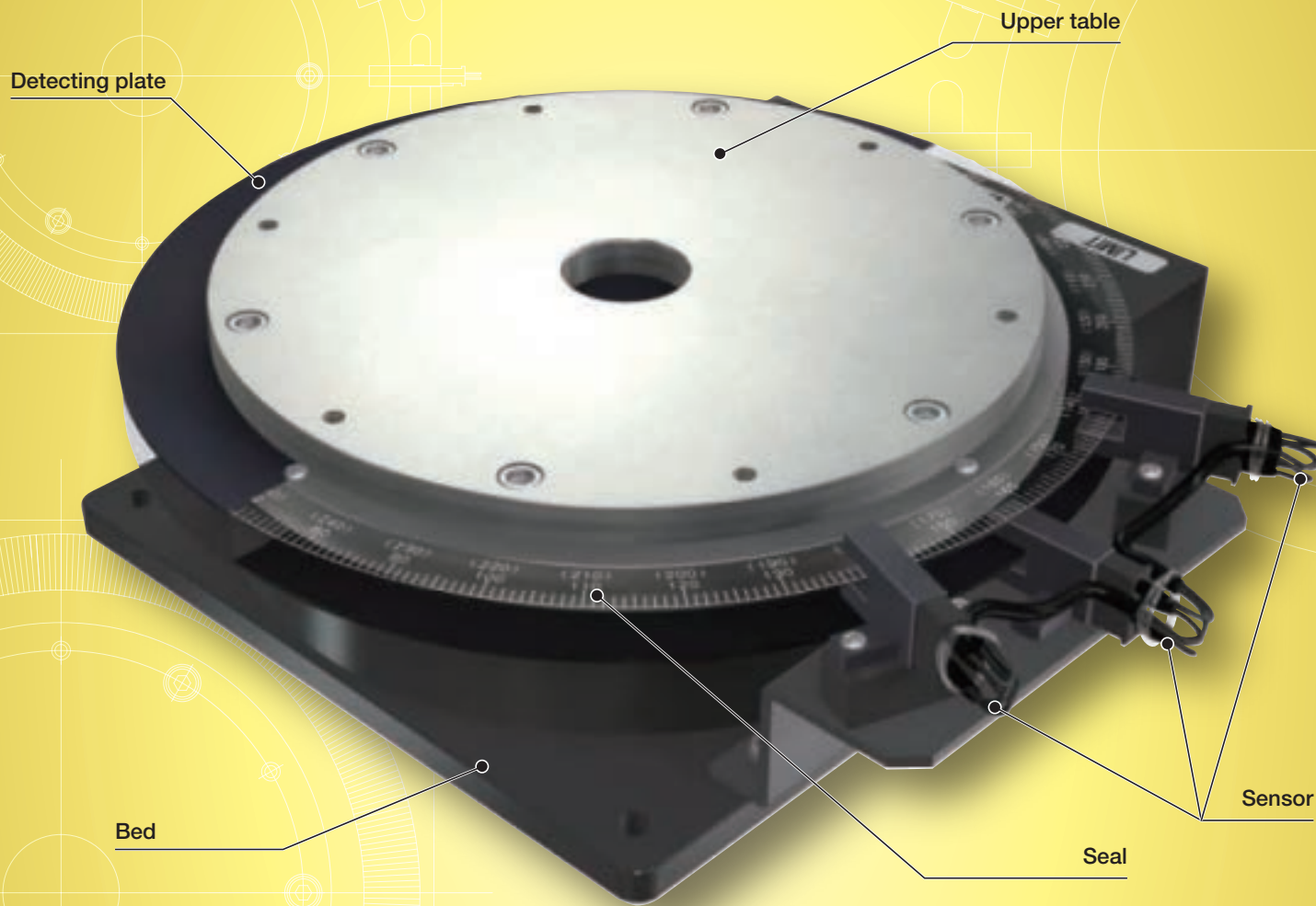


**RT**

**RT**

# RT



### Major product specifications

Driving method	DD motor
Bearing	Crossed Roller Bearing
Built-in lubrication part	No built-in
Material of table and bed	High rigidity aluminum alloy
Sensor	Select by identification number

