	Parallelism	15μm									
	Motion parallelism	10μm						10μm	15μm	20μm	25μm
	Pitching/Yawing	20″/15″						25″/20″		30″/20″	35″/20″

SENSOR	
Limit sensor	Installed
Origin sensor	–
Slit origin sensor	–
Model	Photo microsensor PM-L25 (Panasonic Industrial Devices SUNX)
Power voltage	DC5～24V ±10%
Consumptioncurrent	45mA or less (15mA or less per 1 sensor)
Control output	NPN open collector output DC30V or less 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)

※SPEC is reference for the standard model

URL:http://eng.surugaseiki.com/ E-mail:e-ost@suruga-g.co.jp
TEL.+81-3-6711-5014 FAX.+81-3-6711-5021

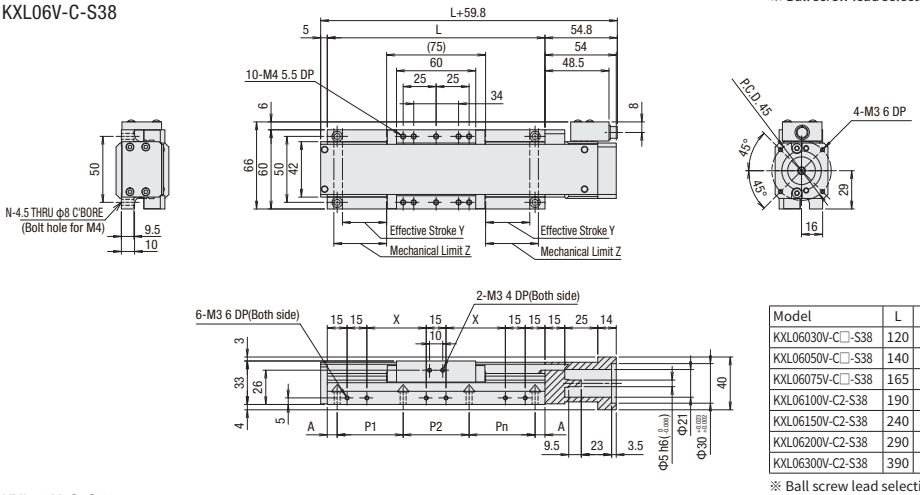
KXL06V-C-P28



Model	L	N	A	P1	P2	P3	P4	P5	P6	P7	X	Y	Z
KXL06030V-C□-P28	120	8	10	25	50	25	—	—	—	—	22.5	11	17.5
KXL06050V-C□-P28	140	8	20	25	50	25	—	—	—	—	32.5	21	27.5
KXL06075V-C□-P28	165	8	7.5	50	50	50	—	—	—	—	45	33.5	40
KXL06100V-C2-P28	190	8	20	50	50	50	—	—	—	—	57.5	46	52.5
KXL06150V-C2-P28	240	14	20	50	25	25	25	25	50	—	82.5	71	77.5
KXL06200V-C2-P28	290	12	20	50	50	50	50	50	—	—	107.5	96	102.5
KXL06300V-C2-P28	390	16	20	50	50	50	50	50	50	50	157.5	146	152.5

※ Ball screw lead selection [1 or 2]

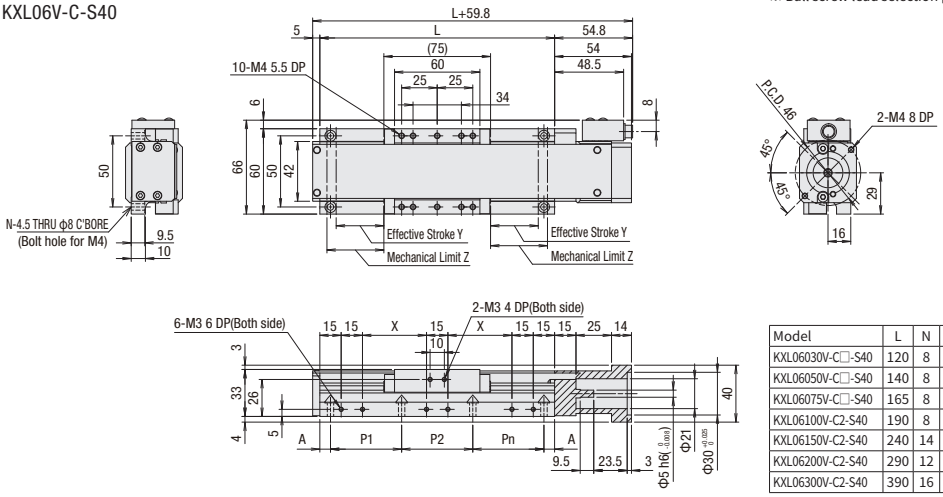
KXL06V-C-S38



Model	L	N	A	P1	P2	P3	P4	P5	P6	P7	X	Y	Z
KXL06030V-C□-S38	120	8	10	25	50	25	—	—	—	—	22.5	11	17.5
KXL06050V-C□-S38	140	8	20	25	50	25	—	—	—	—	32.5	21	27.5
KXL06075V-C□-S38	165	8	7.5	50	50	50	—	—	—	—	45	33.5	40
KXL06100V-C2-S38	190	8	20	50	50	50	—	—	—	—	57.5	46	52.5
KXL06150V-C2-S38	240	14	20	50	25	25	25	25	50	—	82.5	71	77.5
KXL06200V-C2-S38	290	12	20	50	50	50	50	50	—	—	107.5	96	102.5
KXL06300V-C2-S38	390	16	20	50	50	50	50	50	50	50	157.5	146	152.5

※ Ball screw lead selection [1 or 2]

KXL06V-C-S40



Model	L	N	A	P1	P2	P3	P4	P5	P6	P7	X	Y	Z
KXL06030V-C□-S40	120	8	10	25	50	25	—	—	—	—	22.5	11	17.5
KXL06050V-C□-S40	140	8	20	25	50	25	—	—	—	—	32.5	21	27.5
KXL06075V-C□-S40	165	8	7.5	50	50	50	—	—	—	—	45	33.5	40
KXL06100V-C2-S40	190	8	20	50	50	50	—	—	—	—	57.5	46	52.5
KXL06150V-C2-S40	240	14	20	50	25	25	25	25	50	—	82.5	71	77.5
KXL06200V-C2-S40	290	12	20	50	50	50	50	50	—	—	107.5	96	102.5
KXL06300V-C2-S40	390	16	20	50	50	50	50	50	50	50	157.5	146	152.5

※ Ball screw lead selection [1 or 2]

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1.As load capacity and maximum speed depend on configuration of stage main body, please refrain from the use exceed the spec.
As distance is short between limit sensor and mechanical limit, collision with mechanical limit will incur due to over-run.
Please make sure the frequent repetition collision, it may adversely affect stage accuracy and rigidity.

2.The use with the high torque motor may give load more than the stage permission.
Please use for under 0.25N・m product or under the torque limit.

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Please see the attached operating and assembly sheet for mounting adjustment.

4. Some products may need fixing part of the connector on your side.
Disconnection may occur before fixation due to a connector and the main body is connected only with lead. Please handle with care.

◆At the time of purchase

When placing an order, please be sure the above-mentioned, and on the premise of agreeing with guarantee coverage and attention / limitation items.

X-axis Cross Roller Guide ：KXC04015V

accessories			P28	S38	S40
■Motor bracket (installed on main body)			○		
■Coupling (with screws)			○		
■Screws	For Motor	KXC04015V	2 of M2.5-6	4 of M3-12	2 of M4-12
		KXC06020V	2 of M2.5-5		
	For Main Body	KXC04015V	4 of M3-16		
		KXC06020V	4 of M4-16		
■Sensor cable (2m One end loose)			○(HR10AP-S-SB-6-2)		
■Hex wrench (for motor mounting)			○	-	-

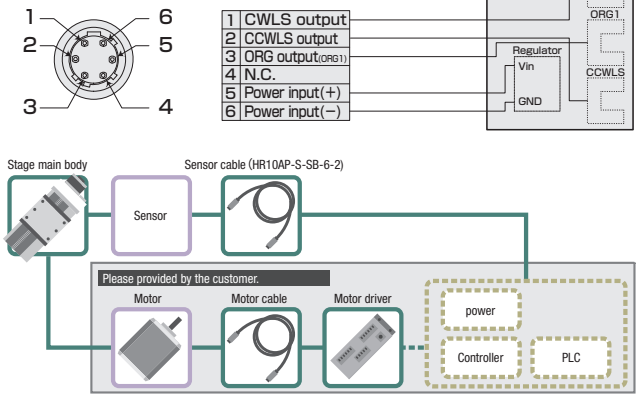
Model: **KXC04015V-P28**

Option code: P28 (1)

1 Application Motor

Code	Specifi cation
P28	□28 Steppingmotor
S38	□38 Servo motor
S40	□40 Servo motor

Pin allocation (Sensor)

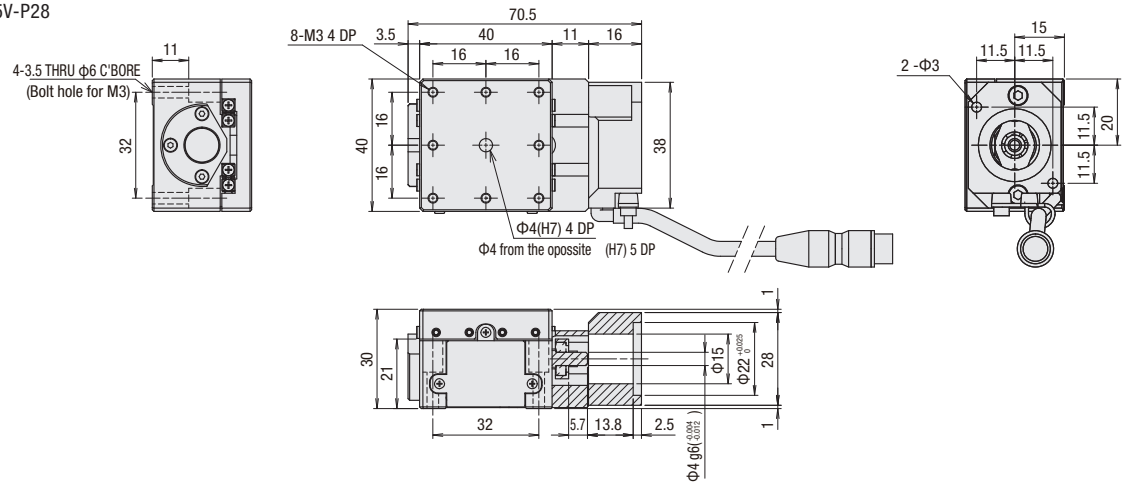


S P E C				
Model			KXC04015V-P28 / KXC04015V-S38 / KXC04015V-S40	
Mechanical specification	Travel length		15mm	
	Table size		40×40mm	
	Feed screw (Ball screw)		φ6 lead 1	
	Guide		Crossed roller guide	
	Main materials-Finishing		Aluminum—Black almite finishing	
Accuracy specification	Resolution (Pulse)	Full/Half	2μm/1μm	
		Microstep	0.1μm (1/20 on resolution)	
	MAX speed		10mm/sec	
	Uni-directional positioning accuracy		10μm	
	Repeatability positioning accuracy		±0.2μm	
	Load capacity		5.0kgf【49N】	
	Moment stiffness		Pitch 0.33/yaw 0.44/roll 0.37 [″/N・cm]	
	Lost motion		1μm	
	Backlash		0.5μm	
	Straightness		3μm	
	Parallelism		30μm	
	Motion parallelism		10μm	
	Pitching/Yawing		25″/20″	

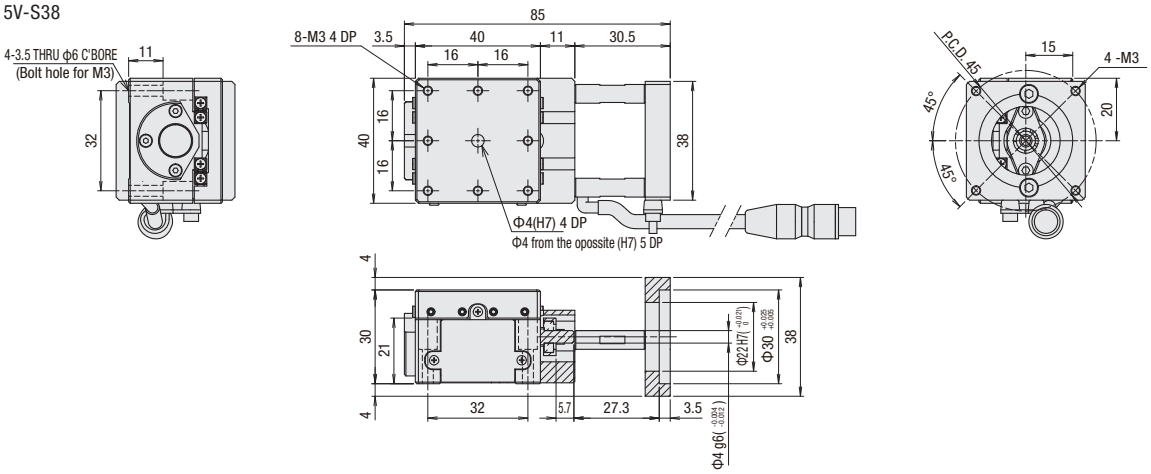
SENSOR	
Limit sensor	Installed
Origin sensor	Installed
Slit origin sensor	–
Model	Photo microsensor EE-SX4320 (Omron Co., Ltd.)
Power voltage	DC5～24V ±10%
Consumption current	Total 60mA or less
Control output	NPN open collector output DC5~24V 8mA or less Residual voltage 0.3V or less when the load current is 2mA
Output logic	On detection (light shield condition): Output transistor OFF (Non-continuity)

※SPEC is reference for the standard model

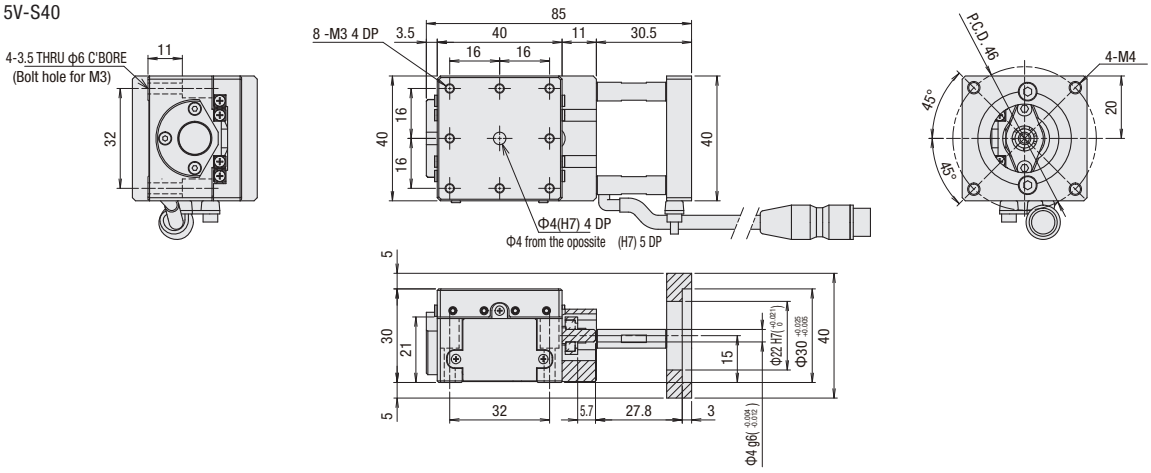
KXC04015V-P28



KXC04015V-S38



KXC04015V-S40



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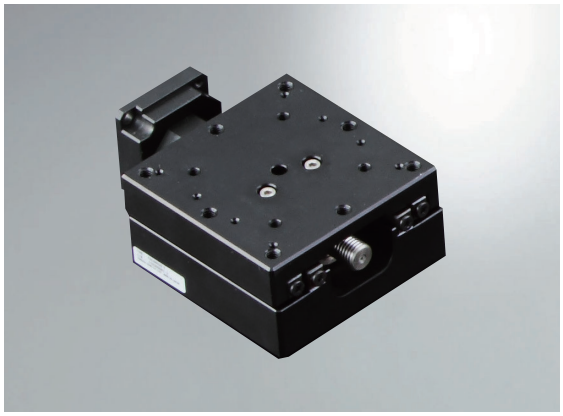
X-axis Cross Roller Guide：KXC06020V



accessories			P28	S38	S40
■Motor bracket (installed on main body)			○		
■Coupling (with screws)			○		
■Screws	For Motor	KXC04015V	2 of M2.5-6	4 of M3-12	2 of M4-12
		KXC06020V	2 of M2.5-5		
	For Main Body	KXC04015V	4 of M3-16		
		KXC06020V	4 of M4-16		
■Sensor cable(2m One end loose)			○(HR10AP-S-SB-6-2)		
■Hex wrench (for motor mounting)			○	-	-

