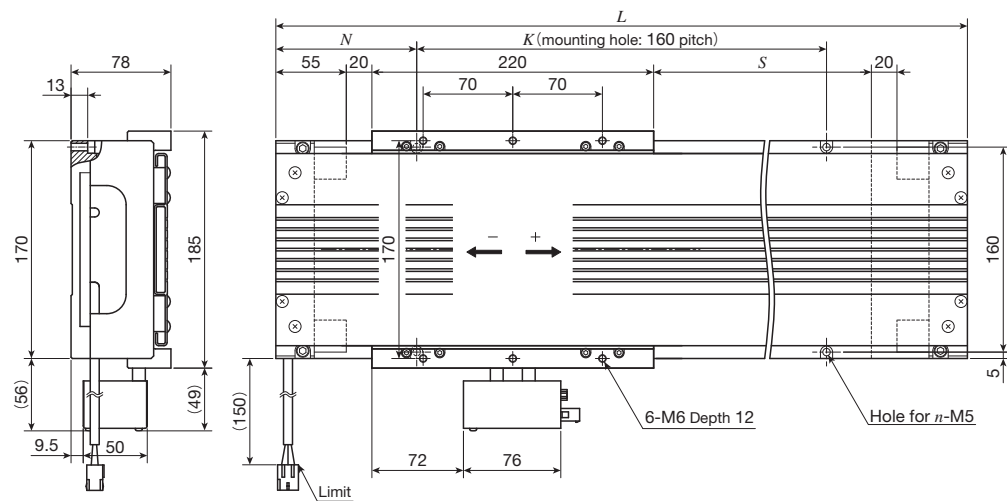


IKO Linear Motor Table LT

LT170HF/D Single table with cover

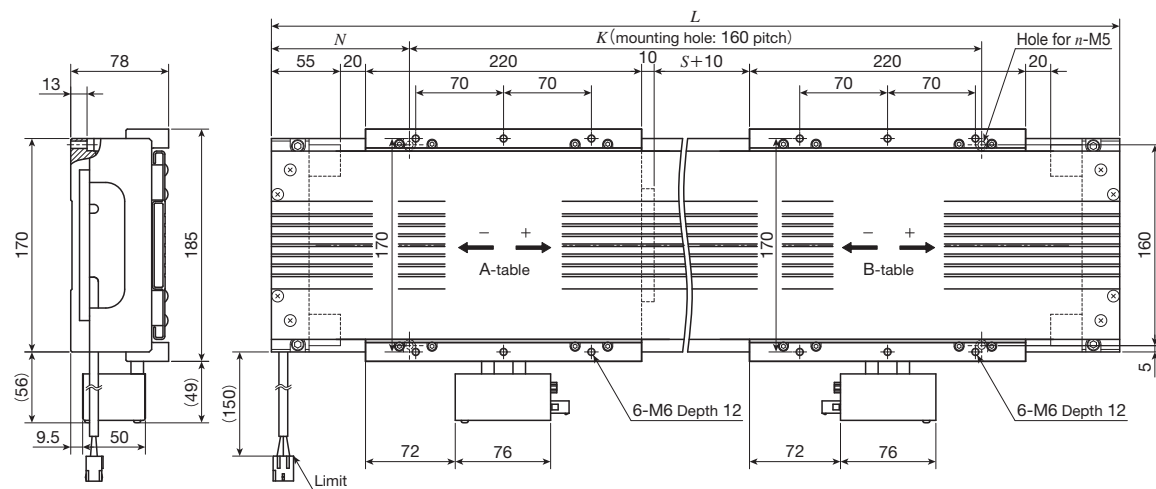


unit: mm

Identification number	Stroke length $S^{(1)}$	Overall length L	Mounting holes of bed			Total mass of table kg	Mass of moving table kg
			N	K	n		
LT170HF- 650/D	650	1 020	110	800	12	25.5	4.4
LT170HF-1130/D	1 130	1 500	110	1 280	18	35.2	
LT170HF-1610/D	1 610	1 980	110	1 760	24	45.0	

Note (1) For other stroke lengths, please contact IKO.