### Accuracy

Positioning repeatability	± 3
Positioning accuracy	±20
Lost motion	-
Parallelism in table motion A	-
Parallelism in table motion B	-
Attitude accuracy	-
Straightness	-
Backlash	-

unit: sec

## Points

### ● Rotary positioning table without backlash and lost motion

1 Consisting of DD motor, high resolution optical encoder, and Crossed Roller Bearing, this is a high-speed and high precision rotary positioning table without backlash and lost motion.

### ● High speed and high precise positioning is enabled.

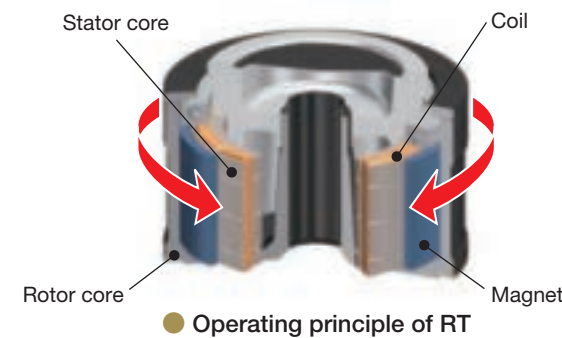
2 Adopting the DD servo actuator enables both high speed revolution of maximum number of revolution of 2.5s<sup>-1</sup> and high precision of positioning repeatability of ±3 sec.

### ● High resolution optical encoder enables fine rotary positioning.

3 The encoder has super resolution capability of 2,621,440 interpolations. The minimum rotation angle of approx. 0.5 sec can support the use for fine rotary positioning.

### ● Compact and smooth rotation

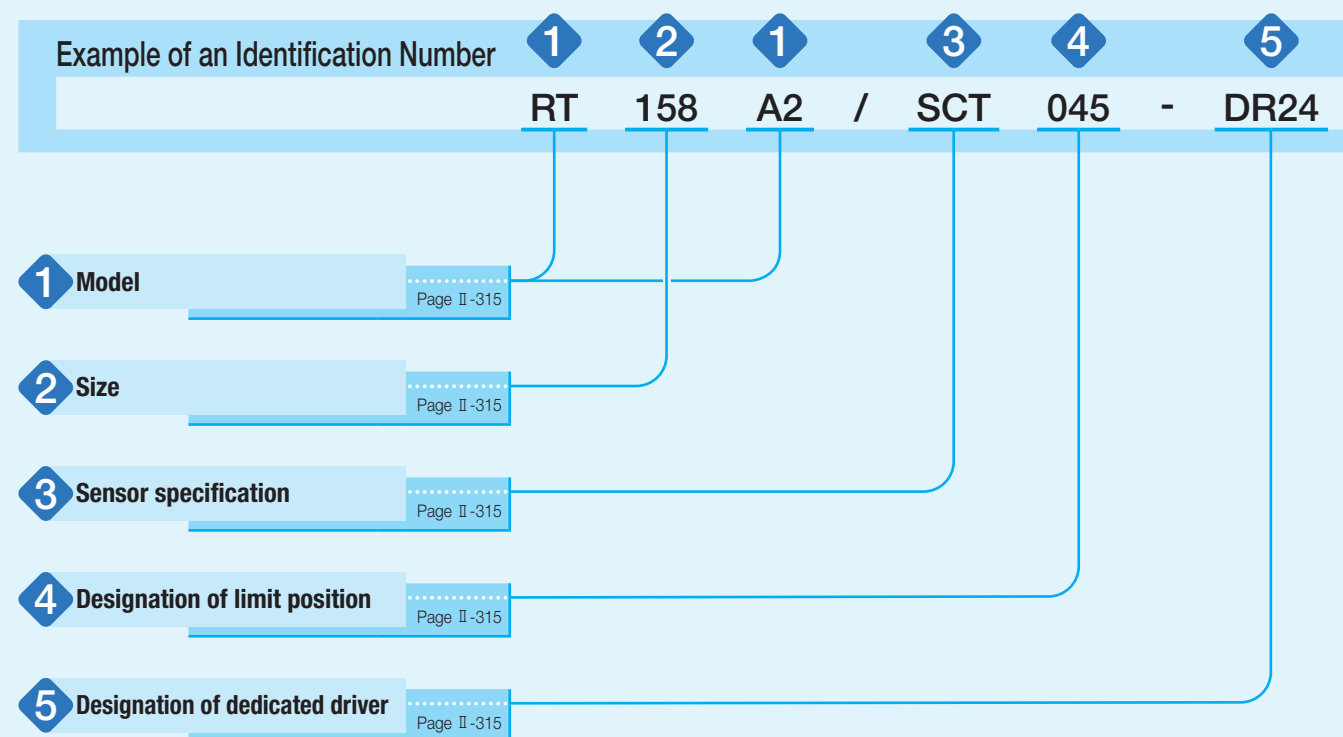
4 Adoption of Crossed Roller Bearing capable of exerting high rigidity in all direction has achieved low profile, high rigidity, and high precision. Vibration of table's upper surface by rotation is small, thus allowing smooth operation.