Model / Option code

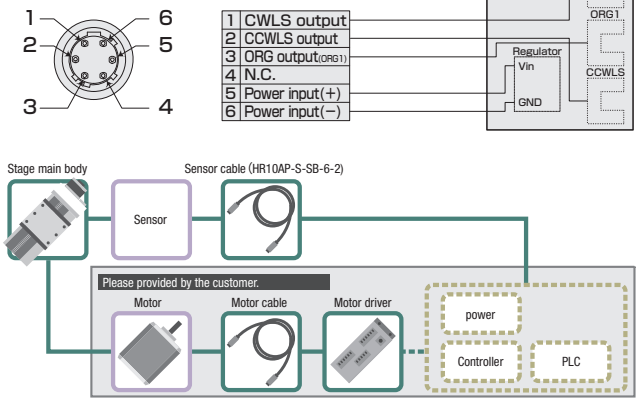
KXC06020V - P28

1

1 Application Motor

Code	Specification
P28	□28 Steppingmotor
S38	□38 Servo motor
S40	□40 Servo motor

Pin allocation (Sensor)

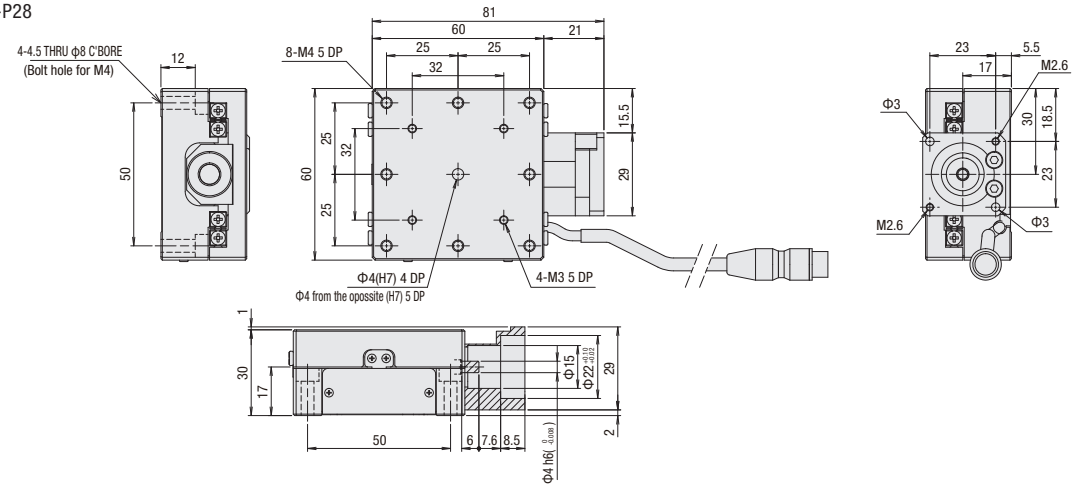


S P E C					
Model			KXC06020V-P28	KXC06020V-S38	KXC06020V-S40
Mechanical specification	Travel length		20mm		
	Table size		60×60mm		
	Feed screw (Ball screw)		φ8 lead 1		
	Guide		Crossed roller guide		
	Main materials-Finishing		Aluminum—Black almite finishing		
Accuracy specification	Resolution (Pulse)	Full/Half	2μm/1μm		
		Microstep	0.1μm (1/20 on resolution)		
	MAX speed		20mm/sec		
	Uni-directional positioning accuracy		5μm		
	Repeatability positioning accuracy		±0.2μm		
	Load capacity		5.0kgf【49N】		
	Moment stiffness		Pitch 0.15/yaw 0.12/roll 0.07 [″/N・cm]		
	Lost motion		1μm		
	Backlash		0.5μm		
	Straightness		3μm		
	Parallelism		30μm		
	Motion parallelism		10μm		
	Pitching/Yawing		20″/15″		

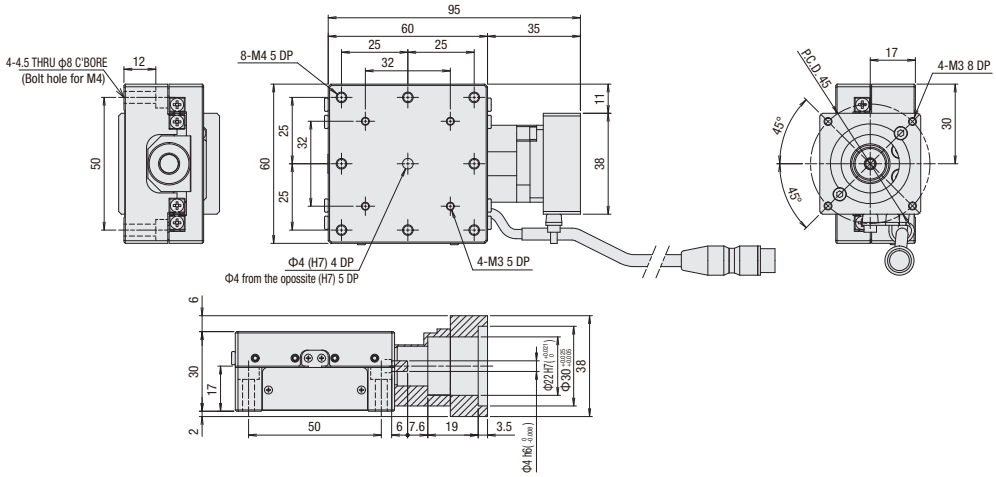
SENSOR	
Limit sensor	Installed
Origin sensor	Installed
Slit origin sensor	–
Model	Photo microsensor EE-SX4320 (Omron Co., Ltd.)
Power voltage	DC5～24V ±10%
Consumption current	Total 60mA or less
Control output	NPN open collector output DC5~24V 8mA or less Residual voltage 0.3V or less when the load current is 2mA
Output logic	On detection (light shield condition): Output transistor OFF (Non-continuity)

※SPEC is reference for the standard model

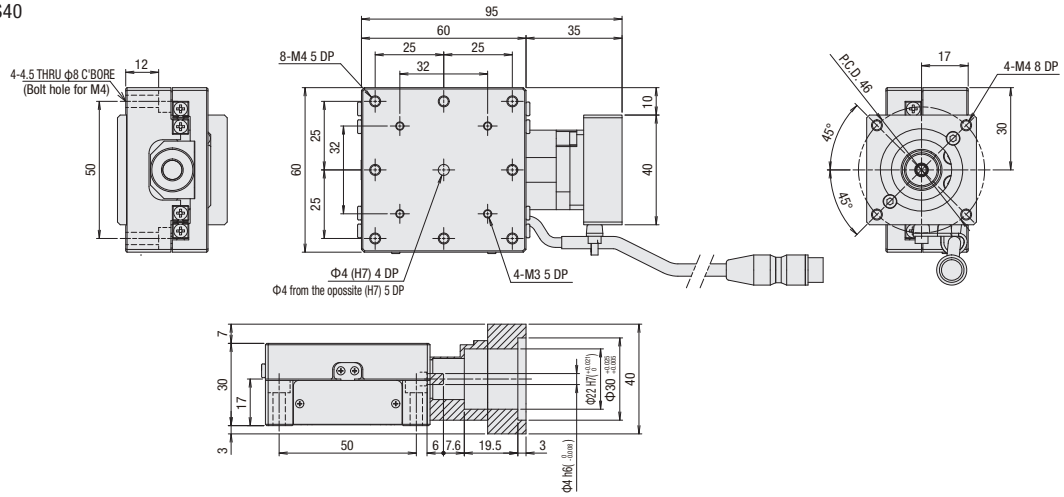
KXC06020V-P28



KXC06020V-S38



KXC06020V-S40



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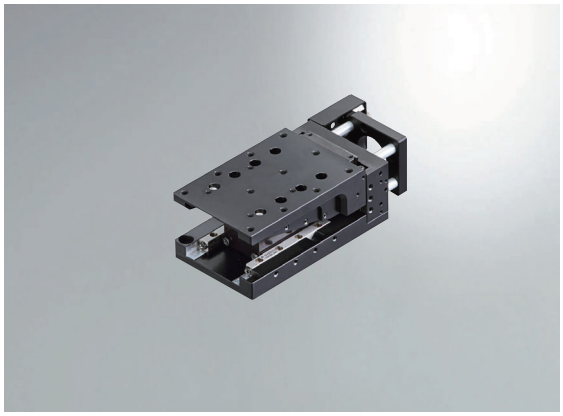
Horizontal Z-axis Cross Roller Guide：KHC06004V



accessories		P28	S38	S40
■Motor bracket (installed on main body)		○		
■Coupling (with screws)		○		
■Screws	For Motor	4 of M2.5-6	4 of M3-12	2 of M4-12
	For Main Body	4 of M4-12		
■Sensor cable (2m One end loose)		○(HR10AP-S-SB-6-2)		
■Hex wrench (for motor mounting)		○	-	-

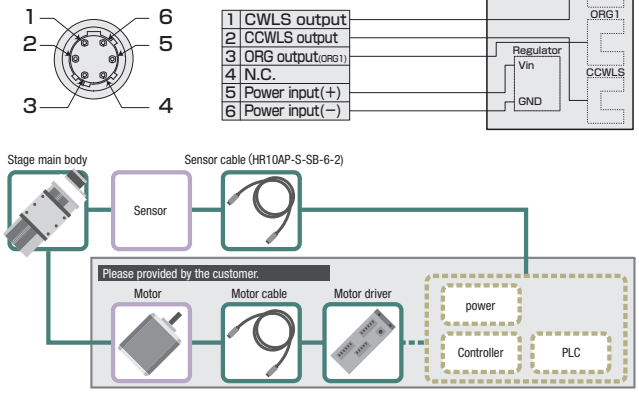
Model: KHC06004V-P28 (Option code: P28)

1

1 Application Motor

Code	Specifi cation
P28	□28 Steppingmotor
S38	□38 Servo motor
S40	□40 Servo motor

Pin allocation (Sensor)

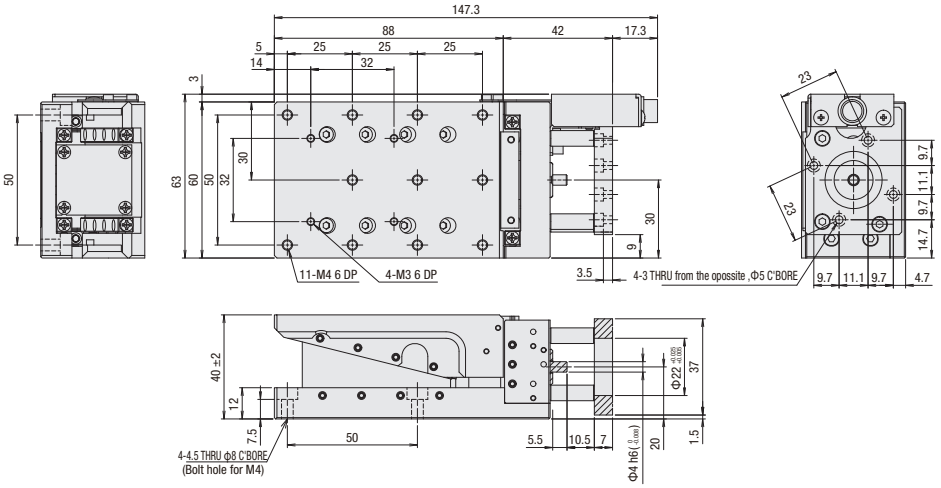


S P E C				
Model		KHC06004V-P28	KHC06004V-S38	KHC06004V-S40
Mechanical specification	Travel length	4mm		
	Table size	60×60mm		
	Feed screw	Ball screw φ8 lead 1		
	Guide	Wedge type Crossed roller guide		
	Main materials-Finishing	Aluminum—Black almite finishing		
Accuracy specification	Resolution (Pulse)	0.5μm (Full) /0.25μm (Half)		
	MAX speed	2.5mm/sec		
	Uni-directional positioning accuracy	7μm		
	Repeatability positioning accuracy	±0.5μm		
	Load capacity	7kgf【68.6N】		
	Moment stiffness	Pitch 0.2/yaw 0.04/roll 0.14 [″/N・cm]		
	Lost motion	1μm		
	Parallelism	50μm		

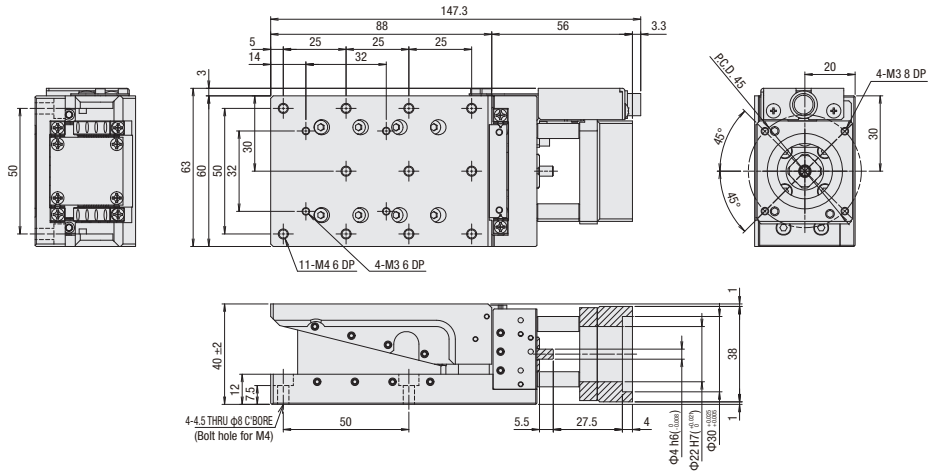
SENSOR	
Limit sensor	Installed
Origin sensor	Installed
Slit origin sensor	—
Model	Photo microsensor EE-SX4320 (Omron Co., Ltd.)
Power voltage	DC5～24V ±10%
Consumption current	Total 60mA or less
Control output	NPN open collector output DC5～24V 8mA or less Residual voltage 0.3V or less when the load current is 2mA
Output logic	On detection (light shield condition): Output transistor OFF (Non-continuity)

※SPEC is reference for the standard model

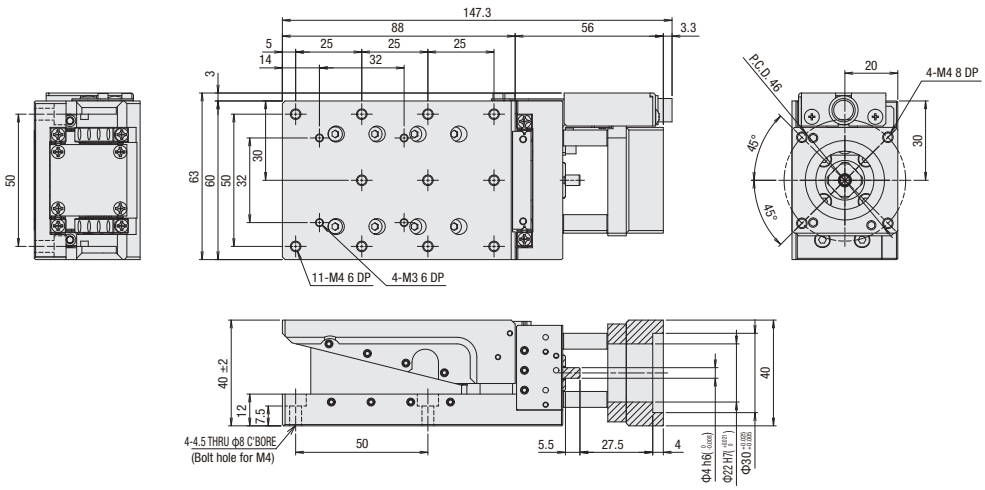
KHC06004V-P28



KHC06004V-S38



KHC06004V-S40



【In order to avoid damaging the motor-less product, please take the following precautions when handling them.】

◆Guarantee range

In difference to a conventional product, the guarantee range of the motor-less product will be limited due to no driving source, and notice the following attentions.