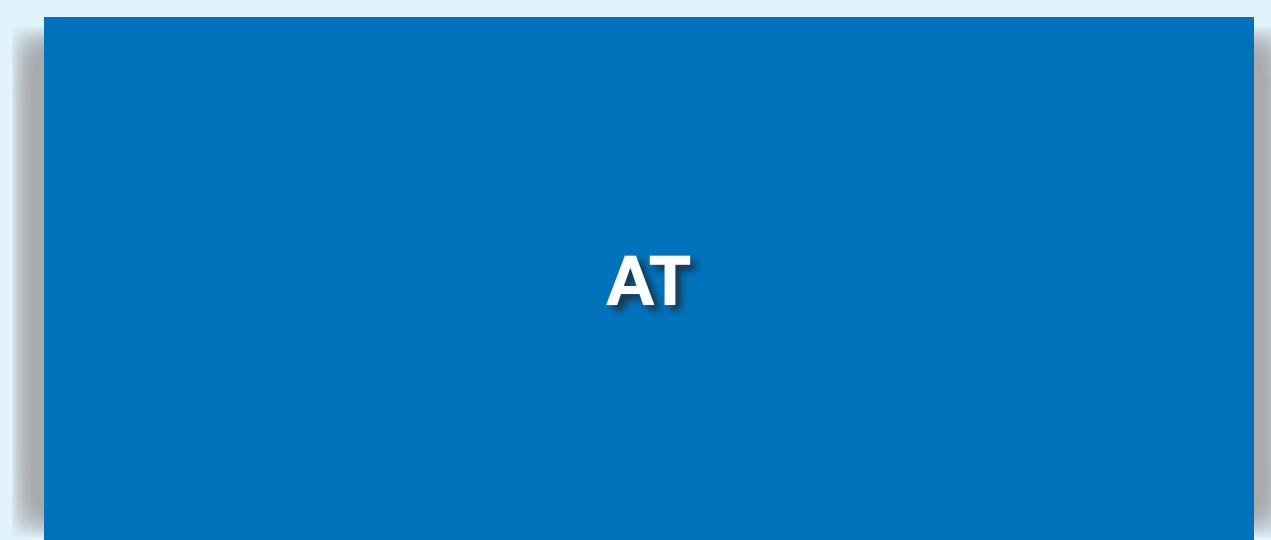
LT170HF/DT2 Twin table with cover



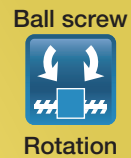
unit: mm

Identification number	Stroke length $S^{(1)}$	Overall length L	Mounting holes of bed			Total mass of table kg	Mass of moving table kg
			N	K	n		
LT170HF- 410/DT2	410	1 020	110	800	12	29.9	4.4
LT170HF- 890/DT2	890	1 500	110	1 280	18	39.6	
LT170HF-1370/DT2	1 370	1 980	110	1 760	24	49.4	

Note (1) For other stroke lengths, please contact IKO.