### Variation

Shape	Model and size	Table diameter (mm)	Rotation angle
	RT158A2	φ158	360-degree endless
	RT158A2/SCT		

# Identification Number



# Identification Number and Specification

<b>1 Model</b>	RT...A2: Rotary Table RT
<b>2 Size</b>	158: Table diameter 158mm
<b>3 Sensor specification</b>	No symbol: Without sensor MT : Without sensor/With upper table SCT : With sensor/With upper table
<b>4 Designation of limit position</b>	000: With seal 015: ± 15°, 030: ± 30°, 045: ± 45°, 060: ± 60° 075: ± 75°, 090: ± 90°, 105: ±105°, 120: ±120° 135: ±135°, 150: ±150°  Specify the limit sensor working position. For attachment of shield seal (000 specified), please cut out the seal at necessary angle to adjust the limit position. If no sensor (no symbol or MT) is specified in the entry of section 3, set "No symbol".
<b>5 Designation of dedicated driver</b>	DR24: With dedicated driver (driver I/O power with DC24V specification) DR5 : With dedicated driver (driver I/O power with DC 5V specification)

# Specifications

Table 1 Motor specification

Item	Model and size	RT158A2
Rotation angle		360-degree endless
Max. torque	N·m	4
Max. number of revolution	s <sup>-1</sup>	2.5
Allowable load	N	100
Number of encoder fraction sizes <sup>(1)</sup>	pulse/rev.	2,621,440
Inertia on rotary parts		5.5×10 <sup>-3</sup>
	With sensor/With upper table	8.5×10 <sup>-3</sup>

Note (1) Value shown is subject to combination with UD1BG3 driver.