- Defect or trouble, according to motor mounting adjustment is not covered under the warranty.
- The accuracy assumes a motor test result for our inspection a guarantee level, and the accuracy after the motor mounting by the customer should be the guarantee outside.

◆Precautions and restricts on using

1.As load capacity and maximum speed depend on configuration of stage main body, please refrain from the use exceed the spec.
As distance is short between limit sensor and mechanical limit, collision with mechanical limit will incur due to over-run.
Please make sure the frequent repetition collision, it may adversely affect stage accuracy and rigidity.

2.The use with the high torque motor may give load more than the stage permission.
Please use for under 0.25N・m product or under the torque limit.

3. Very careful centering is required especially when a main body, motor and coupling is applied.
The operation that not enough centering may cause the damage or deterioration of the product early.
Please see the attached operating and assembly sheet for mounting adjustment.

4. Some products may need fixing part of the connector on your side.
Disconnection may occur before fixation due to a connector and the main body is connected only with lead. Please handle with care.

◆At the time of purchase

When placing an order, please be sure the above-mentioned, and on the premise of agreeing with guarantee coverage and attention / limitation items.

Ball Screw Type Sinemotion Goniometer Stages□60：KGB06V

accessories		P28	S38	S40
■Motor bracket (installed on main body)		○		
■Coupling (with screws)		○		
■Screws	For Motor	4 of M2.5-6	4 of M3-12	2 of M4-12
	For Main Body	4 of M4-10		
■Sensor cable (2m One end loose)		○(HR10AP-S-SB-6-2)		

Model / Selection code / Option code

KGB06 050V - L - P28

1 2 1

1 Height of center rotation (W.D)

050	50mm
075	75mm
100	100mm
125	125mm

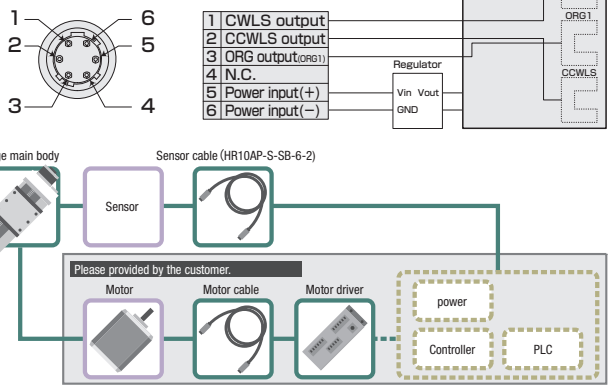
2 Sensor cover location

L	L position
R	Opposite hand

1 Application Motor

Code	Specifi cation
P28	□28 Steppingmotor
S38	□38 Servo motor
S40	□40 Servo motor

Pin allocation (Sensor)

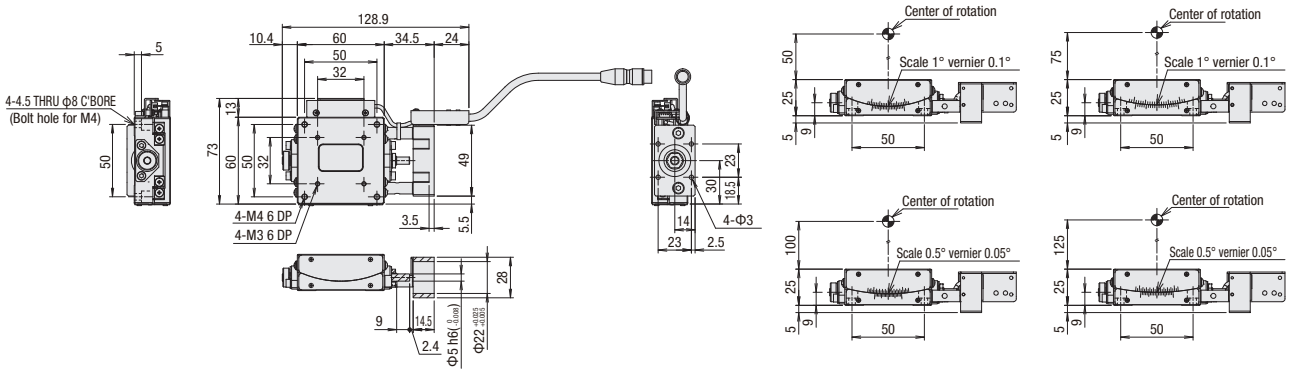


S P E C					
Model		KGB06050V-L-P28	KGB06075V-L-P28	KGB06100V-L-P28	KGB06125V-L-P28
Mechanical specification/Dimensional tolerance	Travel length	±8.5°	±5.5°	±5°	±4°
	Table size	60×60mm			
	Travel mechanism	Ball screw ϕ6 lead 1			
	Guide	Crossed roller guide			
	Main materials-Finishing	Aluminum—Black almite finishing			
	Height of stage	25±0.2mm			
	Height of center rotation	50±0.2mm	75±0.2mm	100±0.2mm	125±0.2mm
	Runout accuracy of center rotation	0.01mm			
Accuracy specification	Resolution (Pulse)	≒0.0021°	≒0.0014°	≒0.0011°	≒0.0009°
	MAX speed	31.5°/sec [15kHz]	21°/sec [15kHz]	16.5°/sec [15kHz]	13.5°/sec [15kHz]
	Repeatability positioning accuracy	±0.001°			
	Load capacity	5kgf【49N】			
	Moment stiffness	Pitch 0.30/yaw 0.10/roll 0.11 ["/N・cm]			
	Lost motion	0.003°			

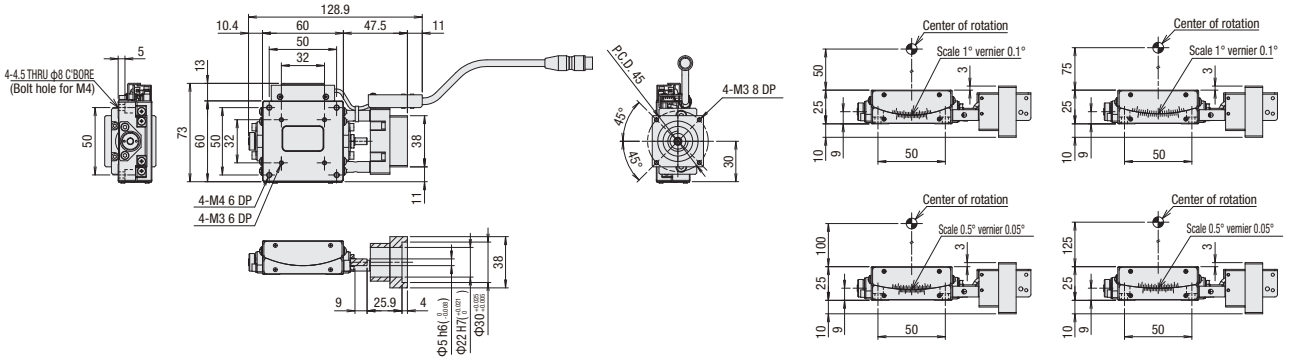
SENSOR	
Limit sensor	Installed
Origin sensor	Installed
Slit origin sensor	—
Model	Photo microsensor EE-SX4320 (Omron Co., Ltd.)
Power voltage	DC5～24V ±10%
Consumption current	Total 60mA or less
Control output	NPN open collector output DC5~24V 8mA or less Residual voltage 0.3V or less when the load current is 2mA
Output logic	On detection (light shield condition): Output transistor OFF (Non-continuity)

※SPEC is reference for the standard model

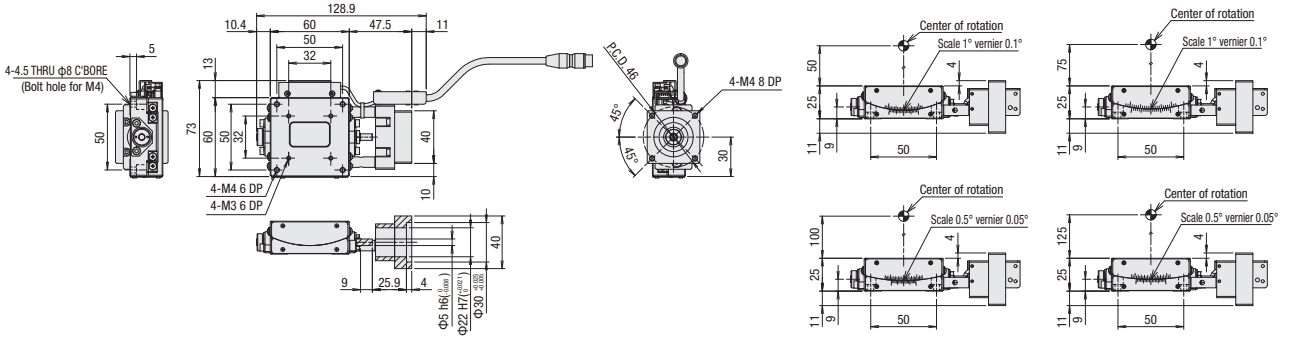
KGB06V-P28



KGB06V-S38



KGB06V-S40



【In order to avoid damaging the motor-less product, please take the following precautions when handling them.】

◆Guarantee range

In difference to a conventional product, the guarantee range of the motor-less product will be limited due to no driving source, and notice the following attentions.

- Defect or trouble, according to motor mounting adjustment is not covered under the warranty.
- The accuracy assumes a motor test result for our inspection a guarantee level, and the accuracy after the motor mounting by the customer should be the guarantee outside.

◆Precautions and restricts on using

1.As load capacity and maximum speed depend on configuration of stage main body, please refrain from the use exceed the spec.
As distance is short between limit sensor and mechanical limit, collision with mechanical limit will incur due to over-run.
Please make sure the frequent repetition collision, it may adversely affect stage accuracy and rigidity.

2.The use with the high torque motor may give load more than the stage permission.
Please use for under 0.25N・m product or under the torque limit.

3. Very careful centering is required especially when a main body, motor and coupling is applied.
The operation that not enough centering may cause the damage or deterioration of the product early.
Please see the attached operating and assembly sheet for mounting adjustment.

4. Some products may need fixing part of the connector on your side.
Disconnection may occur before fixation due to a connector and the main body is connected only with lead. Please handle with care.

◆At the time of purchase

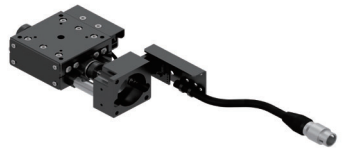
When placing an order, please be sure the above-mentioned, and on the premise of agreeing with guarantee coverage and attention / limitation items.

New

Goniometer Stage□40：KGW04V (1-axis)

RoHS

KGW04040TV-LP28



KGW04040TV-RP28

Accessory		P28	S38	S40
Motor bracket (installed on main body)		○		
Coupling (with screws)		○		
Mounting screw	For Motor	2of M2.5-6	4of M3-12	2of M4-12
	For Main Body	4of M3-6		
Sensor cable		○(HR10AP-S-SB-6-□)		

* Sensor cable: Select from 2m, 3m, 5m

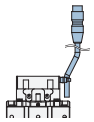
KGW04 040 TV- L P28 - □

1 2 3 4 5

1 Height of center rotation (W.D.)

040	40mm
060	60mm

2 Connector specifications

T	Pig tail	
M	Panel mount	

3 Sensor cover location specification

L	L position
R	Opposite hand

4 Application Motor

Code	Specification
P28	□28 Stepping motor specification
S38	□38 Servo motor specification
S40	□40 Servo motor specifications

5 Cable option

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

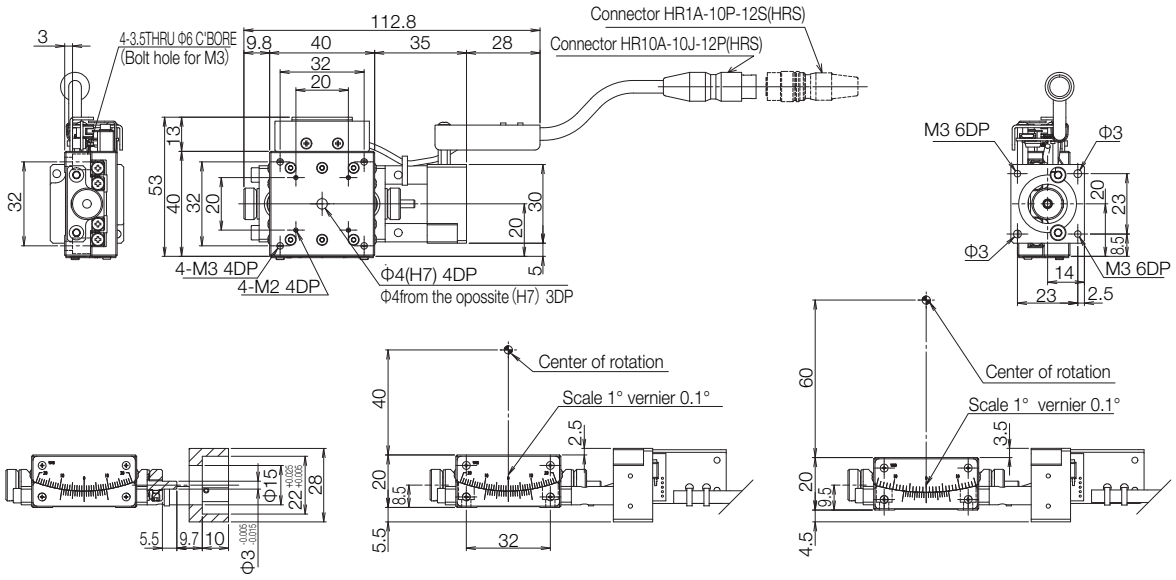
SPEC					
Model		**KGW04040TV-LP28**	**KGW04060TV-LP28**	**KGW04040MV-LP28**	**KGW04060MV-LP28**
(Opposite hand)		**KGW04040TV-RP28**	**KGW04060TV-RP28**	**KGW04040MV-RP28**	**KGW04060MV-RP28**
Mechanical specification	Travel distance	±8°	±6°	±8°	±6°
	Stage surface size	40×40mm			
	Connector type	**Pigtail**		**Panel Mount**	
	Travel mechanism (Reduction ratio)	Worm gear(1/240)			
	Guide	Cross Roller Guide			
	Main materials-Finishing	Aluminum - Black alumite finishing,Phosphor bronze - Black paint			
	Weight	0.28kg		0.27kg	
Dimensional tolerance	Hight of stage	20±0.2mm			
	Height of center rotation	40±0.2mm	60±0.2mm	40±0.2mm	60±0.2mm
	Runout accuracy of center rotation	0.01mm			
Accuracy specification	Resolution/Pulse	0.003°(Full)			
	MAX speed	15°/sec[5kHz]			
	Repeatability positioning accuracy	±0.005°			
	Load capacity	3kgf【29.4N】			
	Moment stiffness	Pitch 1.30/Yaw 1.16/Roll 0.27["/N・cm]			
	Lost motion	0.01°			
Sensor	Limit sensor	Available			
	Origin sensor	Available			
	Slit origin sensor	—			

* SPEC is the value of the standard motor.
* When the applicable motor code [S38/S40] is selected, the weight is 0.32kg for the pigtail specification and 0.31kg for the panel mount specification.