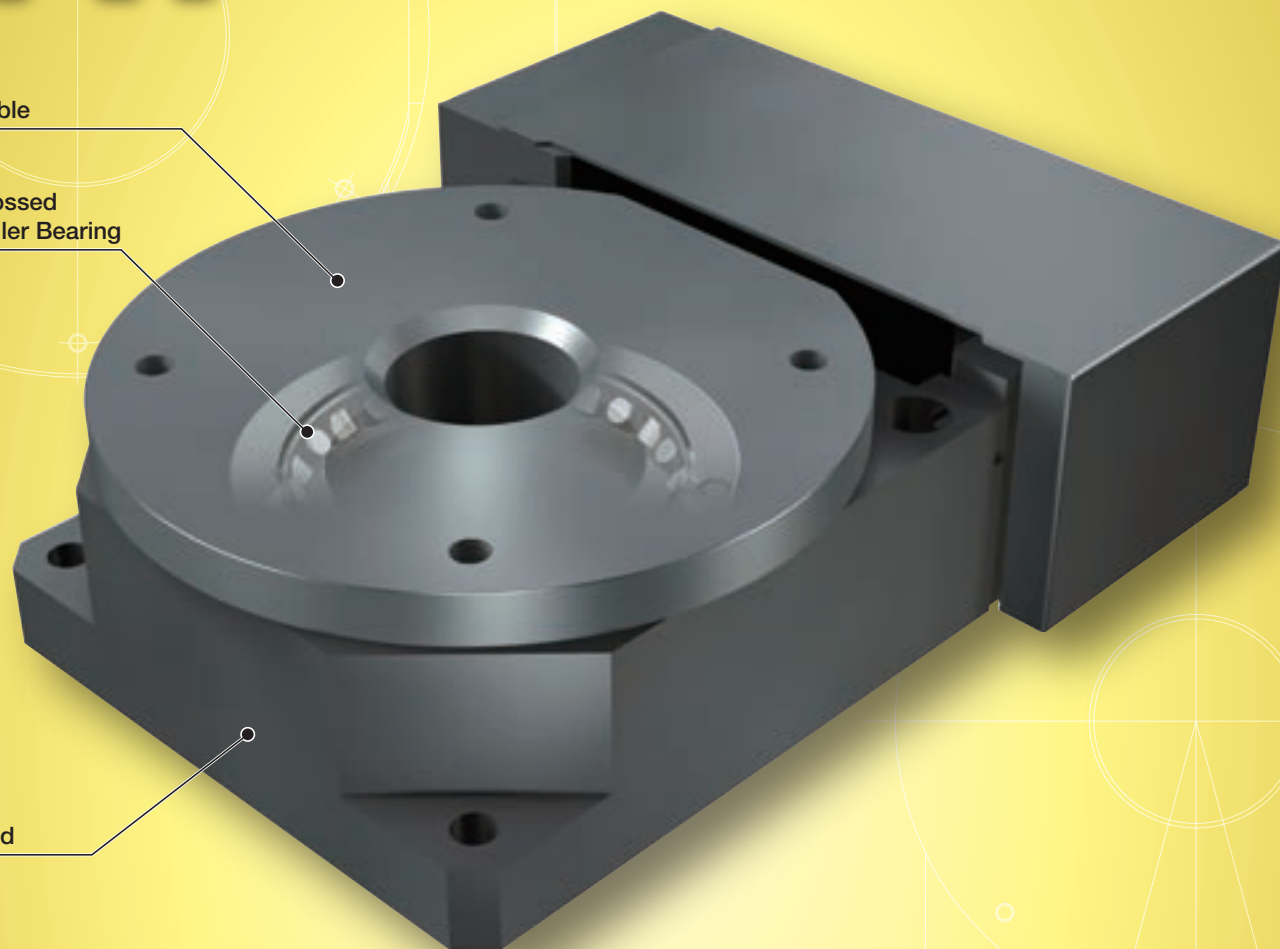
AT



Table

Crossed Roller Bearing

Bed



Major product specifications

Driving method	Precision ball screw
Linear motion rolling guide and bearing	Linear Way (ball type) Crossed Roller Bearing
Built-in lubrication part	No built-in
Material of table and bed	High carbon steel
Sensor	Provided as standard

Accuracy

Positioning repeatability	±1
Positioning accuracy	-
Lost motion	-
Parallelism in table motion A	-
Parallelism in table motion B	-
Attitude accuracy	-
Straightness	-
Backlash	-

unit: sec

Points

● Rotary positioning table for converting linear motion to rotary motion

1 This is a positioning table that allows precise angle correction by converting the linear motion to the rotational motion through the rotator mechanism combining the Linear Way and ball screws. High rigidity steel-made table and bed are used and a Crossed Roller Bearing is incorporated in the bearing supporting the table.

● Low profile design with high rigidity

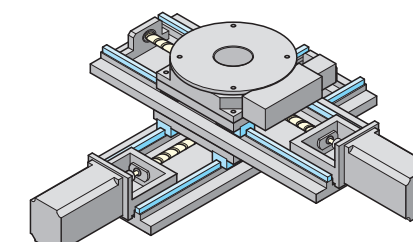
2 Adoption of Crossed Roller Bearing capable of exerting high rigidity in all direction has achieved low profile, high rigidity, and high precision.

● Positioning repeatability of ±1 sec

3 A rotator for converting linear motion to rotary motion is accurately guided by the combination of Linear Way L and precision ball screw, thus achieving the high positioning repeatability of ±1 sec.

● Available as multi-axis configured alignment table

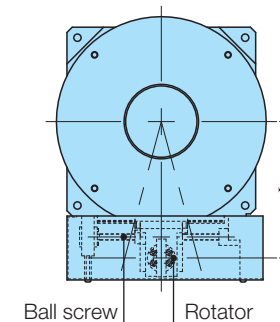
4 Placing this unit on the slide table of Precision Positioning Table LH enables the configuration of low height XY-θ multi-axis positioning mechanism.



Example of multi-axis configuration using Alignment Table AT

Driving mechanism of Alignment Table AT

Alignment Table AT is driven by stroking a rotator linked to table's outer periphery by driving of ball screw in a linear direction. In order to adjust the distance L and angle from the center of table varied by rotator movement, linear and rotary motion mechanism that follows according to the table angle is incorporated in the rotator. Therefore, in Alignment Table, even when moving the rotator at a same pitch, the table's rotation angle tends to vary depending on the position, so that even when moving it at a constant speed, the rotation speed does not stay constant.



Ball screw Rotator

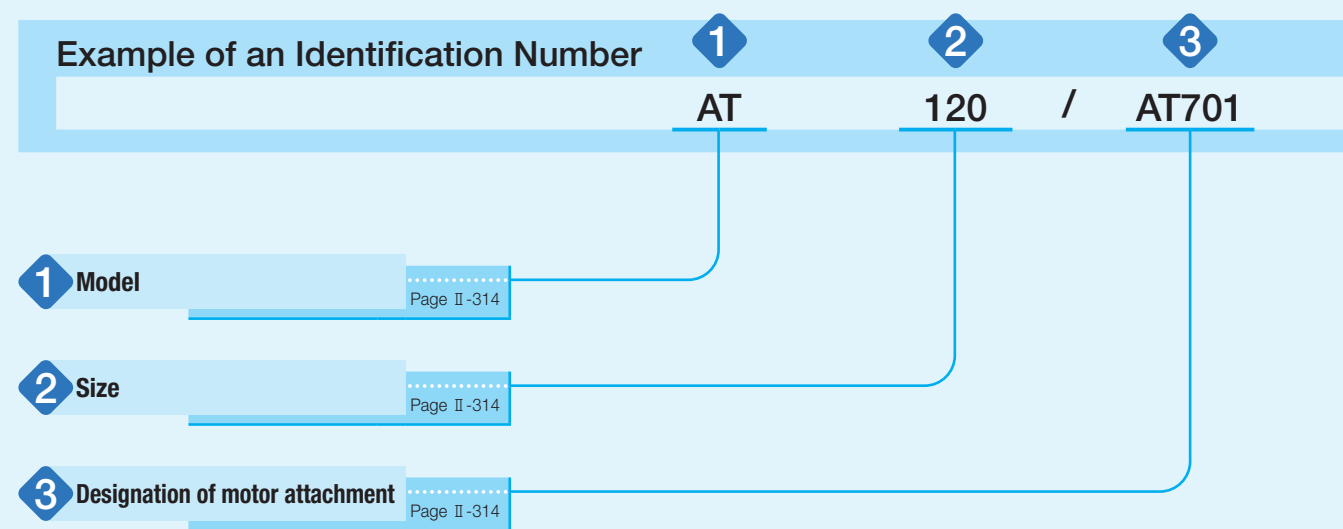
Distance from the center of table L unit: mm