## Torque and speed characteristic

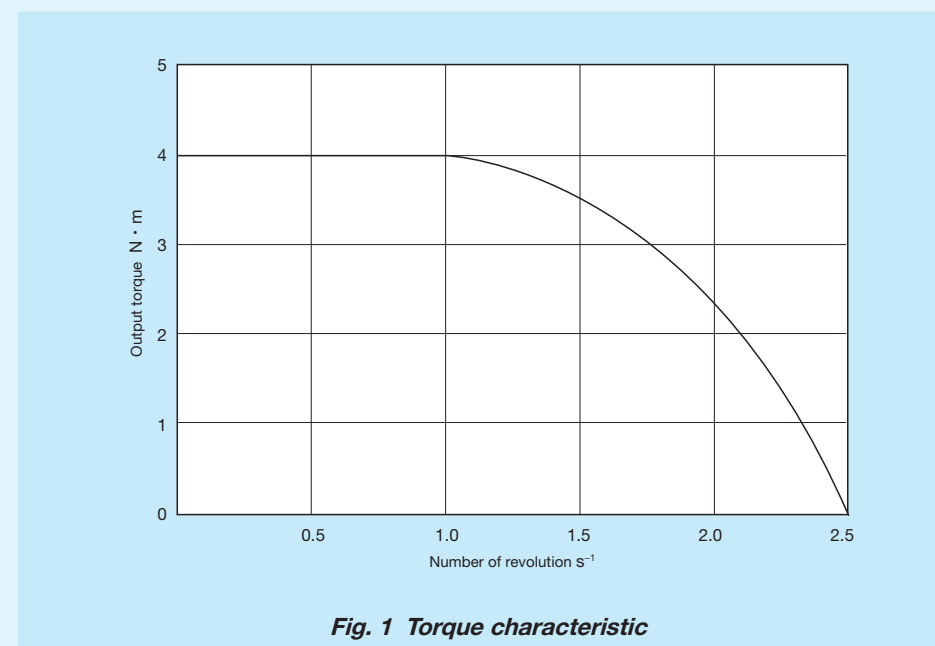


Fig. 1 Torque characteristic

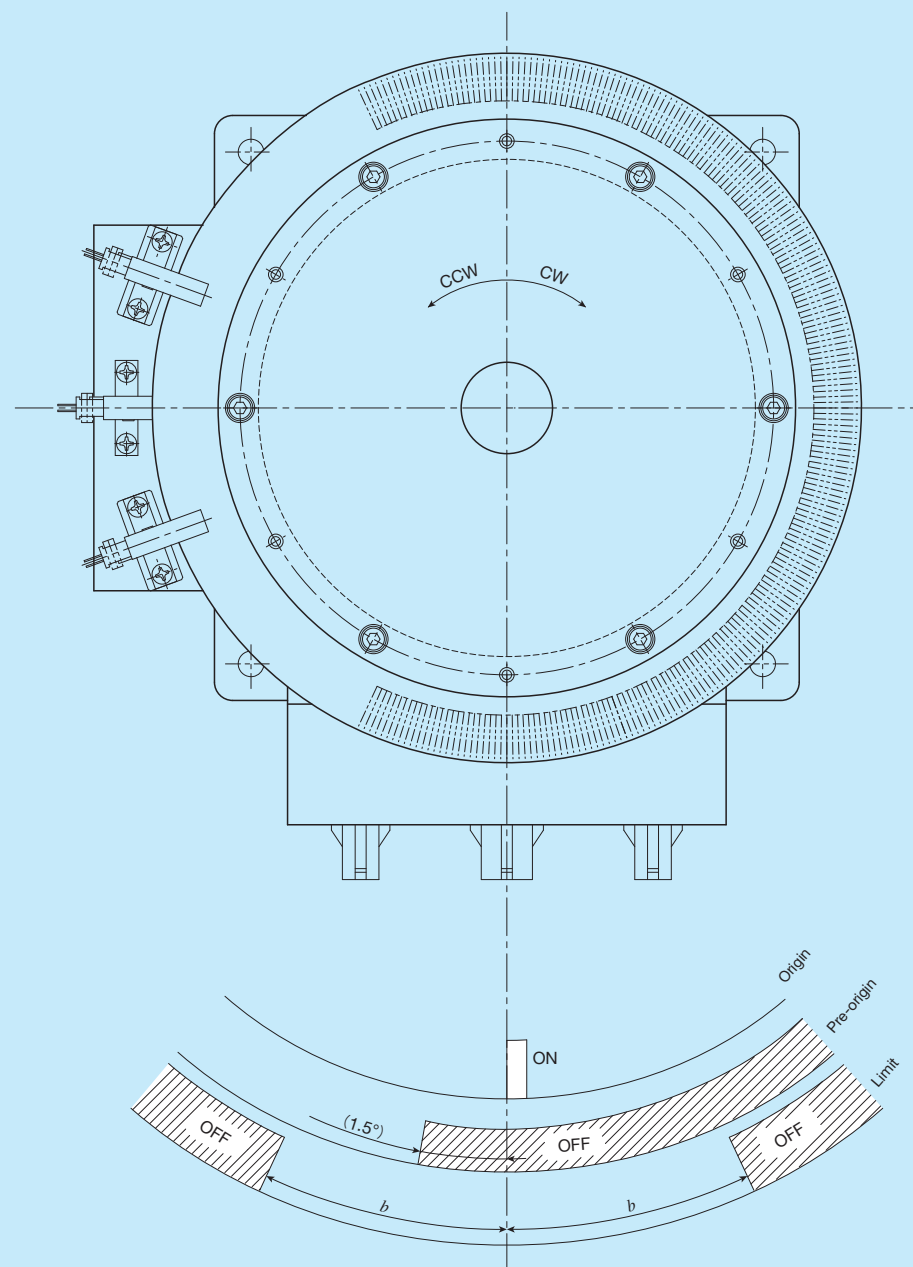
Table 2 Accuracy

Item	Model and size	RT158A2
Positioning repeatability <sup>(1)</sup> (2)	sec	±3
Positioning accuracy <sup>(1)</sup> (2)	sec	±20