New

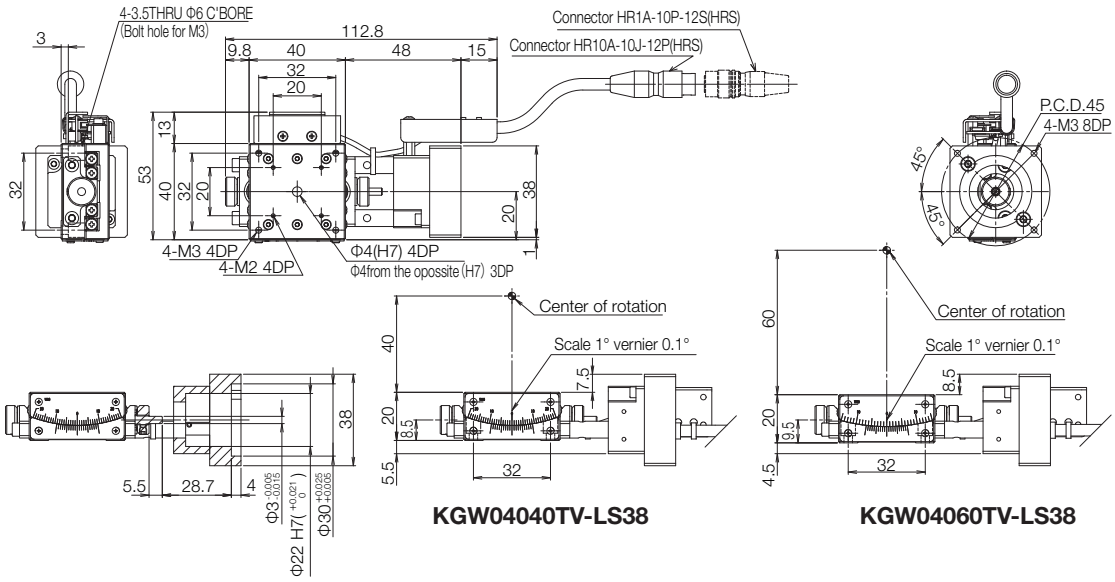
Dimensions

KGW04-TV-LP28 Series



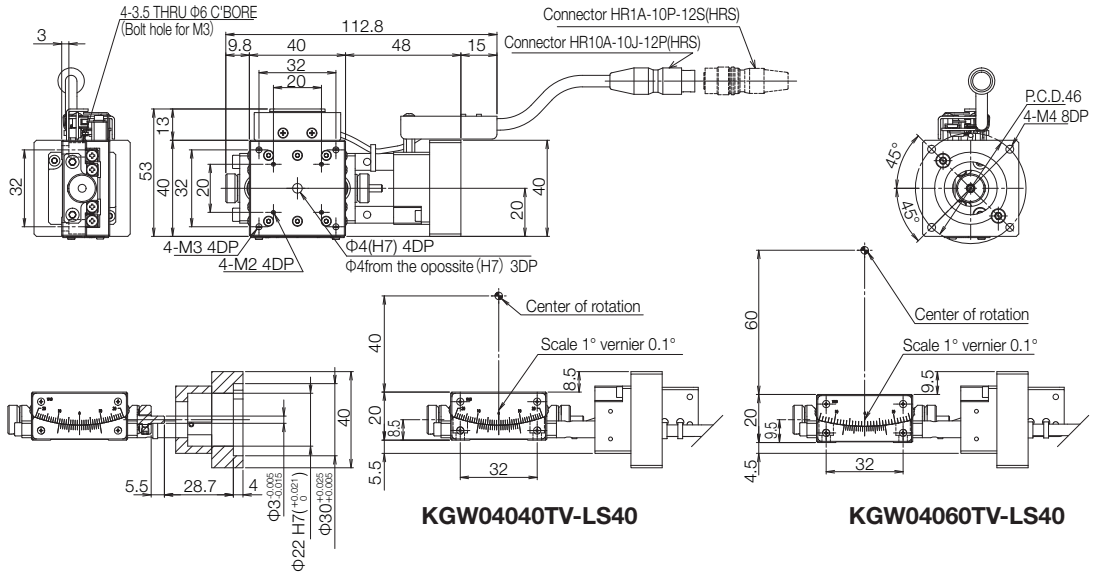
KGW04040TV-LP28 KGW04060TV-LP28

KGW04-TV-LS38 Series



KGW04040TV-LS38 KGW04060TV-LS38

KGW04-TV-LS40 Series



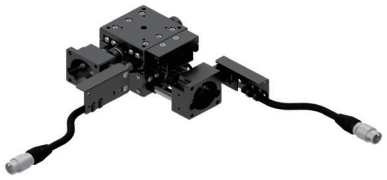
KGW04040TV-LS40 KGW04060TV-LS40

New

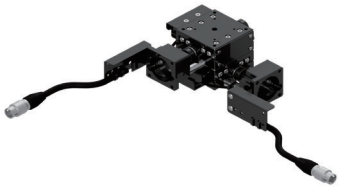
Goniometer Stage□40：KAW04V (2-axis)

RoHS

KAW04040TV-LP28



KAW04040TV-RP28



Accessory		P28	S38	S40
Motor bracket (installed on main body)		○		
Coupling (with screws)		○		
Mounting screw	For Motor	4of M2.5-6	8of M3-12	4of M4-12
	For Main Body	4of M3-6		
Sensor cable		○(HR10AP-S-SB-6-□)		

* Sensor cable: Select from 2m, 3m, 5m

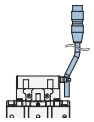
KAW04 040 TV- L P28 - □

1 2 3 4 5

1 Height of center rotation (W.D.)

040	40mm

2 Connector specifications

T	Pig tail	
M	Panel mount	

3 Sensor cover location specification

L	L position
R	Opposite hand

4 Application Motor

Code	Specification
P28	□28 Stepping motor specification
S38	□38 Servo motor specification
S40	□40 Servo motor specifications

5 Cable option

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

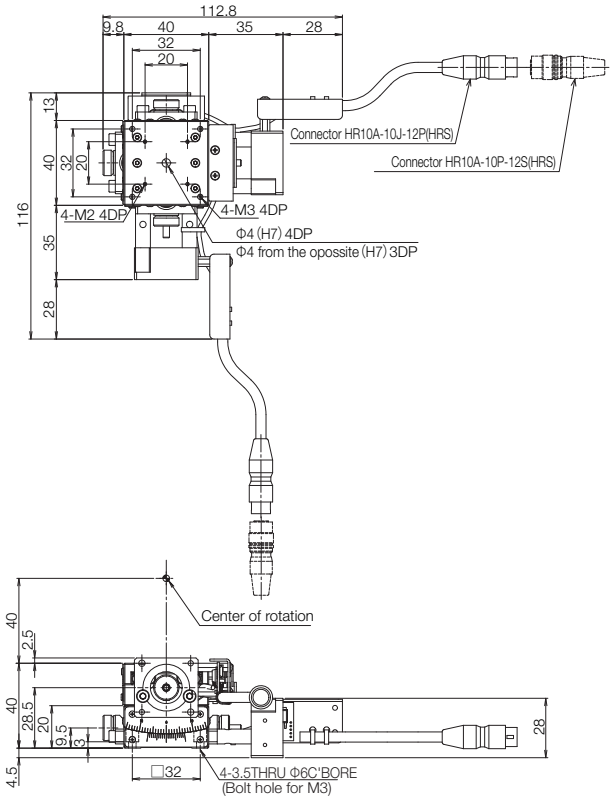
SPEC				
Model			**KAW04040TV-LP28**	**KAW04040MV-LP28**
(Opposite hand)			**KAW04040TV-RP28**	**KAW04040MV-RP28**
Mechanical specification	Travel distance Upper/Lower axis		±8°/±6°	
	Stage surface size		40×40mm	
	Connector type		**Pigtail**	**Panel Mount**
	Travel mechanism (Reduction ratio)		Worm gear(1/240)	
	Guide		Cross Roller Guide	
	Main materials-Finishing		Aluminum - Black alumite finishing,Phosphor bronze - Black paint	
	Weight		0.56kg	0.54kg
Dimensional tolerance	Hight of stage		40±0.4mm	
	Height of center rotation		40±0.4mm	
	Runout accuracy of center rotation		—	
Accuracy specification	Resolution/Pulse		0.003°(Full)	
	MAX speed	Upper	15°/sec[5kHz]	
		Lower	15°/sec[5kHz]	
	Repeatability positioning accuracy		±0.005°	
	Load capacity		2.5kgf【24.5N】	
	Moment stiffness		Pitch 1.57/Yaw 2.32/Roll 1.57[″/N・cm]	
	Lost motion		0.01°	
Sensor	Limit sensor		Available	
	Origin sensor		Available	
	Slit origin sensor		—	

* SPEC is the value of the standard motor.
* When the applicable motor code [S38/S40] is selected, the weight is 0.64kg for the pigtail specification and 0.62kg for the panel mount specification.

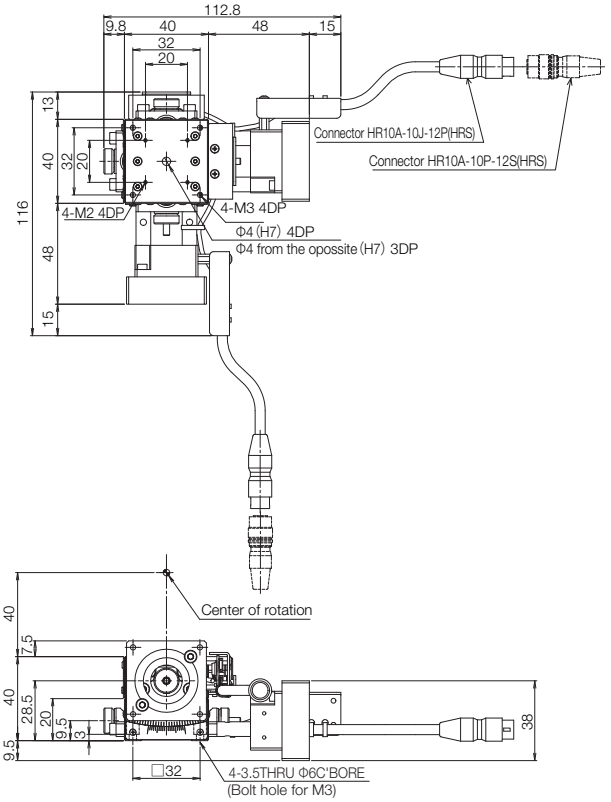
New

Dimensions

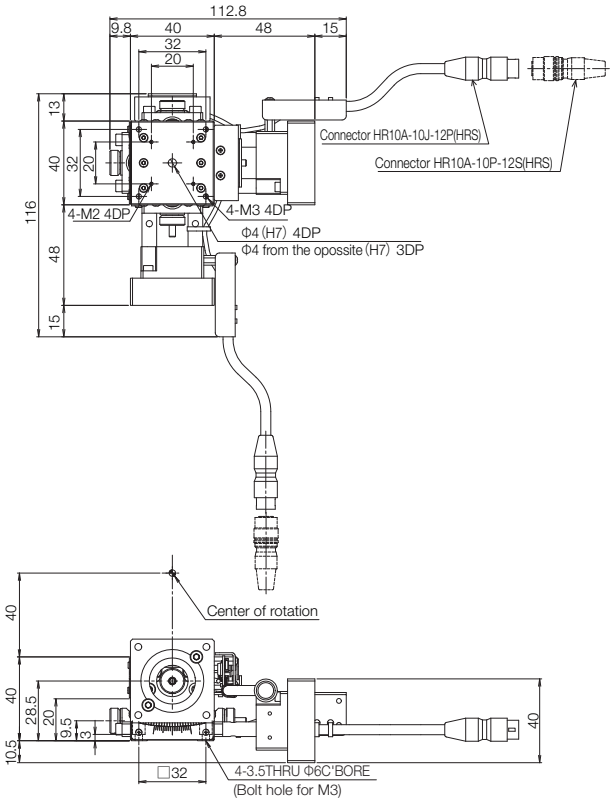
KAW04040TV-LP28



KAW04040TV-LS38



KAW04040TV-LS40

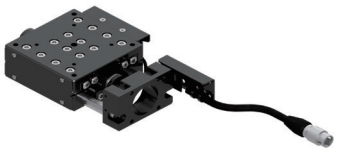


New

Goniometer Stage□60：KGW06V (1-axis)

RoHS

KGW06050TV-LP28



KGW06050TV-RP28

Accessory		P28	S38	S40
Motor bracket (installed on main body)		○		
Coupling (with screws)		○		
Mounting screw	For Motor	4of M2.5-6	4of M3-12	2of M4-12
	For Main Body	4of M4-10		
Sensor cable		○(HR10AP-S-SB-6-□)		

* Sensor cable: Select from 2m, 3m, 5m

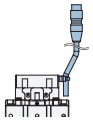
KGW06 050 T V- L P28 - □

1 2 3 4 5

1 Height of center rotation (W.D.)

050	50mm
075	75mm
100	100mm
125	125mm

2 Connector specifications

T	Pig tail	
M	Panel mount	

3 Sensor cover location specification

L	L position
R	Opposite hand

4 Application Motor

Code	Specification
P28	□28 Stepping motor specification
S38	□38 Servo motor specification
S40	□40 Servo motor specifications