Identification number	L
AT120	100
AT200	130
AT300	186

Variation

Shape	Model and size	Table diameter (mm)	Operating angle range (degree)
	AT120	120	± 5
	AT200	200	
	AT300	300	±10

Identification Number



Identification Number and Specification

1 Model	AT: Alignment Table AT
2 Size	120: Table diameter 120mm 200: Table diameter 200mm 300: Table diameter 300mm
3 Designation of motor attachment	As for a motor attachment, select it from the list of Table 1. <ul style="list-style-type: none"> Motor should be prepared by customer. Please specify motor attachment applicable to motor for use. A coupling shown in Table 2 is temporarily fixed in the main body before shipment, so that final position adjustment should be performed by customer.

Table 1 Application of motor attachment

Type	Models of motor to be used				Flange size mm	Motor attachment	
	Manufacturer	Series	Model	Rated output W		AT120 AT200	AT300
AC servo motor	YASKAWA ELECTRIC CORPORATION	Σ-V	SGMJV-A5A	50	□40	AT701	—
			SGMAV-A5A			AT701	—
			SGMJV-01A	100		AT701	AT702
			SGMAV-01A			AT701	AT702
	Mitsubishi Electric Corporation	J4	HG-MR053	50	□40	AT701	—
			HG-KR053			AT701	—
			HG-MR13	100		AT701	AT702
			HG-KR13			AT701	AT702
	Panasonic Corporation	MINAS A5	MSMD5A	50	□38	AT703	—
			MSME5A			AT703	—
			MSMD01	100		AT703	AT704
			MSME01			AT703	AT704
Hitachi Industrial Equipment Systems Co., Ltd	AD	ADMA-R5L	50	□40	AT701	—	
		ADMA-01L	100		AT701	AT702	
Stepper motor	ORIENTAL MOTOR Co., Ltd.	α step	ARM46	—	□42	AT705	—
			ARM66	—	□60	—	AT706
			ARM69	—	□60	—	AT706
		CRK	CRK54	—	□42	AT707	—
			CRK56 ⁽¹⁾	—	□60	—	AT708

Note (1) Applicable to the outer diameter $\phi 8$ of motor output shaft.

Remark: For detailed motor specifications, please see respective motor manufacturer's catalog.

Table 2 Coupling models

Motor attachment	Coupling models	Manufacturer	Coupling inertia J_c $\times 10^{-5} \text{kg} \cdot \text{m}^2$
AT701	MSTS-16-5×8	Nabeya Bi-tech Kaisha	0.084
AT702	UA-25C-8×8	Sakai Manufacturing Co., Ltd	0.290
AT703	MSTS-16-5×8	Nabeya Bi-tech Kaisha	0.084
AT704	UA-25C-8×8	Sakai Manufacturing Co., Ltd	0.290
AT705	MSTS-16-5×6	Nabeya Bi-tech Kaisha	0.084
AT706	MSTS-25C-8×10	Nabeya Bi-tech Kaisha	0.71
AT707	MSTS-16-5×5	Nabeya Bi-tech Kaisha	0.084
AT708	MSTS-25C-8×8	Nabeya Bi-tech Kaisha	0.71

Remark: For detailed coupling specifications, please see respective manufacturer's catalog.

Specifications

Table 3 Specifications of ball screw

unit: mm

Model and size	Shaft dia.	Overall length
AT120	6	103.5
AT200	6	103.5
AT300	10	183

Table 4 Specification

Item	Ball screw lead mm	Rotator resolution μm	Operating angle range degree	Positioning repeatability sec.	Table inertia $J_T \times 10^{-5} \text{kg} \cdot \text{m}^2$	Starting torque $T_s \text{N} \cdot \text{m}$
AT120	1	1 ⁽¹⁾	± 5	± 1	0.012	0.03
AT200					0.014	0.03
AT300	2	2 ⁽¹⁾	± 10		0.18	0.04

Note ⁽¹⁾ This is a value given when fraction sizes of the motor are 1,000 pulses/rev.