Deflection on the table upper surface <sup>(3)</sup>	mm	0.010

Notes (1) Value shown is subject to combination with UD1BG3 driver.

(2) Theoretical value for single DD motor is shown.

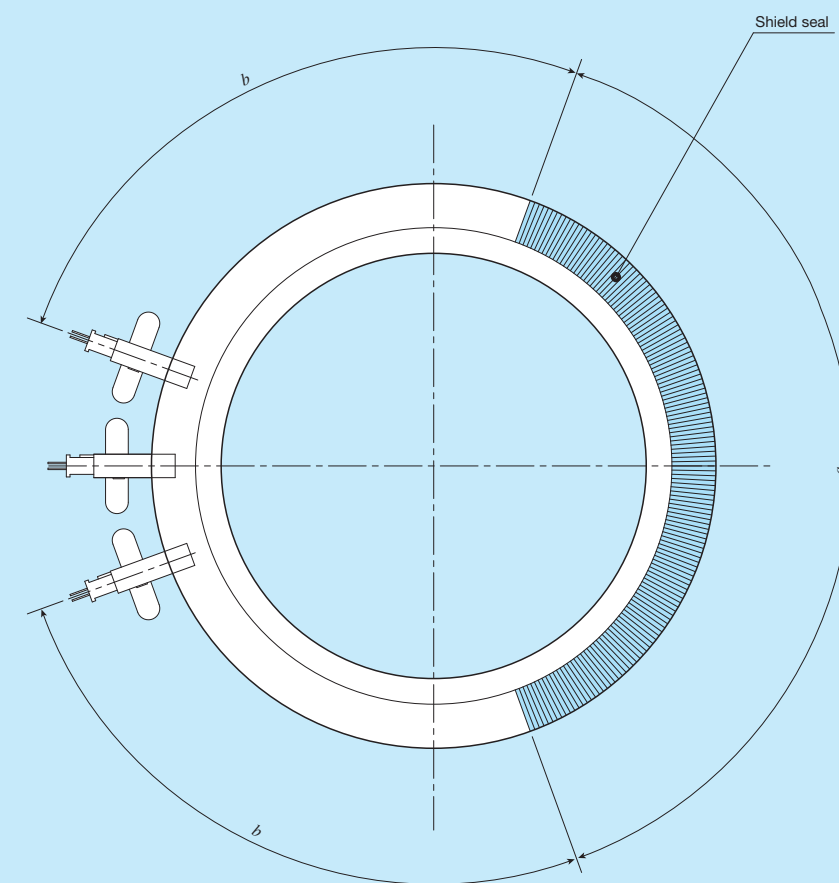
(3) Applicable to all RT158A2 regardless of presence / absence of upper table.