5 Cable option

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

SPEC

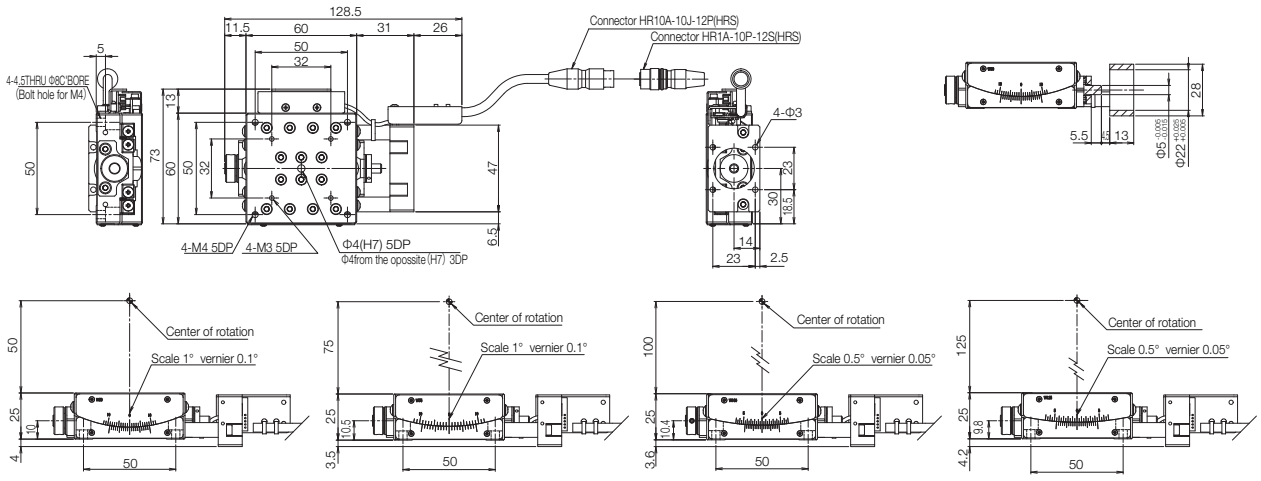
Model		KGW06050TV-LP28	KGW06075TV-LP28	KGW06100TV-LP28	KGW06125TV-LP28	KGW06050MV-LP28	KGW06075MV-LP28	KGW06100MV-LP28	KGW06125MV-LP28
(Opposite hand)		KGW06050TV-RP28	KGW06075TV-RP28	KGW06100TV-RP28	KGW06125TV-RP28	KGW06050MV-RP28	KGW06075MV-RP28	KGW06100MV-RP28	KGW06125MV-RP28
Mechanical specification	Travel distance	±10°	±8°	±6°	±5°	±10°	±8°	±6°	±5°
	Stage surface size	60×60mm				60×60mm			
	Connector type	**Pigtail**				**Panel Mount**			
	Travel mechanism (Reduction ratio)	Worm gear (1/160)	Worm gear (1/225)	Worm gear (1/292)	Worm gear (1/360)	Worm gear (1/160)	Worm gear (1/225)	Worm gear (1/292)	Worm gear (1/360)
	Guide	Cross Roller Guide				Cross Roller Guide			
	Main materials-Finishing	Aluminum - Black alumite finishing				Aluminum - Black alumite finishing			
	Weight	0.4kg				0.39kg			
Dimensional tolerance	Hight of stage	25±0.2mm				25±0.2mm			
	Height of center rotation	50±0.2mm	75±0.2mm	100±0.2mm	125±0.2mm	50±0.2mm	75±0.2mm	100±0.2mm	125±0.2mm
	Runout accuracy of center rotation	0.01mm				0.01mm			
Accuracy specification	Resolution/Pulse	0.0045°(Full)	0.0032°(Full)	0.002466°(Full)	0.002°(Full)	0.0045°(Full)	0.0032°(Full)	0.002466°(Full)	0.002°(Full)
	MAX speed	22.5°/sec[5kHz]	16°/sec[5kHz]	12.5°/sec[5kHz]	10°/sec[5kHz]	22.5°/sec[5kHz]	16°/sec[5kHz]	12.5°/sec[5kHz]	10°/sec[5kHz]
	Repeatability positioning accuracy	±0.003°				±0.003°			
	Load capacity	5kgf【49N】				5kgf【49N】			
	Moment stiffness	Pitch 0.30/Yaw 0.10/Roll 0.11["/N・cm]				Pitch 0.30/Yaw 0.10/Roll 0.11["/N・cm]			
	Lost motion	0.01°				0.01°			
Sensor	Limit sensor	Available				Available			
	Origin sensor	Available				Available			
	Slit origin sensor	—				—			

* SPEC is the value of the standard motor.
* When the applicable motor code [S38/S40] is selected, the weight is 0.44kg for the pigtail specification and 0.43kg for the panel mount specification.

New

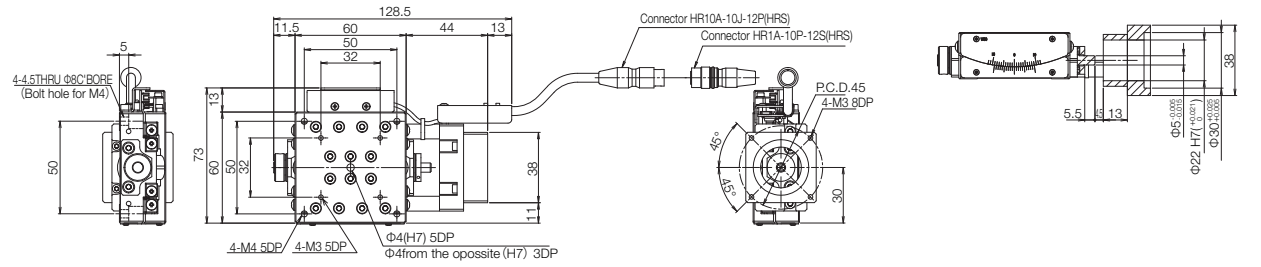
Dimensions

KGW06-TV-LP28 Series



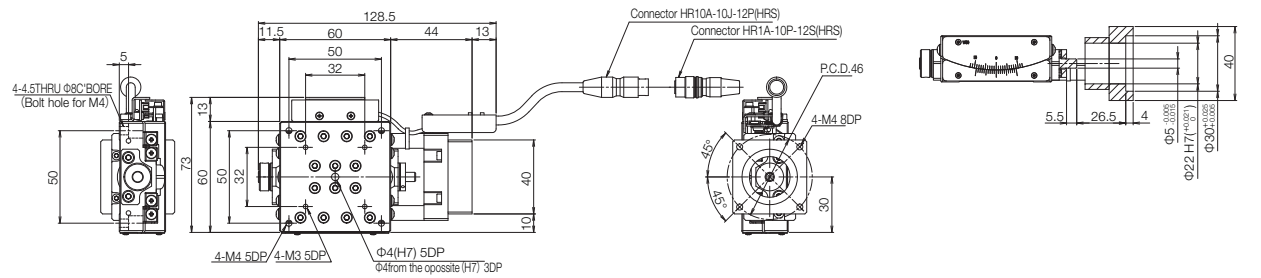
KGW06050TV-LP28 KGW06075TV-LP28 KGW06100TV-LP28 KGW06125TV-LP28

KGW06-TV-LS38 Series



KGW06050TV-LS38 KGW06075TV-LS38 KGW06100TV-LS38 KGW06125TV-LS38

KGW06-TV-LS40 Series



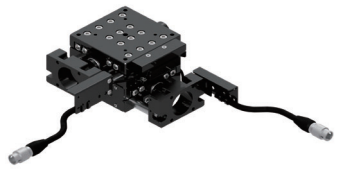
KGW06050TV-LS40 KGW06075TV-LS40 KGW06100TV-LS40 KGW06125TV-LS40

New

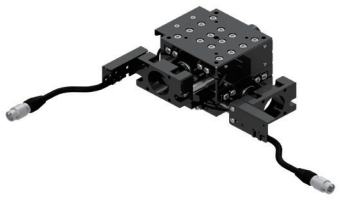
Goniometer Stage□60：KAW06V (2-axis)

RoHS

KAW06050TV-LP28



KAW06050TV-RP28



Accessory		P28	S38	S40
Motor bracket (installed on main body)		○		
Coupling (with screws)		○		
Mounting screw	For Motor	8of M2.5-6	8of M3-12	4of M4-12
	For Main Body	4of M4-10		
Sensor cable		○(HR10AP-S-SB-6-□)		

* Sensor cable: Select from 2m, 3m, 5m

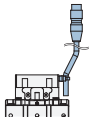
KAW06 050 TV- L P28 - □

1 2 3 4 5

1 Height of center rotation (W.D.)

050	50mm
075	75mm
100	100mm

2 Connector specifications

T	Pig tail	
M	Panel mount	

3 Sensor cover location specification

L	L position
R	Opposite hand

4 Application Motor

Code	Specification
P28	□28 Stepping motor specification
S38	□38 Servo motor specification
S40	□40 Servo motor specifications

5 Cable option

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

SPEC

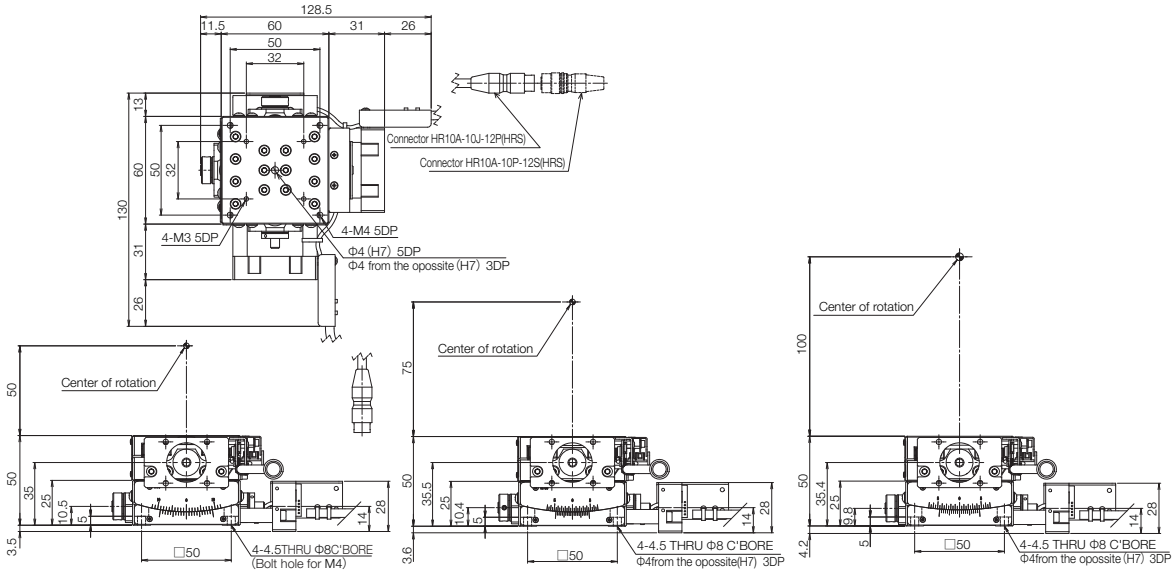
Model		KAW06050TV-LP28	KAW06075TV-LP28	KAW06100TV-LP28	KAW06050MV-LP28	KAW06075MV-LP28	KAW06100MV-LP28
(Opposite hand)		KAW06050TV-RP28	KAW06075TV-RP28	KAW06100TV-RP28	KAW06050MV-RP28	KAW06075MV-RP28	KAW06100MV-RP28
Mechanical specification	Travel distance Upper/Lower axis	±10°/±8°	±8°/±6°	±6°/±5°	±10°/±8°	±8°/±6°	±6°/±5°
	Stage surface size	60×60mm			60×60mm		
	Connector type	**Pigtail**			**Panel Mount**		
	Travel mechanism (Reduction ratio) Upper	Worm gear(1/160)	Worm gear(1/225)	Worm gear(1/292)	Worm gear(1/160)	Worm gear(1/225)	Worm gear(1/292)
	Travel mechanism (Reduction ratio) Lower	Worm gear(1/225)	Worm gear(1/292)	Worm gear(1/360)	Worm gear(1/225)	Worm gear(1/292)	Worm gear(1/360)
	Guide	Cross Roller Guide			Cross Roller Guide		
	Main materials-Finishing	Aluminum - Black alumite finishing			Aluminum - Black alumite finishing		
	Weight	0.80kg			0.78kg		
Dimensional tolerance	Hight of stage	50±0.4mm			50±0.4mm		
	Height of center rotation	50±0.4mm	75±0.4mm	100±0.4mm	50±0.4mm	75±0.4mm	100±0.4mm
	Runout accuracy of center rotation	—			—		
Accuracy specification	Resolution/Pulse Upper	0.0045°(Full)	0.0032°(Full)	0.002466°(Full)	0.0045°(Full)	0.0032°(Full)	0.002466°(Full)
	Resolution/Pulse Lower	0.0032°(Full)	0.002466°(Full)	0.002°(Full)	0.0032°(Full)	0.002466°(Full)	0.002°(Full)
	MAX speed Upper	22.5°/sec[5kHz]	16°/sec[5kHz]	12.5°/sec[5kHz]	22.5°/sec[5kHz]	16°/sec[5kHz]	12.5°/sec[5kHz]
	MAX speed Lower	16°/sec[5kHz]	12.5°/sec[5kHz]	10°/sec[5kHz]	16°/sec[5kHz]	12.5°/sec[5kHz]	10°/sec[5kHz]
	Repeatability positioning accuracy	±0.003°			±0.003°		
	Load capacity	4.5kgf【44.1N】			4.5kgf【44.1N】		
	Moment stiffness	Pitch 0.41/Yaw 0.20/Roll 0.41[″/N・cm]			Pitch 0.41/Yaw 0.20/Roll 0.41[″/N・cm]		
	Lost motion	0.01°			0.01°		
Sensor	Limit sensor	Available			Available		
	Origin sensor	Available			Available		
	Slit origin sensor	—			—		

* SPEC is the value of the standard motor.
* When the applicable motor code [S38/S40] is selected, the weight is 0.88kg for the pigtail specification and 0.86kg for the panel mount specification.