Table 5 Maximum carrying mass

unit: kg

Model and size	Maximum carrying mass
AT120	22
AT200	12
AT300	44

Remark: Applicable in both the horizontal and vertical directions.

Mounting

For the processing accuracy of the Precision Positioning Table mounting surface and the tightening torque of the fixing screws, see page III -29.

Sensor specification

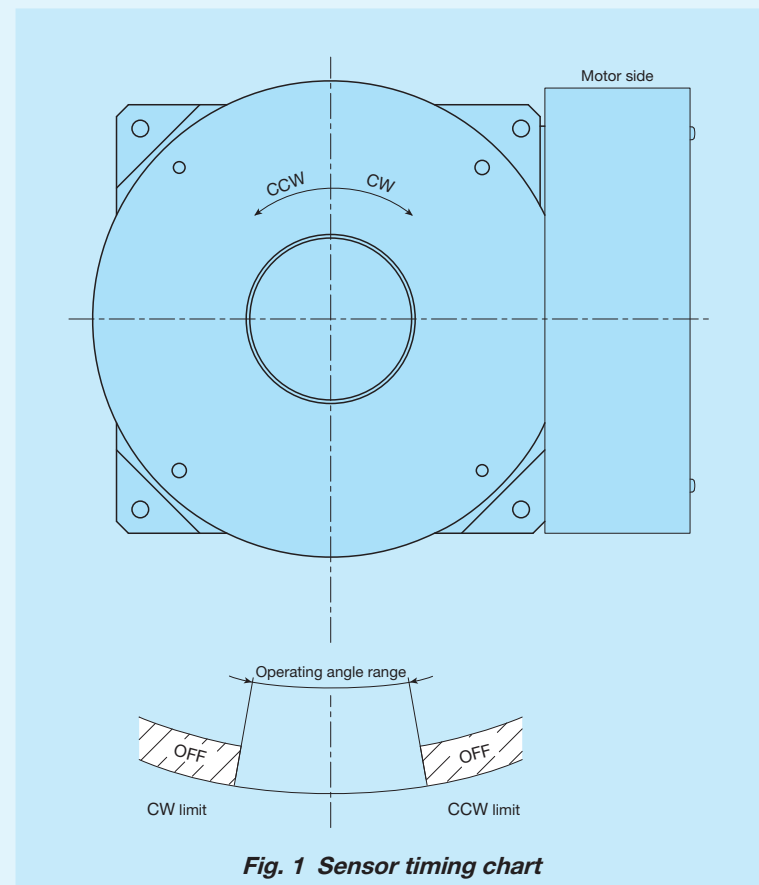


Fig. 1 Sensor timing chart

Example of Combination

Configuration of XY- θ multi-axis positioning mechanism

Combining the Alignment Table AT with IKO precision positioning table of single-axis specification or multi-axis specification enables you to easily configure the XY- θ multi-axis positioning mechanism. Low assembling height, compactness, and high-precision positioning capability enable the table to be used as alignment table for precision measuring equipment, inspection equipment, and assembling device.

Table 6 Configuration example of multi-axis positioning mechanism

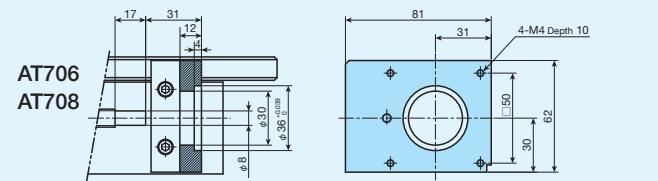
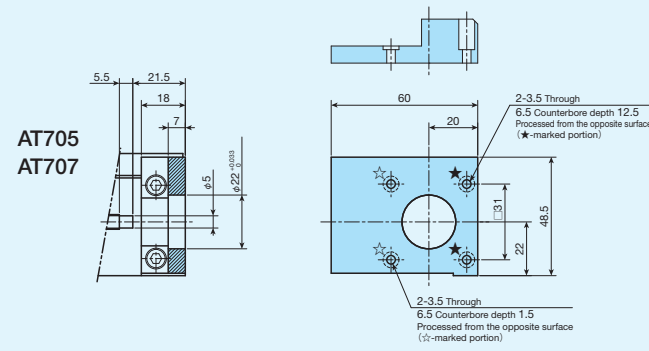
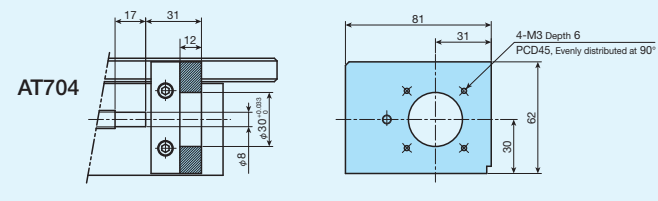
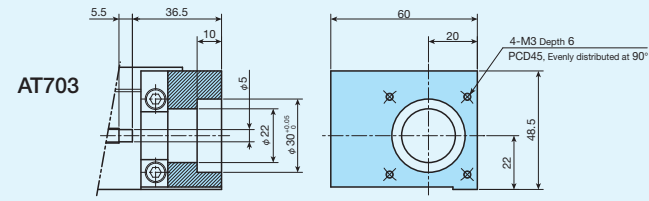
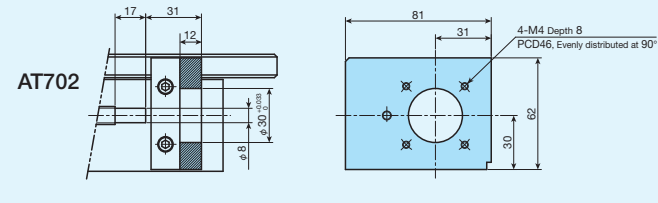
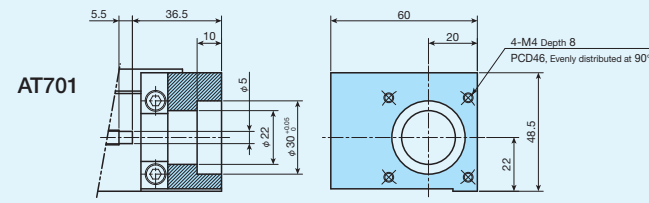
unit: mm