**Fig. 2 Sensor timing chart**

- Remarks
1. Mounting a sensor is specified using the corresponding identification number.
  2. Origin sensor is not provided. Please use the Z-phase of the encoder.
  3. For the specifications of respective sensors, please see the section of sensor specification in General Explanation.
  4. Please correct the origin position by using the controller software as it is set within the allowance of  $\pm 1.5$  degrees.

**Table 3 Dimensions of shield seal**



unit: degree

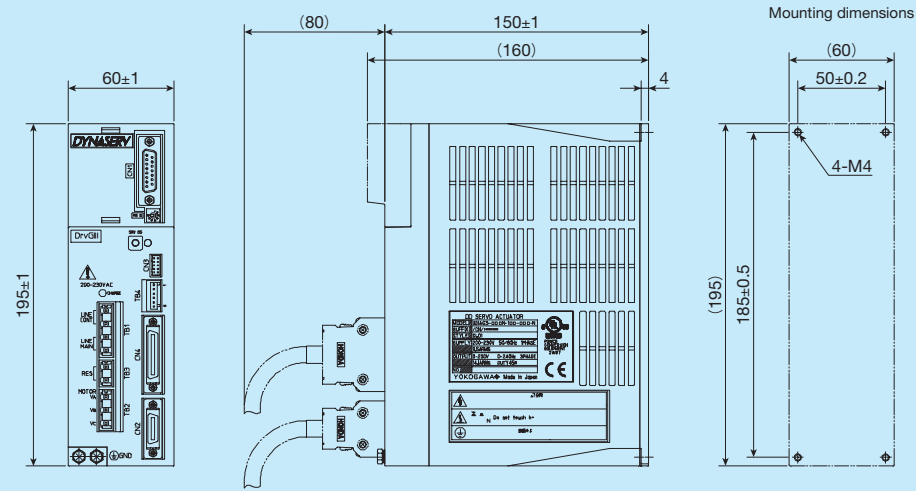
Identification number	Angle of shield seal	
	Seal angle <i>a</i>	Limit position <i>b</i>
RT158A2/SCT000 <sup>(1)</sup>	—	—
RT158A2/SCT015	290	15
RT158A2/SCT030	260	30
RT158A2/SCT045	230	45
RT158A2/SCT060	200	60
RT158A2/SCT075	170	75
RT158A2/SCT090	140	90
RT158A2/SCT105	110	105
RT158A2/SCT120	80	120
RT158A2/SCT135	50	135
RT158A2/SCT150	20	150

Note <sup>(1)</sup> Please cut out the seal at necessary angle to adjust the limit position.

Remark: If the limit position is specified, a seal at the necessary angle is applied to the detecting plate.