New

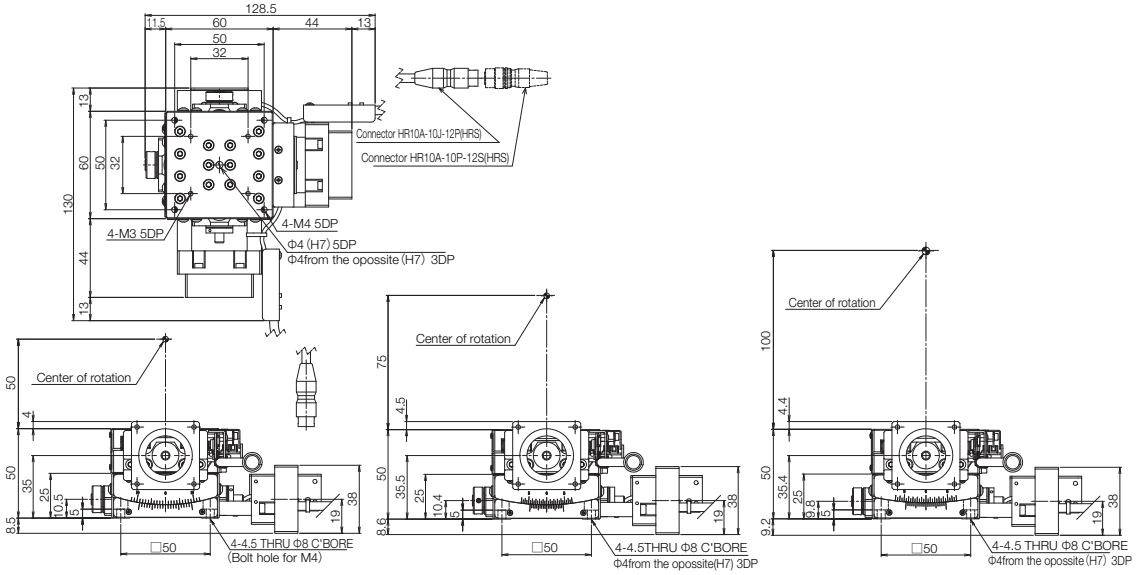
Dimensions

KAW06-TV-LP28 Series



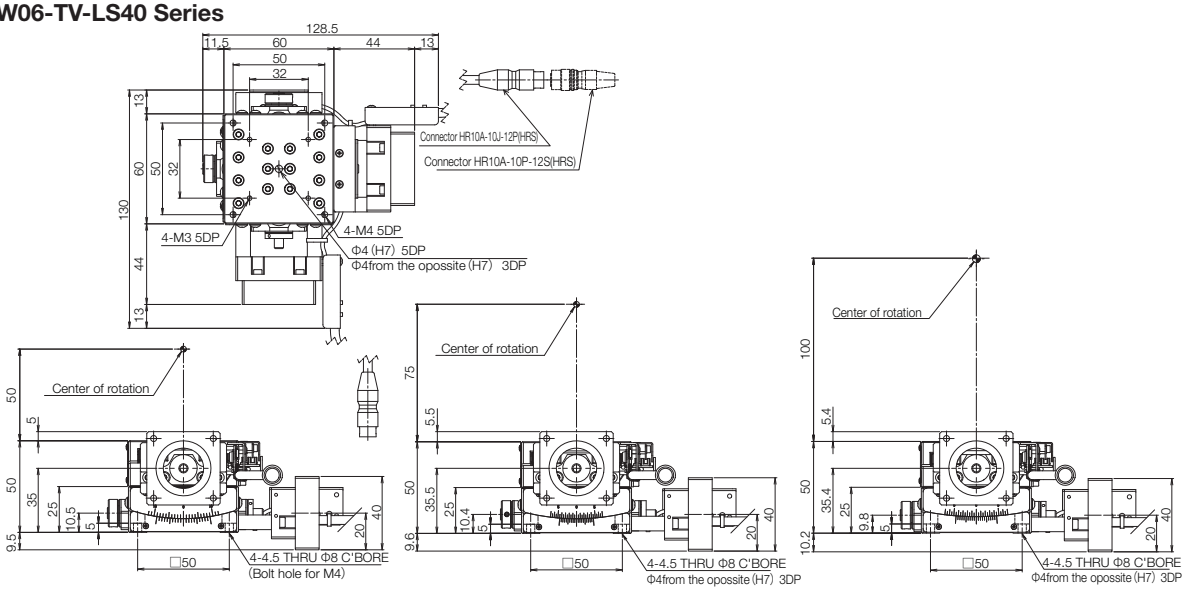
KAW06050TV-LP28 KAW06075TV-LP28 KAW06100TV-LP28

KAW06-TV-LS38 Series



KAW06050TV-LS38 KAW06075TV-LS38 KAW06100TV-LS38

KAW06-TV-LS40 Series



KAW06050TV-LS40 KAW06075TV-LS40 KAW06100TV-LS40

New

Electrical Specification：KGW04V/KGW06V

RoHS

Electrical specification

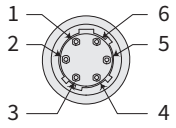
Applicable motor code		P28	S38	S40
Feature		For □28 Stepping motor	For □38 AC Servo motor	For □40 AC Servo motor
Model		KGW04/KGW06		
Connector	Pig tail	Sensor: HR10A-7J-6P(73) (Hirose Electric Co., Ltd.)		
	Panel mount	Sensor: HR10A-7R-6P(73) (Hirose Electric Co., Ltd.)		
	Receiving connector	Sensor: HR10A-7P-6S(73) (Hirose Electric Co., Ltd.)		
Sensor board	Limit sensor	Available		
	Origin sensor	Available		
	Slit origin sensor	–		
	Sensor	Photo microsensor EE-SX4320 (Omron Co., Ltd.)		
	Power-supply voltage	DC5～24V±5%		
	Current consumption	Total 60mA or less		
	Control output	NPN open collector output DC30V 10mA or less		
	Output logic	On detection (light shield condition): Output transistor OFF (Non-continuity)		

Pin allocation・Connection diagram

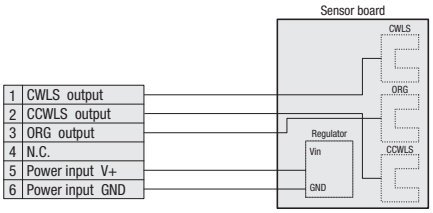
Motor code: P28・S38・S40 (Sensor)

KGW Series

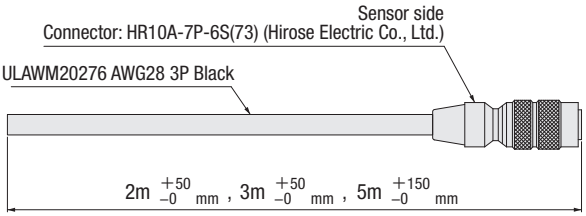
【Pin allocation】
Pigtail specification : Connector model：HR10A-7J-6P(73) (Hirose Electric Co., Ltd.)
Panel mount specification : Connector model：HR10A-7R-6P(73) (Hirose Electric Co., Ltd.)

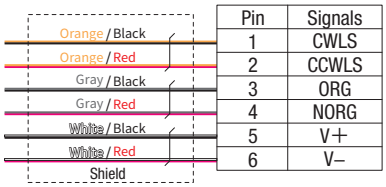


【Connection diagram】



【Cable model】
Model:HR10AP-S-SB-6-□ (□is the length.)
* Fixed

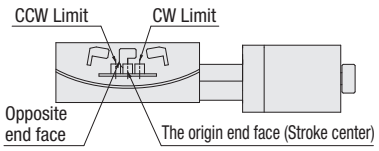


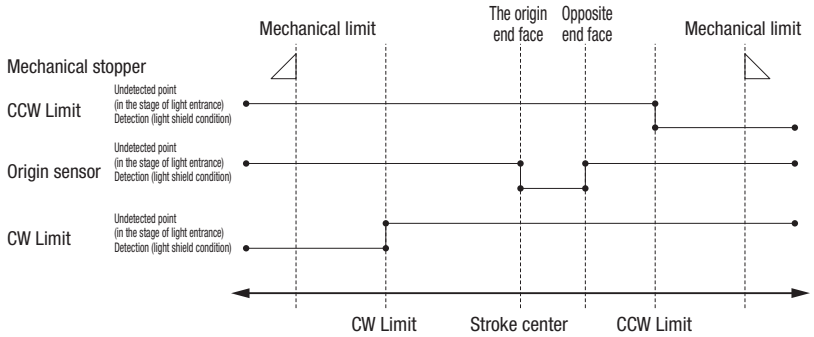


Pin	Signals
1	CWLS
2	CCWLS
3	ORG
4	NORG
5	V+
6	V–

※The shields are connected with the connector shell.

Timing chart





Unit [deg.] Direction of CW ◀——▶ Direction of CCW

	Reference coordinate	CW Limit	The origin end face (Stroke center)	Opposite end face	CCW Limit
KGW04040T(M)	Return to origin	8.5	0	2.5	8.5
KGW04060T(M)	Return to origin	6.5	0	2.1	6.5
KGW06050T(M)	Return to origin	10.5	0	2.5	10.5
KGW06075T(M)	Return to origin	8.3	0	1.8	8.3
KGW06100T(M)	Return to origin	6.3	0	1.4	6.3
KGW06125T(M)	Return to origin	5.2	0	1.1	5.2

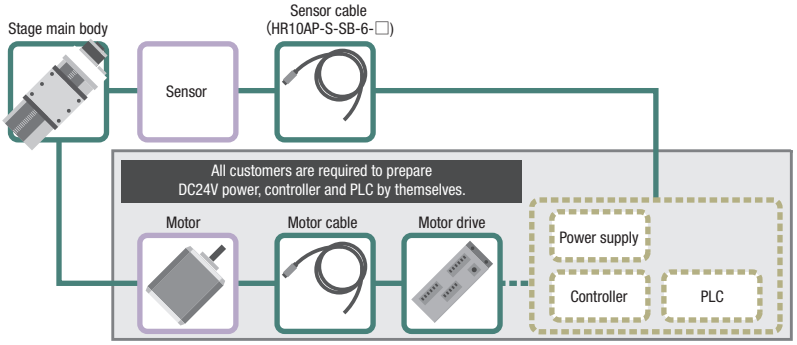
* Return to origin means that is performed return to origin type 4 using DS102/DS112 series.
* The coordinate is a basis of design value. Dimension error may occur about plus or minus 0.5 deg.

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.

New

Applicable motor code

P28	□28mm For Stepping motor
S38	□38mm For AC servo motor
S40	□40mm For AC servo motor



【Precautions for handling motorless products】

【important】

Unlike normal products, this is a motorless product with no drive source.
Please be sure to read and agree to the "Scope of Warranty" and "Precautions and Restrictions for Use" before purchasing.

◆ Warranty range

The following items are not covered by the warranty.

- Faults and troubles related to motor mounting adjustment
- Accuracy after motor assembly by customer

* Accuracy inspection is performed on the inspection motor to confirm that it is within the standard value.

◆ Precautions and restrictions on use

1. Specs: load capacity and maximum speed

Since it depends on the configuration of the main body of the motorized stage, please use it within the specifications of this product regardless of the performance of the motor. The distance between the limit sensor and the mechanical limit is short, and an overrun may cause collision with the mechanical limit. Please note that collisions with mechanical limits may adversely affect product accuracy and durability.

2. Torque limit

Using a high-torque motor may give a load that exceeds the product's allowable limit. If the motor torque exceeds 0.25 N • m, please apply the torque limit.

3. Mounting the motor

Align the body, motor, and coupling before mounting.
Operation in a misalignment situation may lead to early product damage and deterioration. Please refer to the attached assembly procedure manual and adjust the assembly.

4. Fixing the connector

There are products that require the customer to fix the connector. Before fixing, the connector part and the main body are connected only by the lead wire, which may cause disconnection, so please handle with care.

Sinemotion Rotary Stage ϕ40：KRB04017V

accessories			P28	S38	S40
■Motor bracket (installed on main body)			○		
■Coupling (with screws)			○		
■Screws	For Motor		4 of M2.5-6	4 of M3-12	2 of M4-12
	For Main Body	KRB04	3 of M3-25		
		KRB06	3 of M4-25		
■Sensor cable (2m One end loose)			○(HR10AP-S-SB-6-2)		

Model

KRB04017V-P28

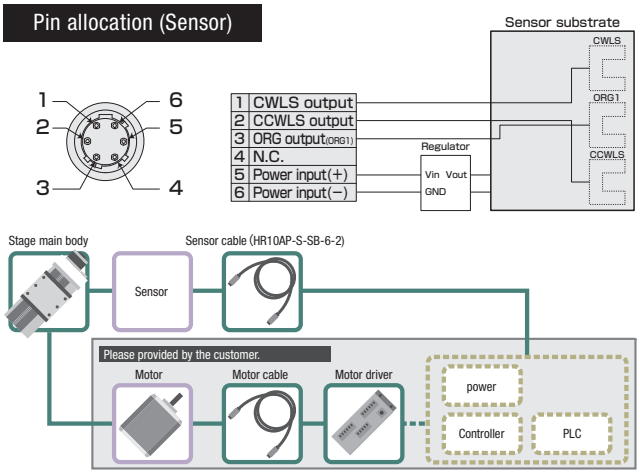
Option code

1

1 Application Motor

Code	Speci cation
P28	□28 Steppingmotor
S38	□38 Servo motor
S40	□40 Servo motor

Pin allocation (Sensor)



S P E C				
Model		KRB04017V-P28	KRB04017V-S38	KRB04017V-S40
Mechanical specification	Travel length	±8.5°		
	Table size	ϕ40mm		
	Travel mechanism	Ball screw ϕ6 lead 1		
	Guide	Combination angular ball bearing		
	Main materials-Finishing	Aluminum—Black almite finishing		
Accuracy specification	Resolution (Pulse)	≒0.0067° (Full)		
	MAX speed	102°/sec [15kHz]		
	Repeatability positioning accuracy	±0.003°		
	Load capacity	4.0kgf【39.2N】		
	Moment stiffness	0.52″/N・cm		
	Lost motion	0.003°		
	Backlash	0.01°		
	Parallelism	50μm		

SENSOR	
Limit sensor	Installed
Origin sensor	Installed
Slit origin sensor	—
Model	Photo microsensor EE-SX4320 (Omron Co., Ltd.)
Power voltage	DC5～24V ±10%
Consumption current	Total 60mA or less
Control output	NPN open collector output DC5~24V 8mA or less Residual voltage 0.3V or less when the load current is 2mA
Output logic	On detection (light shield condition): Output transistor OFF (Non-continuity)

※SPEC is reference for the standard model

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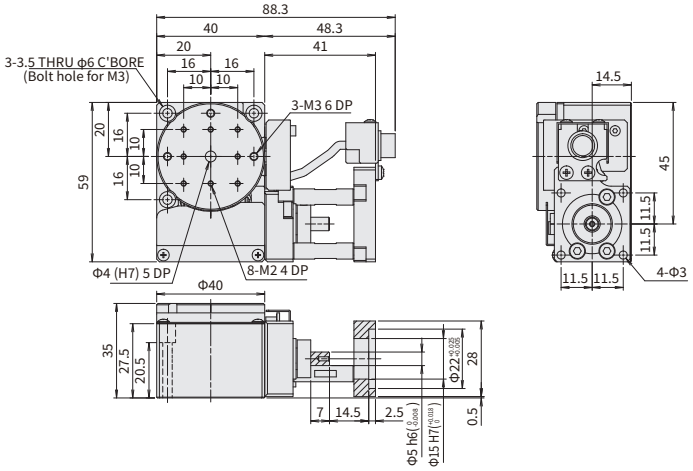
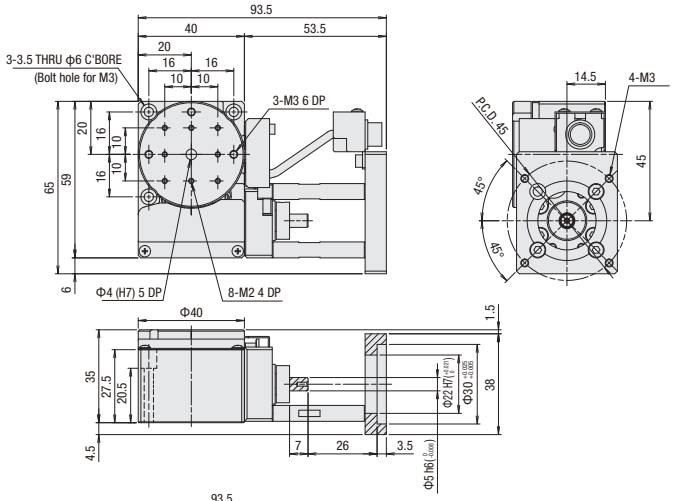
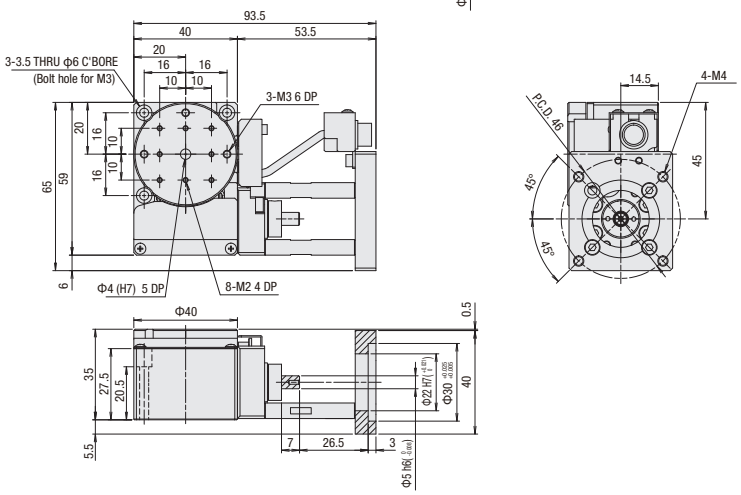
KRB04017V-P28



KRB04017V-S38



KRB04017V-S40



【In order to avoid damaging the motor-less product, please take the following precautions when handling them.】

◆Guarantee range

In difference to a conventional product, the guarantee range of the motor-less product will be limited due to no driving source, and notice the following attentions.