Appearance of multi-axis positioning mechanism	Models of IKO precision positioning tables combined with Alignment Table AT		Stroke length		
			X-axis	Y-axis	
	Precision Positioning Table TS/CT	Single-axis specification	TS125/125	50	
			TS125/220	120	
			TS220/220	120	
			TS220/310	180	
			TS260/350	250	
	Precision Positioning Table TS/CT	Two-axis specification	CT125/125	50	50
			CT220/220	120	120
			CT260/350	150	250
			CT350/350	250	250
	Precision Positioning Table LH	Single-axis specification	TSLH120M	100, 150	
			TSLH120M	200	
			TSLH120M	250	
			TSLH120M	300	
			TSLH120M	400	
		TSLH220M	150	200, 250, 300	
		TSLH220M	200, 250, 300	400	
		TSLH320M	300	400, 500	
		TSLH320M	400, 500	500	
		TSLH420M	500	600	
TSLH420M	600	800			
	Precision Positioning Table LH	Two-axis specification	CTLH120M	100	100
			CTLH120M	200	100
			CTLH120M	200	200
			CTLH120M	300	200
			CTLH120M	300	300
			CTLH120M	400	300
		CTLH220M	200	200	
		CTLH220M	300	200	
		CTLH220M	300	300	
		CTLH220M	400	300	
		CTLH220M	400	400	
		CTLH320M	300	300	
CTLH320M	400	300			
CTLH320M	400	400			
CTLH320M	500	400			
CTLH320M	500	500			