Table 4 Specifications of drivers dedicated for Yokogawa Electric Corporation

UD1BG3-004N-1AB-1SA-N/CN  
UD1BG3-004N-1AB-1SB-N/CN

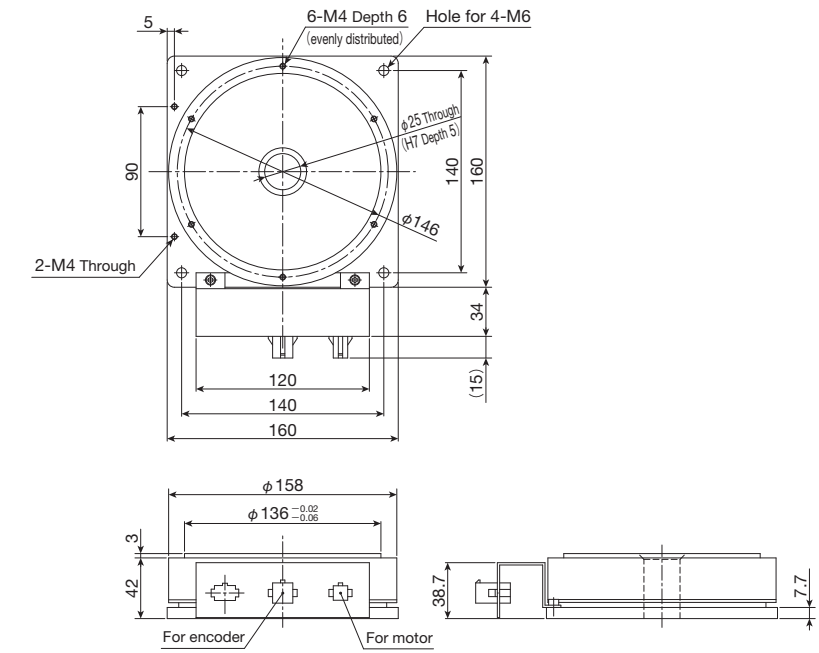


unit: mm

Driver type	DC24V specification	UD1BG3-004N-1AB-1SA-N/CN
	DC 5V specification	UD1BG3-004N-1AB-1SB-N/CN
System of command pulse input	PLS/SIGN, UP/DOWN and A/B	
Method of command pulse input	Differential input	
Max. input frequency	2MHz	
Protection circuit	Encoder failure, overvoltage, over current, bus voltage drop, main power supply disconnection, overload, regeneration failure detection, excessive speed, excessive location deviation, hard overtravel	
Power supply voltage	Single-phase AC100~115V -15%~10% 50/60Hz	
Max. power consumption	1.3kVA	
Ambient temperature (in operation)	0~50°C	
Ambient humidity (in operation)	20~90%RH	
Mass (Ref.)	1.2kg	

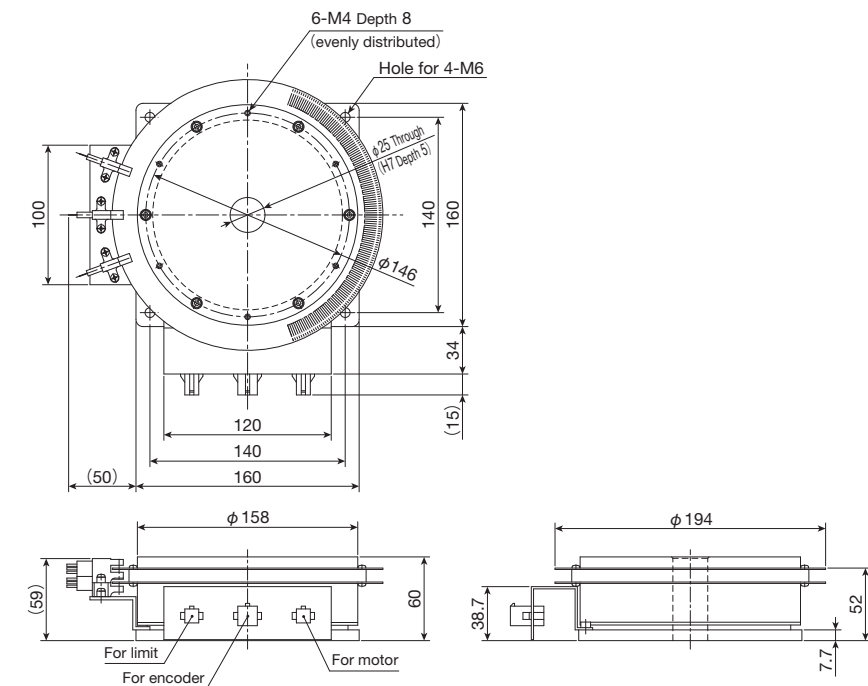
Remarks 1. Applicable motor cord model is TAE20K7-RM□□ and the encoder cord model is TAE20K8-RE□□. Specify the cord length at the interval of 1m within the range of 1-20m in □□ at the end of the model. (For 3m: TAE20K7-RM03)  
2. Dedicated drivers for DC24V specifications may be used in combination with the **IKO** programmable controller. If needed, please contact **IKO**.

## RT158A2



mass: 3.3kg

Dimensions of the sensor and table with upper table



mass: 4.5kg