- Defect or trouble, according to motor mounting adjustment is not covered under the warranty.
- The accuracy assumes a motor test result for our inspection a guarantee level, and the accuracy after the motor mounting by the customer should be the guarantee outside.

◆Precautions and restricts on using

1.As load capacity and maximum speed depend on configuration of stage main body, please refrain from the use exceed the spec.
As distance is short between limit sensor and mechanical limit, collision with mechanical limit will incur due to over-run.
Please make sure the frequent repetition collision, it may adversely affect stage accuracy and rigidity.

2.The use with the high torque motor may give load more than the stage permission.
Please use for under 0.25N・m product or under the torque limit.

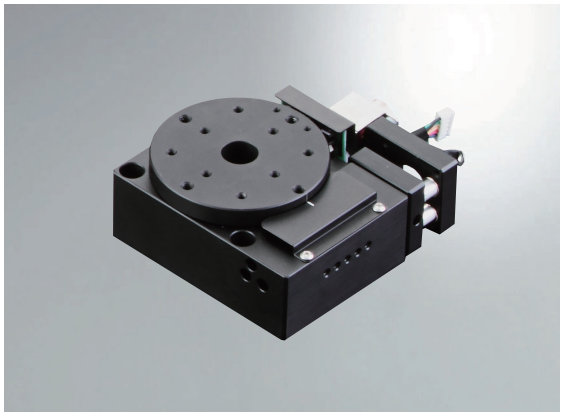
3. Very careful centering is required especially when a main body, motor and coupling is applied.
The operation that not enough centering may cause the damage or deterioration of the product early.
Please see the attached operating and assembly sheet for mounting adjustment.

4. Some products may need fixing part of the connector on your side.
Disconnection may occur before fixation due to a connector and the main body is connected only with lead. Please handle with care.

◆At the time of purchase

When placing an order, please be sure the above-mentioned, and on the premise of agreeing with guarantee coverage and attention / limitation items.

Sinemotion Rotary Stage ϕ60：KRB06011V



accessories			P28	S38	S40
■Motor bracket (installed on main body)			○		
■Coupling (with screws)			○		
■Screws	For Motor		4 of M2.5-6	4 of M3-12	2 of M4-12
	For Main Body	KRB04	3 of M3-25		
		KRB06	3 of M4-25		
■Sensor cable (2m One end loose)			○(HR10AP-S-SB-6-2)		

Model

KRB06011V-P28

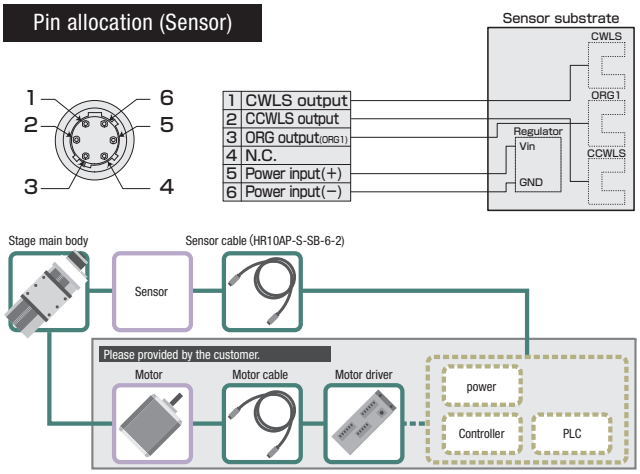
Option code

1

1 Application Motor

Code	Speci cation
P28	□28 Steppingmotor
S38	□38 Servo motor
S40	□40 Servo motor

Pin allocation (Sensor)



S P E C				
Model		KRB06011V-P28	KRB06011V-S38	KRB06011V-S40
Mechanical specification	Travel length	±5.5°		
	Table size	ϕ60mm		
	Travel mechanism	Ball screw ϕ6 lead 1		
	Guide	Combination angular ball bearing		
	Main materials-Finishing	Aluminum—Black almite finishing		
Accuracy specification	Resolution/Pulse	≒0.0042° (Full)		
	MAX speed	64°/sec [15kHz]		
	Repeatability positioning accuracy	±0.003°		
	Load capacity	6.0kgf【58.8N】		
	Moment stiffness	0.25″/N・cm		
	Lost motion	0.003°		
	Backlash	0.01°		
	Parallelism	50μm		

SENSOR	
Limit sensor	Installed
Origin sensor	Installed
Slit origin sensor	—
Model	Photo microsensor EE-SX4320 (Omron Co., Ltd.)
Power voltage	DC5～24V ±10%
Consumption current	Total 60mA or less
Control output	NPN open collector output DC5~24V 8mA or less Residual voltage 0.3V or less when the load current is 2mA
Output logic	On detection (light shield condition): Output transistor OFF (Non-continuity)

※SPEC is reference for the standard model

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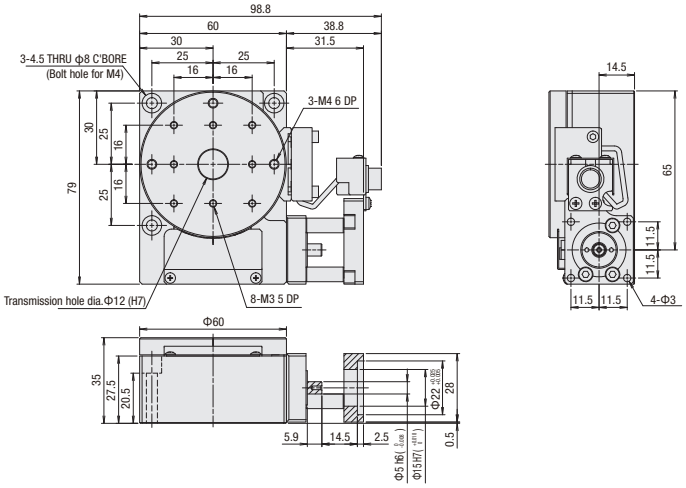
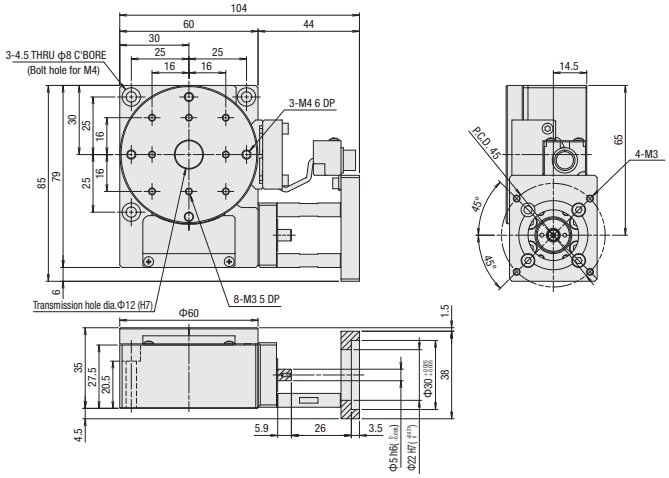
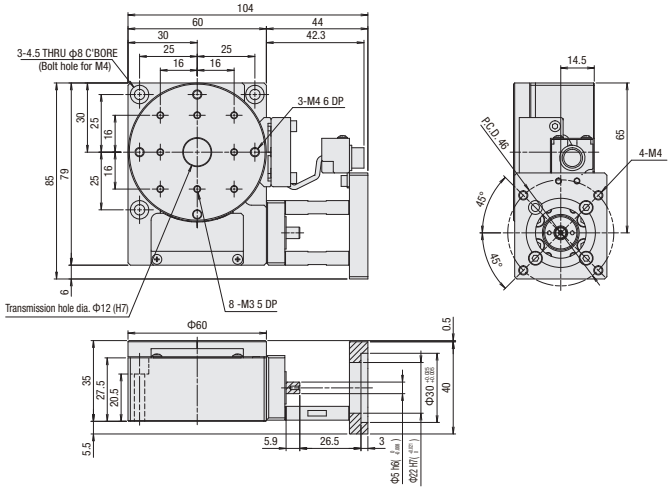
KRB06011V-P28



KRB06011V-S38



KRB06011V-S40



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◆Precautions and restricts on using

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The operation that not enough centering may cause the damage or deterioration of the product early.
Please see the attached operating and assembly sheet for mounting adjustment.

4. Some products may need fixing part of the connector on your side.
Disconnection may occur before fixation due to a connector and the main body is connected only with lead. Please handle with care.

◆At the time of purchase

When placing an order, please be sure the above-mentioned, and on the premise of agreeing with guarantee coverage and attention / limitation items.

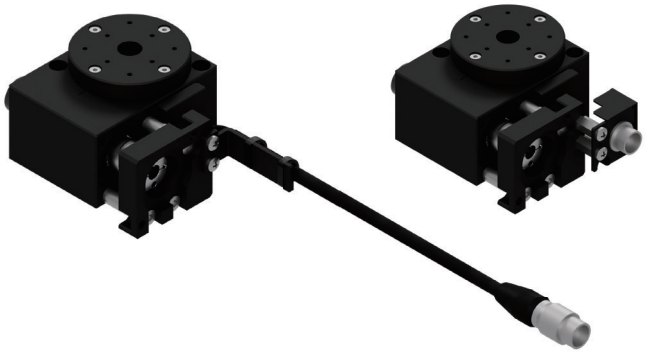
New

Rotary Stage ϕ39/□40：KRW04360V

RoHS

KRW04360TV-LP28

KRW04360MV-LP28



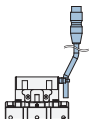
Accessory		P28	S38	S40
Motor bracket (installed on main body)		○		
Coupling (with screws)		○		
Mounting screw	For Motor	2 of M2.5-6	4 of M3-12	2 of M4-12
	For Main Body	3 of M3-30		
Sensor cable		○(HR10AP-S-SB-6-□)		
Hex wrench (for motor mounting)		○	-	-

* Sensor cable: Select from 2m, 3m, 5m

KRW04360M□V-L P28-□

1 2 3 4 5

1 Connector specifications

T	Pig tail	
M	Panel mount	

2 Stage surface shape

Blank	Circular
S	Square

3 Motor location specification

L	L position
R	Opposite hand

4 Application Motor

Code	Specification
P28	□28 Stepping motor specification
S38	□38 Servo motor specification
S40	□40 Servo motor specifications

5 Cable option

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

SPEC

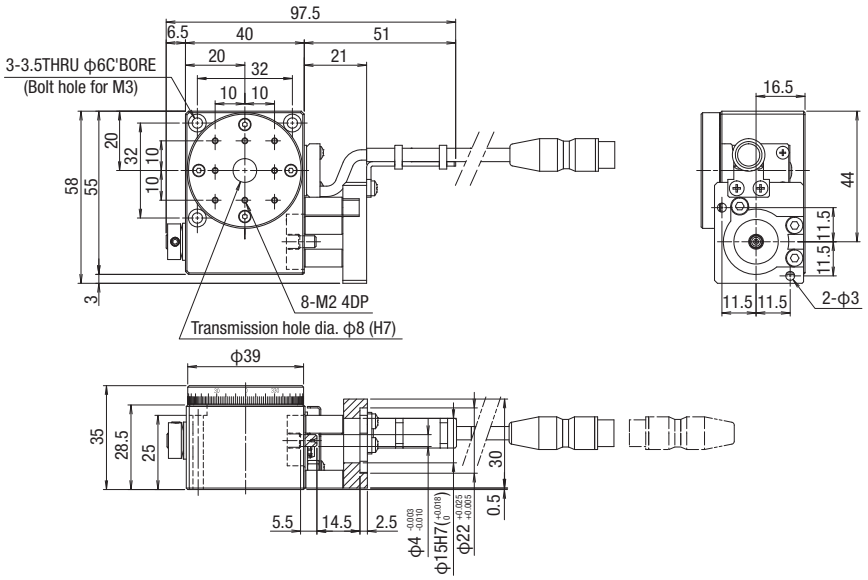
Model		KRW04360TV-LP28	KRW04360MV-LP28
(Opposite hand)		KRW04360TV-RP28	KRW04360MV-RP28
Mechanical specification	Travel length	360°	
	Table size	ϕ39mm (40×40mm)	
	Connector specifications	**Pig tail**	**Panel mount**
	Travel mechanism (Reduction ratio)	Worm gear (Reduction ratio 1/120)	
	Guide	Deep groove ball bearing	
	Main materials-Finishing	Aluminum–Black almite finishing	
	Weight	0.31kg	0.28kg
Accuracy specification	Resolution/Pulse	0.006°	
	MAX speed	30°/sec	
	Positioning accuracy	0.05°	
	Repeatability positioning accuracy	±0.01°	
	Load capacity	3kgf【29.4N】	
	Moment stiffness	0.74″/N・cm	
	Lost motion	0.05°	
	Backlash	0.1°	
	Parallelism	50μm	
	Eccentricity	5μm	
	Runout	30μm	
Sensor	Limit sensor	—	
	Origin sensor	Installed	
	Slit origin sensor	—	

※1 The figure in parenthesis is the stage surface size when the Stage surface shape option: square (S) is selected.
※ SPEC is the value of the standard motor.
※ When the applicable motor code [S38/S40] is selected, the weight is 0.32kg for the pigtail specification and 0.29kg for the panel mount specification.