Dimensions of Motor Attachment

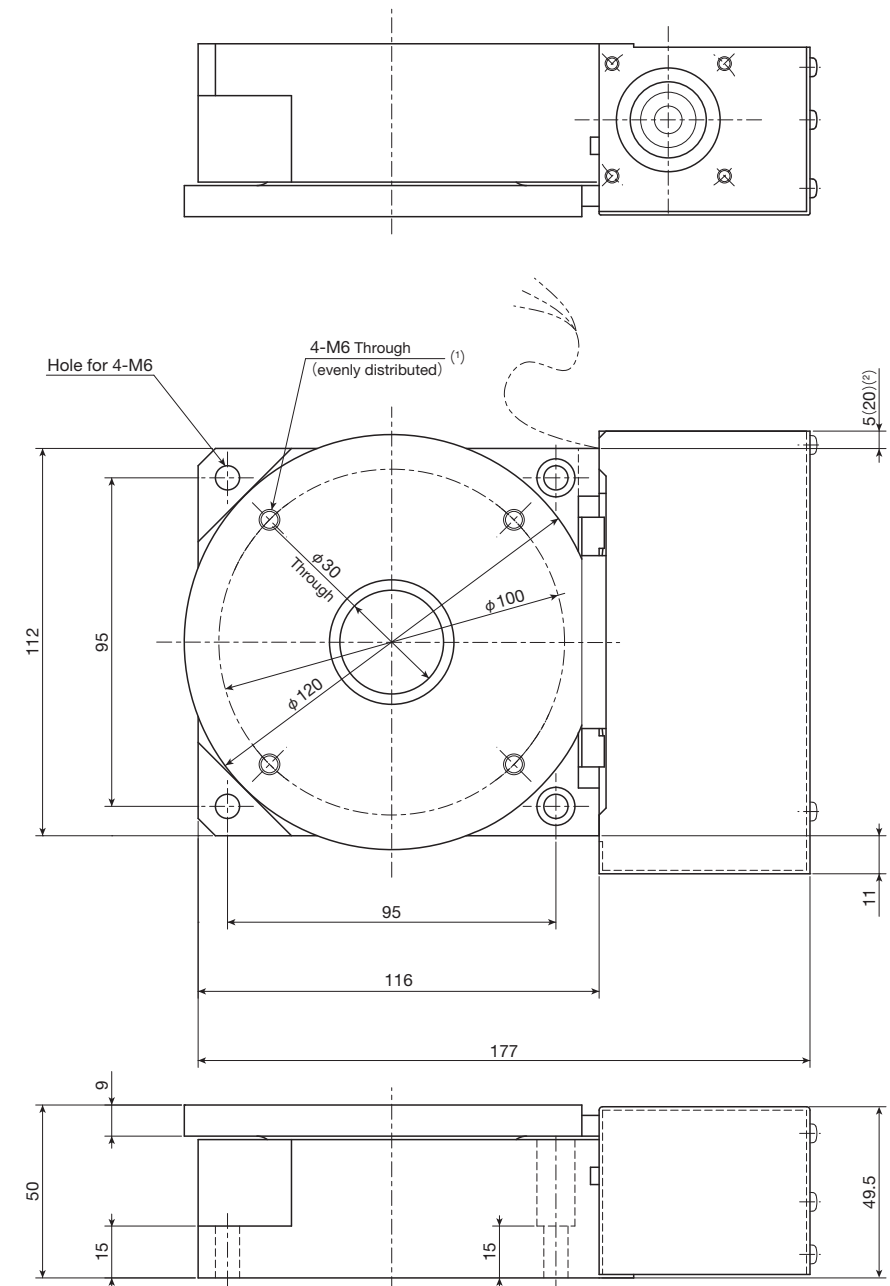
AT120, AT200

AT300



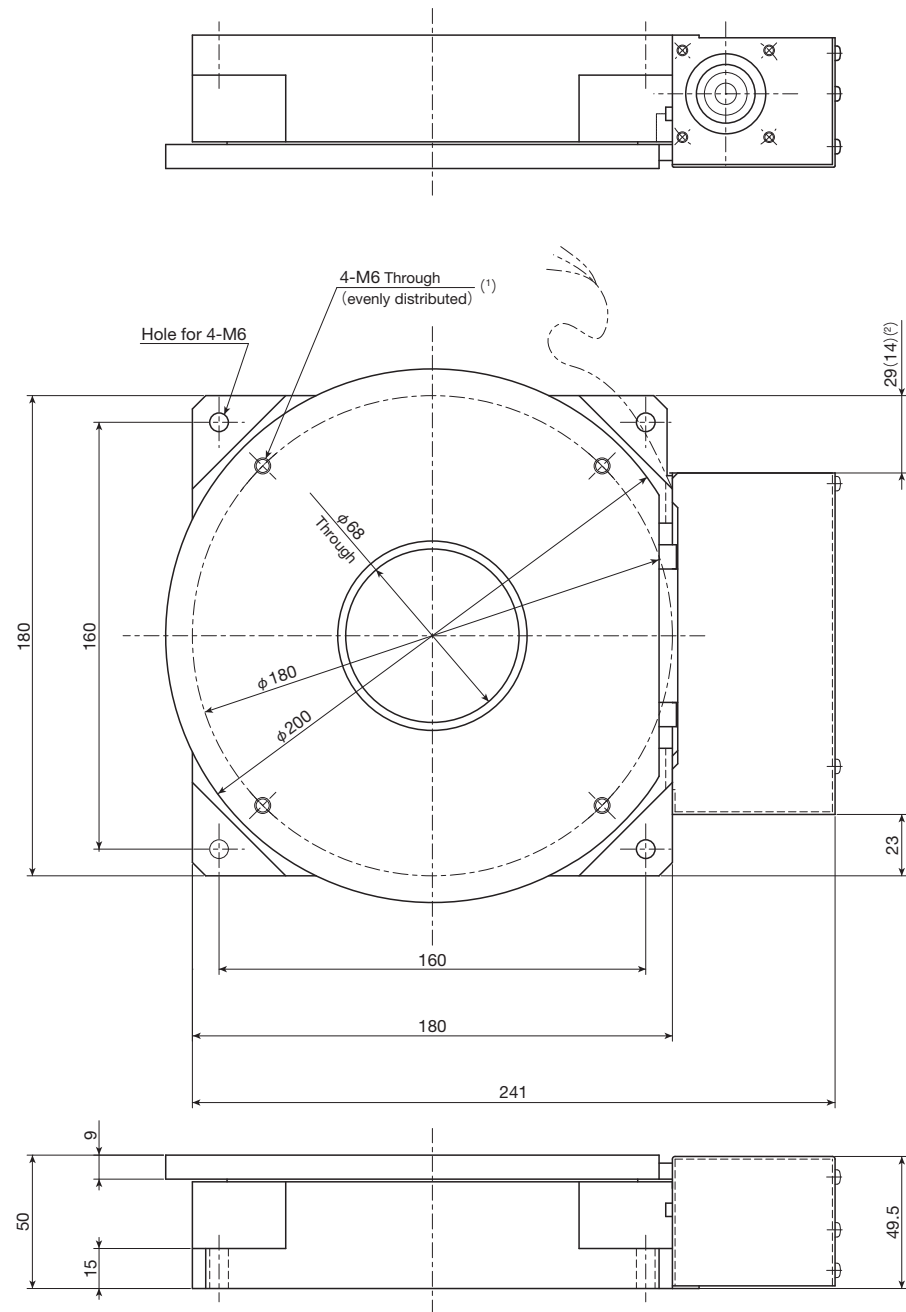
IKO Alignment Table AT

AT120



mass: 4.4kg

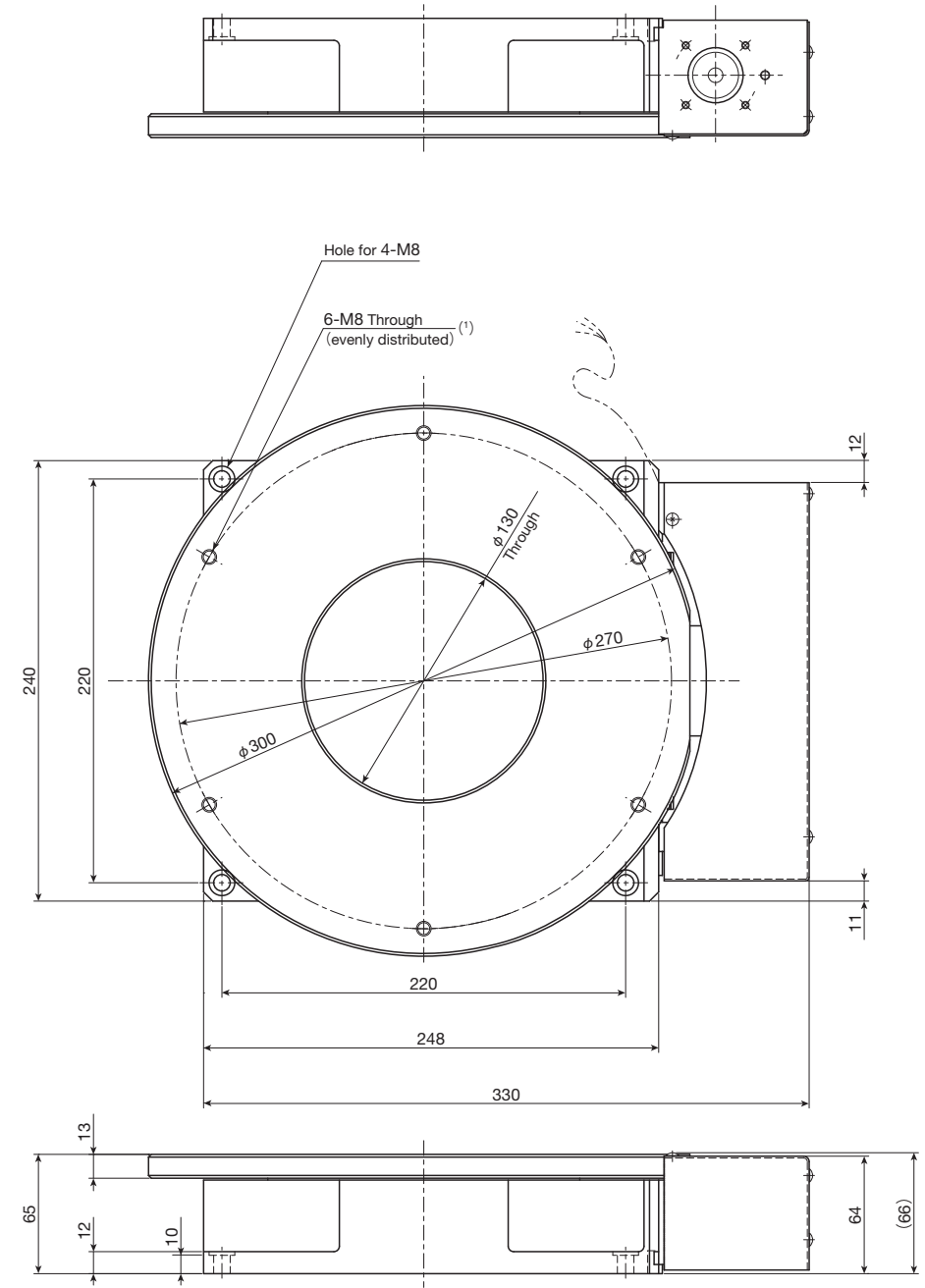
- Notes (1) Too deep insertion depth of the mounting bolt may affect the rotation performance of the table, so never insert a bolt longer than the depth of the through hole.
 (2) The dimension in () is applicable to AT701 and AT703.



mass: 9.9kg

Notes ⁽¹⁾ Too deep insertion depth of the mounting bolt may affect the rotation performance of the table, so never insert a bolt longer than the depth of the through hole.

⁽²⁾ The dimension in () is applicable to AT701 and AT703.



mass: 21.0kg

Note ⁽¹⁾ Too deep insertion depth of the mounting bolt may affect the rotation performance of the table, so never insert a bolt longer than the depth of the through hole.