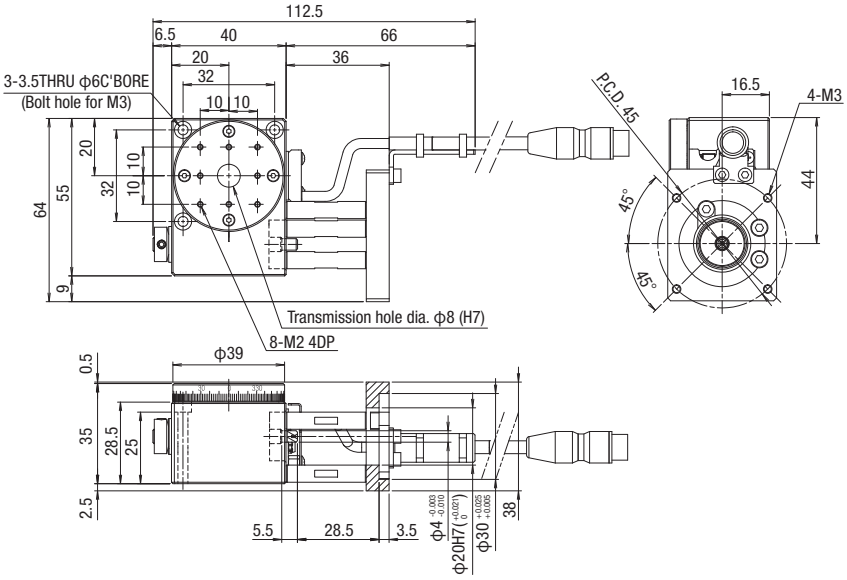
New

Dimensions

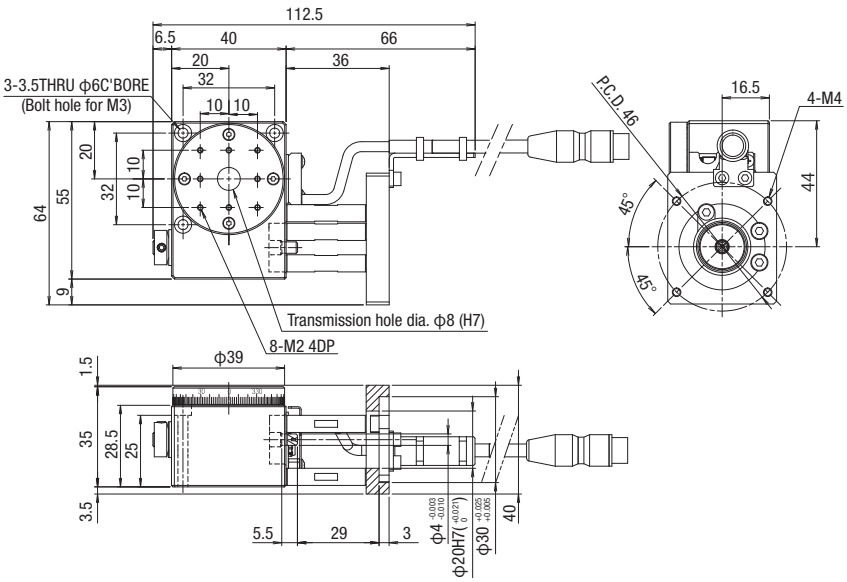
KRW04360TV-LP28



KRW04360TV-LS38



KRW04360TV-LS40



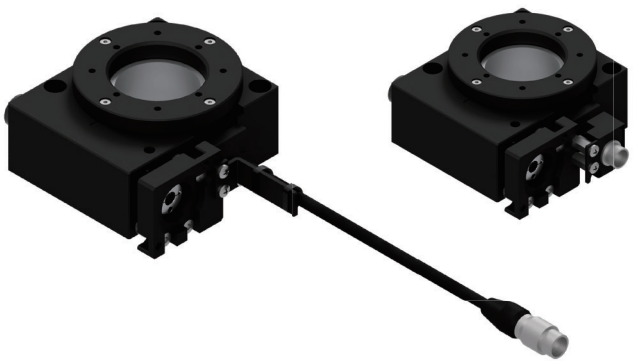
New

Rotary Stage ϕ59/□60：KRW06360V

RoHS

KRW06360TV-LP28

KRW06360MV-LP28



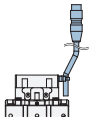
Accessory		P28	S38	S40
Motor bracket (installed on main body)		○		
Coupling (with screws)		○		
Mounting screw	For Motor	2 of M2.5-6	4 of M3-12	2 of M4-12
	For Main Body	3 of M4-30		
Sensor cable		○(HR10AP-S-SB-6-□)		
Hex wrench (for motor mounting)		○	-	-

* Sensor cable: Select from 2m, 3m, 5m

KRW06 360 M□ V- L P28 - □

1 2 3 4 5

1 Connector specifications

T	Pig tail	
M	Panel mount	

2 Stage surface shape

Blank	Circular
S	Square

3 Motor location specification

L	L position
R	Opposite hand

4 Application Motor

Code	Specification
P28	□28 Stepping motor specification
S38	□38 Servo motor specification
S40	□40 Servo motor specifications

5 Cable option

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

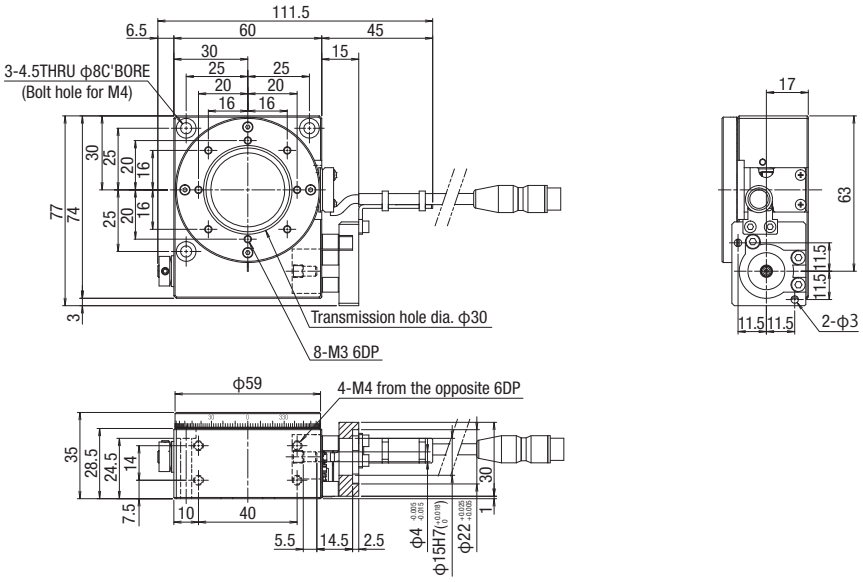
SPEC			
Model		KRW06360TV-LP28	KRW06360MV-LP28
(Opposite hand)		KRW06360TV-RP28	KRW06360MV-RP28
Mechanical specification	Travel length	360°	
	Table size (※1)	ϕ59mm (60×60mm)	
	Connector specifications	**Pig tail**	**Panel mount**
	Travel mechanism (Reduction ratio)	Worm gear (Reduction ratio 1/180)	
	Guide	Deep groove ball bearing	
	Main materials-Finishing	Aluminum–Black almite finishing	
	Weight	0.51kg	0.48kg
Accuracy specification	Resolution/Pulse	0.004°	
	MAX speed	20°/sec	
	Positioning accuracy	0.05°	
	Repeatability positioning accuracy	±0.01°	
	Load capacity	3kgf【29.4N】	
	Moment stiffness	0.2″/N・cm	
	Lost motion	0.05°	
	Backlash	0.05°	
	Parallelism	50μm	
	Eccentricity	5μm	
	Runout	30μm	
Sensor	Limit sensor	—	
	Origin sensor	Installed	
	Slit origin sensor	—	

※1 The figure in parenthesis is the stage surface size when the Stage surface shape option: square (S) is selected.
※ SPEC is the value of the standard motor.
※ When the applicable motor code [S38/S40] is selected, the weight is 0.52kg for the pigtail specification and 0.49kg for the panel mount specification.

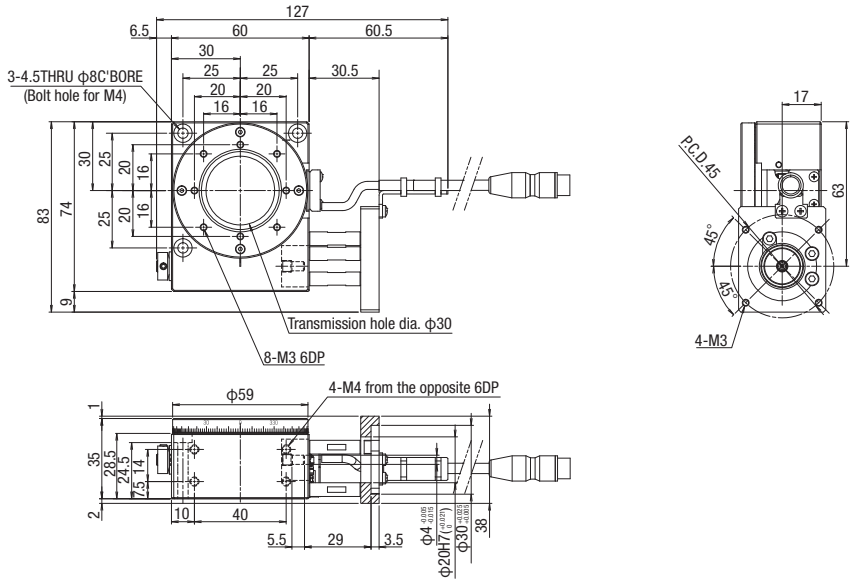
New

Dimensions

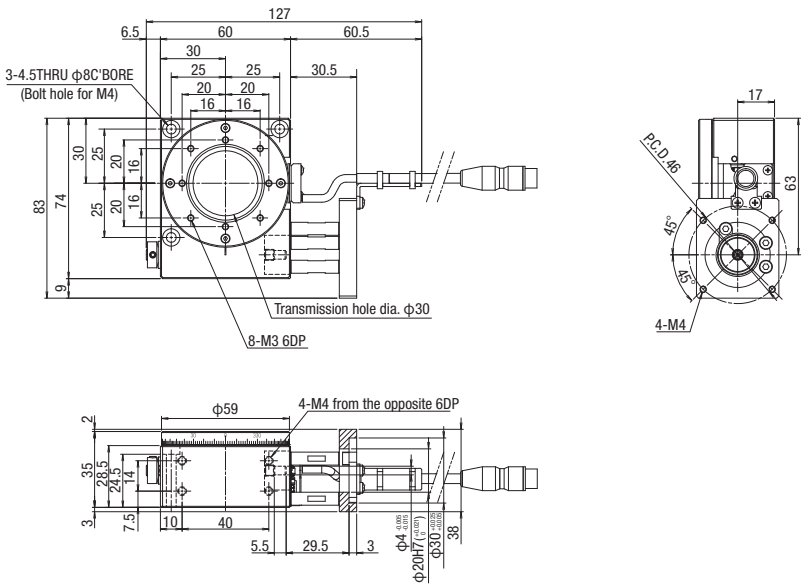
KRW06360TV-LP28



KRW06360TV-LS38



KRW06360TV-LS40



New

Electrical Specification：KRW04V/KRW06V

RoHS

Electrical specification

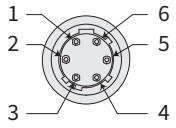
Applicable motor code		P28	S38	S40
Feature		For □28 Stepping motor	For □38 AC Servo motor	For □40 AC Servo motor
Model		KRW04/KRW06		
Connector	Pig tail	Sensor: HR10A-7J-6P(73) (Hirose Electric Co., Ltd.)		
	Panel mount	Sensor: HR10A-7R-6P(73) (Hirose Electric Co., Ltd.)		
	Receiving connector	Sensor: HR10A-7P-6S(73) (Hirose Electric Co., Ltd.)		
Sensor board	Limit sensor	–		
	Origin sensor	Available		
	Slit origin sensor	–		
	Sensor	Photo microsensor EE-SX4320 (Omron Co., Ltd.)		
	Power-supply voltage	DC5～24V±5%		
	Current consumption	Total 35mA or less		
	Control output	NPN open collector output DC30V 10mA or less		
	Output logic	On detection (light shield condition): Output transistor OFF (Non-continuity)		

Pin allocation・Connection diagram

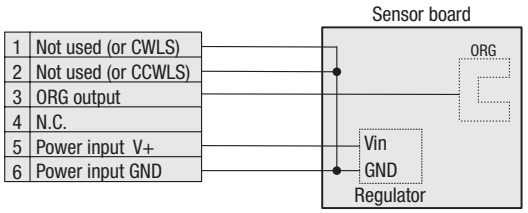
Motor code: P28・S38・S40 (Sensor)

KRW Series

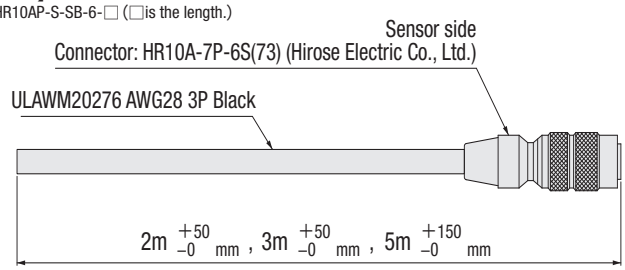
【Pin allocation】
Pigtail specification : Connector model：HR10A-7J-6P(73) (Hirose Electric Co., Ltd.)
Panel mount specification : Connector model：HR10A-7R-6P(73) (Hirose Electric Co., Ltd.)



【Connection diagram】



【Cable model】
Model:HR10AP-S-SB-6-□ (□is the length.)
* Fixed



Pin	Signals
1	CWLS
2	CCWLS
3	ORG
4	NORG
5	V+
6	V–

※The shields are connected with the connector shell.

Timing chart

Unit [deg.]

	Origin detected scale position
KRW04360**V - L	0 (The end face of the origin: CCW side edge of shield plate) 8 (Opposite end face: CW side edge of shield plate)
KRW06360**V - L	0 (The end face of the origin: CCW side edge of shield plate) 8 (Opposite end face: CW side edge of shield plate)

* Return to origin means that is performed return to origin type 4 using DS102/DS112 series. (DS102/DS112 are dedicated products for 5-phase motors.)
* The coordinate is a basis of design value. Dimension error may occur about plus or minus 0.5 deg.

Unit [deg.]

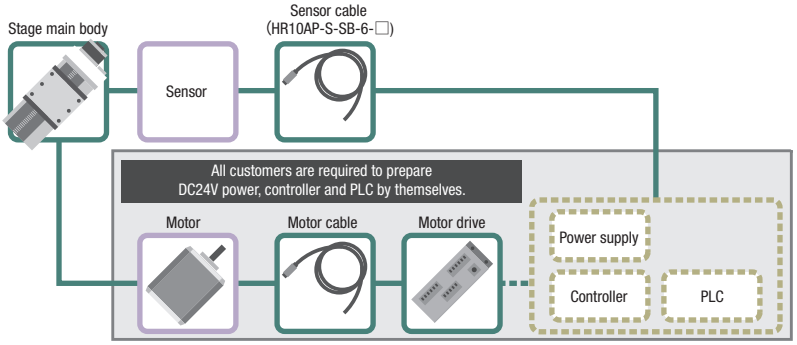
	Origin detected scale position
KRW04360**V - R	0 (The end face of the origin: CW side edge of shield plate) 8 (Opposite end face: CCW side edge of shield plate)
KRW06360V** - R	0 (The end face of the origin: CW side edge of shield plate) 8 (Opposite end face: CCW side edge of shield plate)

* Return to origin means that is performed return to origin type 3 using DS102/DS112 series. (DS102/DS112 are dedicated products for 5-phase motors.)
* The coordinate is a basis of design value. Dimension error may occur about plus or minus 0.5 deg.

New

Applicable motor code

P28	□28mm For Stepping motor
S38	□38mm For AC servo motor
S40	□40mm For AC servo motor



【Precautions for handling motorless products】

【important】

Unlike normal products, this is a motorless product with no drive source.
Please be sure to read and agree to the "Scope of Warranty" and "Precautions and Restrictions for Use" before purchasing.

◆ Warranty range

The following items are not covered by the warranty.

- Faults and troubles related to motor mounting adjustment
- Accuracy after motor assembly by customer

* Accuracy inspection is performed on the inspection motor to confirm that it is within the standard value.

◆ Precautions and restrictions on use

1. Specs: load capacity and maximum speed

Since it depends on the configuration of the main body of the motorized stage, please use it within the specifications of this product regardless of the performance of the motor. The distance between the limit sensor and the mechanical limit is short, and an overrun may cause collision with the mechanical limit. Please note that collisions with mechanical limits may adversely affect product accuracy and durability.

2. Torque limit

Using a high-torque motor may give a load that exceeds the product's allowable limit. If the motor torque exceeds 0.25 N • m, please apply the torque limit.

3. Mounting the motor

Align the body, motor, and coupling before mounting.
Operation in a misalignment situation may lead to early product damage and deterioration. Please refer to the attached assembly procedure manual and adjust the assembly.

4. Fixing the connector

There are products that require the customer to fix the connector. Before fixing, the connector part and the main body are connected only by the lead wire, which may cause disconnection, so please handle with care.